

United States
Environmental Protection
Agency

Great Lakes National Program Office
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Summary of U.S. Great Lakes Beach Closings 1981-1994



SUMMARY OF U.S. GREAT LAKES
BEACH CLOSINGS 1981 - 1994

U.S. Environmental Protection Agency
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I. OVERVIEW

Since 1981, the Great Lakes National Program Office (GLNPO) of the U.S. Environmental Protection Agency (USEPA) has been surveying the organizations responsible for maintaining Great Lakes beaches. These annual surveys have been summarized in Survey of Great Lakes Bathing Beaches (1981 to 1984).

The Great Lakes bathing beaches in the United States are monitored by state, county and/or city health departments that have the oversight responsibilities for determining environmental suitability of beaches for public use. These organizations will close their beaches for a variety of reasons including evidence of microbiological contamination¹, turbidity, combined sewer overflow (CSO), debris, excessive algae, aesthetic degradation or any occurrence, accident, or spill likely to be harmful to human health. In most situations other than for permanent closure, beaches generally remain closed for a few days or until confirming test results are received.

The survey responses received from the health departments are comprehensive and cover beaches where the majority of public bathing occurs. The purpose of this summary is to:

- present and summarize the findings of 14 years of annual surveys,
- identify those counties in which there have been no, few, or persistent closing of beaches due to impaired beach condition,
- highlight improvement or degradation of specific beaches, and
- identify probable sources of contamination when reported in the surveys.

This survey report covers the 581 recognized beaches along the Great Lakes, the longest coastline in the United States. GLNPO asked health officials in each of the 83 counties where these beaches are located to respond to an annual survey conducted each year of the 1981-1994 period (Appendix 1).

About half of the 83 counties reported that during this time period no beaches were closed (Appendix 2).

- Sixteen counties had minor pollution problems that have now been resolved.
- Two had more serious problems that have been resolved.
- Four had mixed conditions, which appeared to be improving over time.
- Nine had mixed conditions and appeared to be deteriorating.
- Nine counties had a beach situation considered poor.

The primary cause reported for beach closings was the overflow of combined storm-water and sewage systems that have insufficient capacity to retain heavy rains for processing through sewage treatment plants. Several counties also received industrial waste streams. There are International Joint Commission (IJC) Areas of Concern (AoC) in 11 of the 19 counties having beaches considered poor or deteriorating.

¹Microbiological contamination means the presence of fecal coliform and/or E. coli bacteria in excess of criteria set by health agencies.

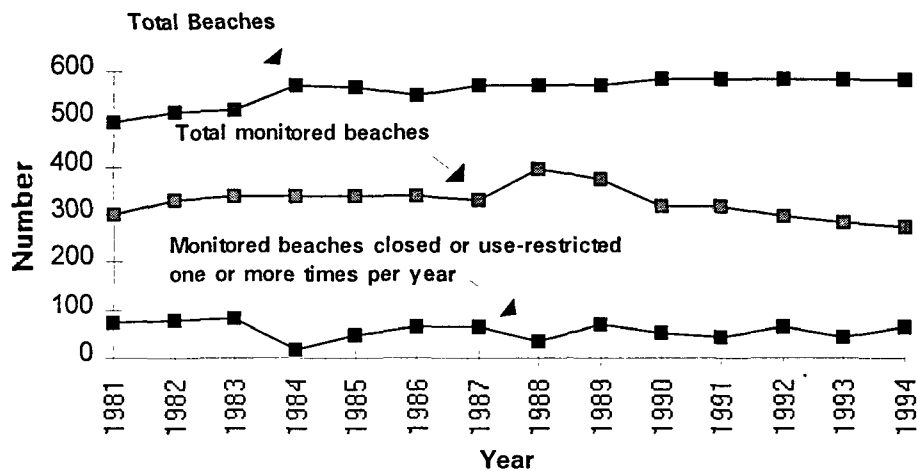
II. SYNOPSIS

Table 1 is a synopsis of the survey results. This table identifies the number of beaches reporting each year, the number and percent of monitored beaches that were closed or restricted at least once during the bathing season (generally June, July and August), and the number of beaches that were reported as permanently closed. Statistical measures of central tendency (mean, median, mode and range) are provided. These data are also presented graphically in Figure 1.

Table 1. SYNOPSIS OF GREAT LAKES BATHING BEACH REPORTS (U.S.) 1981 - 1994

SURVEY YEAR	NUMBER OF BEACHES REPORTED	REPORTED BEACHES MONITORED		MONITORED BEACHES CLOSED OR RESTRICTED		NUMBER OF BEACHES REPORTED CLOSED PERMANENTLY
		NUMBER	PERCENT	NUMBER	PERCENT	
1981	490	300	61%	72	24%	14
1982	515	332	64%	76	23%	10
1983	518	337	65%	80	24%	6
1984	567	339	60%	16	5%	7
1985	564	339	60%	49	14%	6
1986	549	337	61%	65	19%	8
1987	568	332	58%	64	19%	12
1988	571	394	69%	32	8%	11
1989	567	372	66%	68	18%	8
1990	584	318	54%	49	15%	4
1991	584	316	54%	43	14%	4
1992	583	295	51%	65	22%	4
1993	581	284	49%	41	14%	4
1994	581	275	47%	65	24%	4
MEAN	558.7	326.4		56.1		7.3
MEDIAN	567.5	332		64.5		6.5
MODE	567	332		65		4
MINIMUM	490	275		16		4
MAXIMUM	584	394		80		14

Figure 1- Status of U.S. Great Lakes Bathing Beaches, 1981-94



Four hundred and ninety beaches were reported in 1991. This number slowly increased until 1990 when it rose to 584. Thereafter, the count has remained fairly steady with little change. The increase may be attributed to authorities defining as beaches those areas the public used for bathing but not officially recognized as beached. Further explanation for the increase is attributed to the subdividing of large beaches into named sections for operational purposes.

Three hundred beaches were monitored in 1981. In 1988, the number rose to a peak of 394, and steadily declined to 275 in 1994. The percent of beaches monitored remained in the 60% range during 1981 to 1989, a time during which the number of beaches reported was increasing. In 1988, the percent monitored peaked at 69%, after which it declined steadily reaching 47% in 1994. Some authorities stopped monitoring when sample analysis consistently showed no violation of their beach closing criteria.

The number of monitored beaches which were closed and/or restricted at least once during the bathing season, has been in the 40 to 80 range during the survey years, with two exceptions. The closings during 1984 were exceptionally low at only 16 beaches closed, or 5% of those monitored, and 1988 with 32 closed (8% of monitored).

There were few permanent beach closures as a result of pollution. Fourteen such closures were reported in 1981. Only four remained permanently closed as a result of pollution from 1990 to 1994.

Appendix 3 presents the record of closings for the 40 counties which reported at least one pollution related beach closing or restriction during the 14 years of annual surveys. The data are presented for individual year and beach, arranged alphabetically by state, county and lake. The individual beaches (named in Appendix 4) are numbered consistent with the permanent beach identification number used in the survey questionnaires. A letter "X" on the chart indicates the beach was closed at least once during that year due to pollution related causes.

An asterisk (*) indicates a closing for reasons other than pollution. (The (*) is shown only when there were other closings in the county which were caused by pollution). The comments to the right of each section are paraphrased from the individual reports, some are verbatim. No attempt has been made to verify the report comments nor to make them consistent with prior comments.

III. COUNTY REPORTS

Comments about individual counties are presented below. If there is an IJC Area of Concern (AoC) within a county, the AoC is identified.

Following the county name is a qualitative comment about the recent condition of the county's beaches. These comments are subjective; no quantitative criteria has been applied. In general, a comment of "good" would indicate the county had no beach closings during 1994. A comment of "poor" would indicate recent closings. Some local authorities have provided review comments which pertain to conditions after 1994, the last year covered in this summary.

ILLINOIS

Cook County beach condition (*good/remediated*)

Cook County, Illinois has 36 reported beaches and a long history of beach closings due to pollution. The primary cause was a combined storm water and sanitary sewer system and limited retention capacity for storm water prior to treatment. When capacity was exceeded, the locks separating the Chicago sanitary canal and Lake Michigan were opened and untreated effluent flowed into the lake. Most, if not all beaches were then closed for several days, because of actual or potential pollution. To increase holding capacity a deep tunnel storage system was constructed. As sections of the system were put to use, the frequency of beach closings declined dramatically. There were no closings during 1993 and 1994. It is expected that isolated instances of pollution will cause individual beach closings in the future. (There has been an unofficial report of two closings at Northwestern University in 1995).

Lake County beach condition (*poor*)

AoC: *Waukegan Harbor*

The beaches in Lake County were traditionally closed for one or two days after the Chicago sanitary canal locks were opened. This county continues to have beach closings even though one source, opening the Chicago sanitary locks, has been stopped. This is an industrial/residential area.

INDIANA

Lake County beach condition (*poor*)

AoC: *Grand Calumet River/Indiana Harbor Ship Canal.*

La Porte County beach condition (*mixed/improving*)

The two beaches in La Porte county historically have been relatively free of pollution. One beach had closings during a three year period. Currently, there have been no closings for the past three years.

Porter County beach condition (*mixed/deteriorating*)

Half of Porter counties eight beaches have a record of consistent closings, some for entire seasons. Since 1989, the number of beaches closing has increased.

MICHIGAN

Alger County beach condition (*poor*)

Alger county, on Lake Superior, reportedly had five beaches. One beach was closed for several years due to pollution from CSO. This was followed by five years of 'no-closings' reports. Since 1990, Alger county has reported they have no beaches. The temperature of Lake Superior gives little incentive to whole-body contact use of the water. There is no indication that the CSO problem was remediated, only that the county now reports they have no beaches.

Alpena County beach condition (*good/restored*)

Alpena county had algae accumulations on one of five beaches, during 1981 - 1982 and reported aesthetic pollution. They have had no closings since that time.

Bay County beach condition (*good/restored*)

AoC: Saginaw River/Bay

Bay county reported no significant problems until 1989 when half of their six beaches closed due to pollution. They report no problems after that year, except an accumulation of algae at one beach for two years in a row.

Berrien County beach condition (*good/restored*)

Berrien county reports on a total of 26 beaches. In 1986, while a sewerage lagoon was being discharged, one beach was closed. Monitoring consisted of one grab sample per beach, until 1993 when full season sampling was initiated at these beaches.

Charlevoix County beach condition (*good/restored*)

Charlevoix county has one beach. It closed for two days in 1985 due to bunker oil on the shore. This apparently was an isolated incident.

Cheboygan County beach condition (good)

The three beaches in Cheboygan county were monitored until 1987, when monitoring ceased. There is no report of a beach closing until 1994, when one beach was closed for 3 to 5 days. The cause is not known. It is considered to be an isolated incident.

Grand Traverse beach condition (good/restored)

There are 14 beaches and limited monitoring in this county. There is a historical record of no beach closings until 1992 and 1993 when one beach closed due to pollution. In 1994, there were no closings.

Mackinac County beach condition (mixed/stable)

Mackinac county did not monitor beach water quality until 1990. From that year on, one of their six beaches has been closed due to pollution. The source is a ruptured sewer main. All of the other beaches have remained open.

Macomb County beach condition (mixed/deteriorating)

AoC: Clinton River

Macomb County has four beaches which are situated on Lake St. Clair. There are significantly elevated fecal bacteria levels resulting in beach closings. Local authorities attribute this to combined sewer overflows and non-point sources such as urban run-off and failing private sewage systems.

Monroe County beach condition (good/restored)

AoC: River Raisin

During the fourteen years of this survey summary only once was one of the county's seven beaches closed due to pollution. That was in 1988. Monitoring is limited.

Oceana County beach condition (good/restored)

Oceana county does not monitor the beach water. There were no closings during this summary period, except in 1988, when all six beaches were closed for one day due to medical waste found on the shore. This is considered an isolated incident.

St. Clair County beach condition (good/restored)

AoC: St. Clair River

With the exception of 1982, none of the five beaches in this county has been reported as closed due to pollution. In 1982, two beaches closed for 10 days due to exceeding the criteria for fecal coliform. This appears to be an isolated incident.

Sanilac County beach condition (mixed/deteriorating)

There are seven official beaches and 38 private beaches in Sanilac county. None of them are monitored. The sewage lagoons are regularly dumped, both planned and unplanned, during the bathing season. Beaches near the sewage out-flow points are posted. After an accidental spill of 500,000 gallons of concentrated dairy cow manure in 1984, which reached the lake, notice was given by going door-to-door. With reports of regular sewerage lagoon dumping and lack of a monitoring program, the report of no beach closing from 1986 to 1994 cannot be relied upon as an indication of good conditions.

Van Buren County beach condition (good)

Van Buren county has only two beaches, no monitoring, and a record of no closings until 1993 and 1994 when one beach closed for one day. The cause of closing was not reported. This is not considered serious and may not be pollution related.

Wayne County beach condition (mixed/deteriorating)

AoC: Rouge River/Detroit River

This is a dense urban area, bordering Lake St. Clair and the Detroit River. The four beaches in Wayne county are monitored and have a record of criteria violations, yet none were reported closed during 1983 through 1991. During 1992, 1993 and 1994 two or three beaches were closed for half or all of the season. The cause is stated to be "high fecal coliform systemic to (Lake St. Clair)."

NEW YORK

Chautauqua County beach condition (good/restored)

There are a total of 18 beaches reported in this county. One beach closed in 1983.

Erie County beach condition (good)

AoC: Buffalo River/Niagara River

Erie county makes a practice of closing all nine of their beaches after storms, due to turbidity. Closings for this cause were reported in 1981, 1982 and 1994. In 1988, two beaches were closed to allow clean-up of medical waste. In 1989, one beach closed due to medical waste on the shore. The source of the medical waste was not reported, but it seems to have been stopped.

Jefferson County beach condition (good)

Jefferson county has four beaches and reported that over the past fourteen years only one was closed due to pollution. The cause was waste discharge from a ship. This was an isolated incident.

Monroe County beach condition (mixed/improving)

AoC: Rochester Embayment

One beach out of four in this county is reported to never have been closed due to pollution, however that beach is not monitored, therefore absence of closure cannot be taken as absence of pollution events. Another beach is operated under a permit which requires closure in anticipation of poor water quality. The other two beaches were permanently closed during the mid-1960's. Combined sewer overflows from Rochester, upstream on the Genesee River, impact the lake shore beaches. Improvements in the Rochester storage and treatment systems are reported to have eliminated combined sewer overflows.

Oswego County beach condition (good)

AoC: Oswego River Harbor

From 1981 to 1994, Oswego county reported only one of its seven beaches had to be closed, and that was during just one year. This is considered an isolated incident.

St. Lawrence County beach condition (good)

This county reported that a sewage eruption caused them to close one of their seven beaches in 1987. No other closings were reported for the entire survey period.

OHIO

Ashtabula County beach condition (mixed/deteriorating)

AoC: Ashtabula River

Ashtabula county had a long history of no pollution problems until 1992 and 1993 when all five of their beaches were reported restricted due to pollution associated with heavy rainfall. Three were restricted in 1994.

Cuyahoga County beach condition (mixed/deteriorating)

There are four beaches reported. One beach was restricted from 1981 to 1986. The next six years no closing were reported. All four beaches closed due to pollution during 1993 and 1994.

Erie County beach condition (good/restored)

Erie county has 29 beaches. There were reports of restrictions during the 1980's, with 13 beaches restricted during 1983. There were no restrictions reported in 1984, however it was reported the microbiological criteria was violated at 16 beaches. There have been no restrictions reported for the past five years.

Lake County beach condition (mixed/deteriorating)

Lake county has five beaches. After a long period with only two closings reported, all five beaches were restricted during 1992 - 1994.

Lorain County beach condition (*poor*)
AoC: *Black River Basin*

Lorain county has a history of whole season restriction of some beaches due to pollution. Over the last four years 1991-1994, the survey reports indicate restrictions at all of the beaches.

Lucas County beach condition (*poor*)
AoC: *Maumee River*

Reporting on two beaches, Lucas County had one beach restricted between the years of 1981 and 1993; in 1994, both beaches were restricted eight times for a one-week period. The source of the pollution was not reported.

Ottawa County beach condition (*mixed/deteriorating*)

Ottawa county has one beach with a long history of restrictions. In 1988, the source of the pollution at this beach was a waste-water treatment plant. In following years, this beach remained restricted due to pollution. During recent years, other beaches were restricted.

PENNSYLVANIA

Erie beach condition (*mixed/improving*)
AoC: *Presque Isle Bay*

Erie county has 24 beaches. All, except six, have closed over the period of survey reports. Many of the beaches are near the urban area of Erie, PA, in Presque Isle State Park. The reports indicate at least one waste water out-fall in the area.

WISCONSIN

Ashland beach condition (*mixed*)

From 1981 to 1994, there was no report of any of the six beaches in Ashland count closing because of pollution. In 1994 two beaches, both operated by the City of Ashland Park Service, closed due to pollution. Only those two beaches are monitored.

Brown County beach condition (*poor*)
AoC: *Lower Green Bay and Fox River*

The single beach in Brown county, located in the City of Green Bay, is reported as closed due to pollution since the mid 1940's. They stopped monitoring in 1992.

Kenosha County beach condition (*poor*)

From 1981 to 1991 all five beach in Kenosha County closed for a 48-hour period after each heavy rainfall because of expected combined sewer overflow. In 1985, waste-water treatment capacity was increased. Storm sewers were separated from sanitary sewers in 1985. Since 1991, beach closings have been based on microbiological standards rather than rainfall amounts. Once beach remained open during all of 1991. Two are permanently closed due to lack of funds to maintain them. All others have closed in each year of this 14 year summary. Local authorities now report the completion of a 30 million gallon waste-water retention basin.

Milwaukee County beach condition (*mixed/deteriorating*)

AoC: *Milwaukee Estuary*

Milwaukee reports on eight beaches. There were closings in the early 1980's followed by a 6-7 year stretch with few pollution problems at the beaches. Pollution closings have reappeared during the past three years.

Oconto County beach condition (*good*)

Oconto county states there are no official public beaches, but there are several parks that have beach access. There has been no reported monitoring for these beaches. There was one closing due to pollution in 1989.

Racine County beach condition (*poor*)

Racine reports a long-standing monitoring program with no beach closings, until 1990, when all four of it's beaches closed due to pollution. They continued closing every year thereafter.

APPENDIX 1



AGENCIES RESPONDING TO 1994 BEACH CLOSING SURVEY

(by State, County and Great Lake)

IL COOK MICHIGAN

Mr. George Alexoff
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Winnetka Park District
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IL COOK MICHIGAN

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Chicago Park District
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City of Michigan City Indiana
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Michigan City IN 46360

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AGENCIES RESPONDING TO 1994 BEACH CLOSING SURVEY

(by State, County and Great Lake)

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MI ST. CLAIR HURON

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AGENCIES RESPONDING TO 1994 BEACH CLOSING SURVEY

(by State, County and Great Lake)

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NY CHAUTAUQUA ERIE

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OH ERIE ERIE

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OH LORRAIN ERIE

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OH SANDUSKY ERIE

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Two Harbors MN 55616

NY CAYUGA ONTARIO

Mr. Thaddeus M. Medrek
Senior Sanitarian
Cayuga County Health Department
160 Genesee Street
Auburn NY 13021

NY ERIE ERIE

Mr. Walter V. Sienkiewicz
Public Health Technician
Erie County Health Department
95 Franklin Street
Buffalo NY 14202

NY MONROE ONTARIO

Ms. Anna Madden
Monroe County Environmental Health
Laboratory
740 East Henrietta Road
Rochester NY 14623

NY OSWEGO ONTARIO

Mr. David Meade
Environmental Aide
Oswego County Health Department
70 Brunner Street
Oswego NY 13126

OH ASHTABULA ERIE

Mr. Steven Binns
Program Administrator
Ohio Department of Health
246 North High Street - 7th floor
Columbus OH 43266

OH ERIE ERIE

Ms. Karen M. Cote
Director, Environmental Health
420 Superior Street
Sandusky OH 44870

OH LUCAS ERIE

Mr. Steven Binns
Program Administrator
Ohio Department of Health
246 North High Street - 7th floor
Columbus OH 43266

PA ERIE ERIE

Ms. Lisa D. Kafferlin
Environmental Protection Specialist
Erie County Department of Health
606 West Second Street
Erie PA 16507

MN ST. LOUIS SUPERIOR

Mr. Roger Bard
Environmental Health Supervisor
St. Louis County Health Department
222 East Superior Street
Duluth MN 55802

NY CHAUTAUQUA ERIE

Mr. James V. Kurtz
Public Health Sanitarian
Chautaugua County Health Department
Hall Clothier Building
7 North Erie Street
Mayville NY 14757

NY JEFFERSON ONTARIO

Mr. T. Boxber
Senior Sanitarian
NY Department of Health
317 Washington Street
Watertown NY 13601

NY NIAGARA ONTARIO

Ronald Gwozdek, P.E.
Supervisory Public Health Engineer
Niagara County Health Department
5467 Upper Mountain Road
Lockport NY 14094

NY ST. LAWRENCE

ST. LAWRENCE RIVER
Mr. Victor E. Pisani
District Director
New York State Department of Health
P.O. Box 5278
Massena, NY 13662

OH CUYAHOGA ERIE

Mr. Steven Binns
Program Administrator
Ohio Department of Health
246 North High Street - 7th floor
Columbus OH 43266

OH LAKE ERIE

Mr. Steven Binns
Administrator
Ohio Department of Health
246 North High Street - 7th floor
Columbus OH 43266

OH OTTAWA ERIE

Mr. Steven Binns
Program Administrator
Ohio Department of Health
246 North High Street - 7th floor
Columbus OH 43266

PA ERIE ERIE

Mr. Harry Z. Leslie
Park Operation Manager
Presque Isle State Park
P.O. Box 8510
Erie PA 16505

AGENCIES RESPONDING TO 1994 BEACH CLOSING SURVEY

(by State, County and Great Lake)

WI ASHLAND SUPERIOR

Mr. Steve Bade
Park Superintendent
Big Bay State Park
P.O. Box 589
Bayfield WI 54814

WI BROWN MICHIGAN

Mr. John H. Paul
Environmental Laboratory Manager
Brown Health Department
610 South Broadway
Green Bay WI 54303

WI DOUGLAS SUPERIOR

Vicki L. Drake, R.S.
Environmental Health Sanitarian
Douglas County Health Department
1409 Hammond Avenue
Superior WI 54880

WI KEWAUNEE MICHIGAN

Ms. Joan Boyer
City Administrator
413 Milwaukee Street
Kewaunee WI 54216

WI MANITOWOC MICHIGAN

Mr. Jim Blaha
Environmental Manager
Manitowoc Health Department
823 Washington Street
Manitowoc WI 54220

WI MARINETTE MICHIGAN

Mr. Jim Mayou
Park Director
Marinette Parks Department
2000 Alice Lane
Marinette WI 54143

WI MILWAUKEE MICHIGAN

Mr. Paul Kintziger
Laboratory Technician
Waste Treatment Facility
3003 Fifth Avenue
So Milwaukee WI 53172

WI OZAUKEE MICHIGAN

Mr. Richard E. Evans
Park Superintendent
Harrington Beach State Park
531 Highway D
Belgium WI 53004

WI SHEBOYGAN MICHIGAN

Mr. Thomas M. Gall
Facility Repair Worker 3
Wisconsin Department of Natural Resources
1520 Old Park Road
Sheboygan WI 53081

WI ASHLAND SUPERIOR

Ms. Vivian Hansen
Building Inspector
City of Ashland
601 West Main
Ashland WI 54806

WI DOOR MICHIGAN

Mr. Drew A. Ama
Plumber/Electrician
Peninsula State Park
P.O. Box 218
Fish Creek WI 54212

WI IRON SUPERIOR

Mr. Eugene Abelson
Zoning Administrator
Iron County Courthouse
Hurley WI 54534

WI KEWAUNEE MICHIGAN

Terry Qualman, Director
Algoma Parks & Recreation
620 Lake Street - P.O. Box 173
Algoma WI 54201

WI MANITOWOC MICHIGAN

Mr. Steven G. Simons
Director, Public Works
Village of Cleveland
1151 Lakeshore Drive
Cleveland WI 53015

WI MILWAUKEE MICHIGAN

Mr. Paul Biedrzycki
Manager, Environmental Health
Technology Division
841 N. Broadway, Room #105
Milwaukee WI 53202

WI MILWAUKEE MICHIGAN

Cynthia Tomasello, RN
Director, Public Health Services
Shorewood Health Department
3930 North Murray Avenue
Shorewood WI 53211

WI RACINE MICHIGAN

Ms. Laura Thacker
Director, Environmental Health
Racine Health Department
730 Washington Avenue
Racine WI 53403

WI BAYFIELD SUPERIOR

Mr. Mike Bonney
Director, Public Works
City of Bayfield
125 South First Street
Bayfield WI 54814

WI DOOR MICHIGAN

Mr. Dennis Hibray
Regional Director
Division of Health
200 North Jefferson Street, Suite 126
Green Bay WI 54301

WI KENOSHA MICHIGAN

Ms. Dorene Leinenweber
Laboratory Director
City of Kenosha Health Department
625-52nd Street
Kenosha WI 53140

WI KEWAUNEE MICHIGAN

Mr. Glenn Selner
Zoning Administrator
613 Dodge Street - Courthouse
Kewaunee WI 54216

WI MANITOWOC MICHIGAN

Mr. Larry W. Ketchbaw
Forest Superintendent
9400 County Highway 0
Two Rivers WI 54241

WI MILWAUKEE MICHIGAN

Ms. Sylvia Herrmann
Acting Department Head
Whitefish Bay Health Department
1200 East Fairmont
Whitefish Bay WI 53217

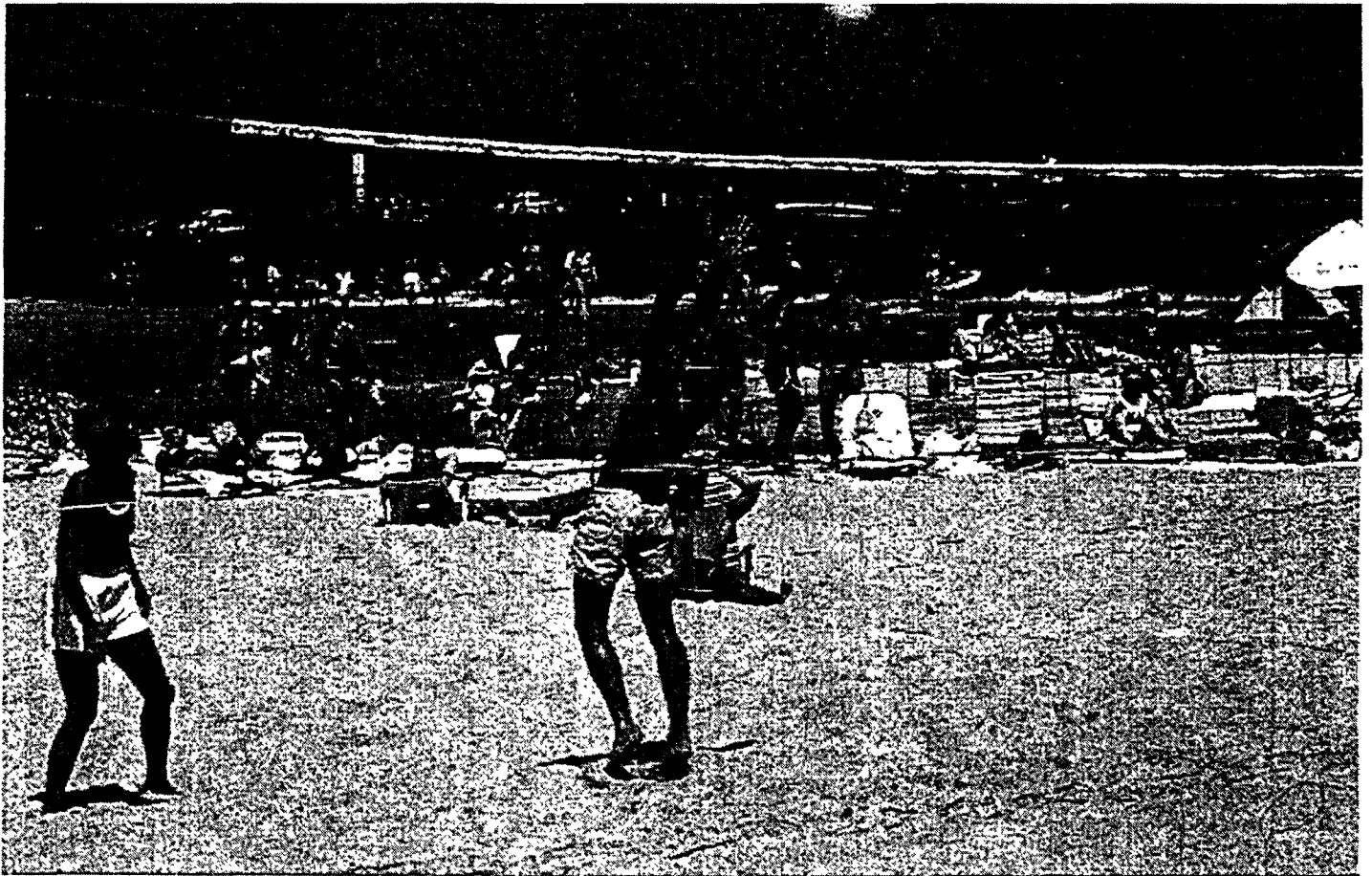
WI OCONTO MICHIGAN

Ms. Janelle Merry
Zoning Administrator
Oconto County Zoning Office Courthouse
301 Washington Street
Oconto WI 54153

WI SHEBOYGAN MICHIGAN

Sharon Dawn, RN, BSN, MS
Program Supervisor
Sheboygan County Division of Public Health
1011 North 8th Street
Sheboygan WI 53081

APPENDIX 2



U.S. GREAT LAKES COUNTIES WITH NO REPORTED BEACH CLOSINGS DUE TO POLLUTION 1981-1994

ILLINOIS

none

INDIANA

none

MICHIGAN

Alcona	Benzie	Houghton	Luce	Muskegon
Allegan	Chippewa	Huron	Manistee	Ontonagon
Antrim	Delta	Iosco	Marquette	Ottawa
Arenac	Emmet	Keweenaw	Mason	Presque Isle
Baraga	Gogebic	Leelanau	Menominee	Schoolcraft
				Tuscola

MINNESOTA

Cook
Lake
St. Louis

NEW YORK

Cayuga
Niagara
Orleans
Wayne

OHIO

Sandusky (no beaches)

PENNSYLVANIA

none

WISCONSIN

Bayfield	Manitowac
Door	Marinette
Douglas	Ozaukee
Iron	Sheboygan
Kewaunee	

APPENDIX 3



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Appendix 3

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Appendix 3

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BEACH CLOSING SUMMARY 1981 - 1994				x=BEACH CLOSED/RESTRICTED AT LEAST ONCE DURING SEASON * =CLOSED FOR REASONS OTHER THAN POLLUTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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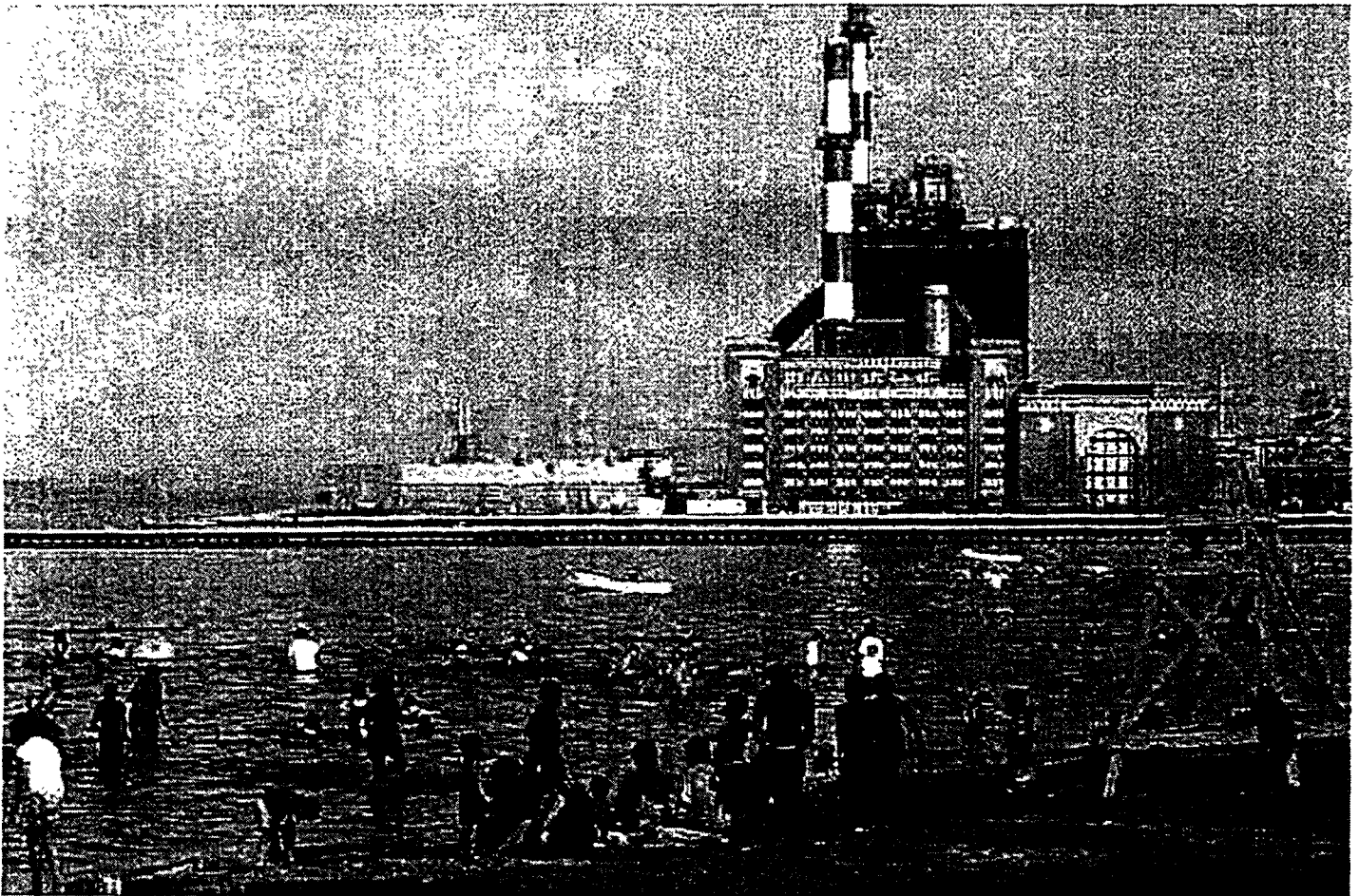
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[illegible]

Appendix 3

BEACH CLOSING SUMMARY 1981 - 1994			x=BEACH CLOSED/RESTRICTED AT LEAST ONCE DURING SEASON																				*=CLOSED FOR REASONS OTHER THAN POLLUTION																				
			BEACH NUMBER (see Appendix 4)																																								
STATE	COUNTY	LAKE	YEAR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	COMMENT			
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1991	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				
1992	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
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1994	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
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APPENDIX 4



KEY TO BEACH CLOSINGS SUMMARY IN APPENDIX 3

(Beach names by County and State as Reported in 1994 Survey. Also Additional Past Listings)

CAUTION: *The beach names and numbers listed below are as they were reported in the 1994 survey, followed by prior years usage, if any. The preponderance have remained constant, but there have been additions and name changes. If necessary consult the annual surveys for individual beach histories. The total closings by county are considered correct.*

ILLINOIS

COOK COUNTY - LAKE MICHIGAN: 1) Glencoe; 2) Tower; 3) Lloyd; 4) Elder; 5) Lakefront/Maple; 6) Kenilworth; 7) Wilmette; 8) Northwestern University; 9) Lighthouse; 10) Clark; 11) Greenwood; 12) Lee, 13) South Boulevard; 14) Juneway Terrace; 15) Rogers; 16) Howard; 17) Jarvis; 18) Sam Leone; 19) Loyola Beach (Farwell and Pratt); 20) Hartigan (Columbia/North Shore and Albion); 21) Thorndale; 22) Hollywood/Ardmore; 23) Foster; 24) Montrose; 25) North Avenue; 26) Oak Street; 27) Ohio Street; 28) 12th Street; 29) 31st Street; 30) 49th Street; 31) 57th Street; 32) Jackson Park; 33) 67th Street; 34) South Shore; 35) Rainbow; 36) Calumet Main Beach/Calumet Beach (combined).

LAKE COUNTY - LAKE MICHIGAN: 1) North Point; 2) Illinois Beach State Park North; 3) Illinois Beach State South; 4) Waukegan North; 5) Waukegan South; 6) Lake Bluff; 7) Lake Forest; 8) Moraine Park; 9) Park Avenue; and 10) Rosewood. **ALSO:** 1) Lake County Forest Preserve Beach (Winthrop Harbor); 2) Zion Beach; 3) Illinois Beach State Park; 4) North; 5) Central Beach; 6) Foss Park; and 7) Highwood

INDIANA

LAKE COUNTY - LAKE MICHIGAN: 1) Hammond Lake Front Beach; 2) Whiala Beach; 3) Jeorse Park; 4) Marquette Park; 5) Lake Street Beach; 6) Wells Street Beach; and 7) Miller Beach.

LA PORTE COUNTY - LAKE MICHIGAN: 1) Washington Park; and 2) Mount Baldy.

PORTER COUNTY - LAKE MICHIGAN: 1) Odgen Dunes Beach; 2) Dune Acres Beach; 3) Porter Beach; 4) Indiana Dunes State Park; 5) Indiana Dunes National Lakeshore--West Beach; 6) IDNL State Park Road/Kemil Avenue Beach; 7) IDNL Central Avenue Beach; and 8) Lakeview. **ALSO:** 8) Broadway Beach

MICHIGAN

ALGER COUNTY - LAKE SUPERIOR: None listed in 1994. **ALSO:** 1) Autrain Township; 2) City of Munising; 3) Grand Marais Township; and 4) The National Park Service.

ALPENA COUNTY - LAKE HURON: 1-4) City of Alpena; and 5) Osinere

BAY COUNTY - LAKE HURON: 1) Veterani Memorial park; 2) Bay City State Park; 3) Kawkawlin Township Park; 4) Brissette Beach; and 5) Pinconning Park. **ALSO:** Killarney Beach; 4) Ninona Beach; and 5) Alameda Beach.

MICHIGAN (continued)

BERRIEN COUNTY - LAKE MICHIGAN: 1) Roadside Park; 2) Hager Township Park; 3) Rocky Gap Park; 4) Jean Klock Park; 5) Tiscornia; 6) Silver; 7) Glenlord; 8) Lincoln Township Park; 9) Weko; 10) Warren Dunes State Park; 11) Harbert; 12) Cherry; 13) Lakeside; 14) Lakeview; 15) Miller; 16) McKinley; 17) Townline; 18) New Buffalo; 19-20) Grand Beaches (semi-public); and 21-26) Michiana Beaches (semi-public).

CHARLEVOIX COUNTY - LAKE MICHIGAN: 1) Mt. McSauba; 2) City of Charlevoix Beach; 3) Fisherman's Island State Park; 4) Norwood Township Beach; 5) Harbor Beach Park; 6) Beaver Island Public Beach; and 7) Iron Ore Bay Beach.

CHEBOYGAN COUNTY - LAKE HURON: 1) Mackinaw City Bathing Beach; 2) Cheboygan Public Beach; and 3) Cheboygan State Park.

GRANT TRAVERSE COUNTY - LAKE MICHIGAN: 1) West Side Beach; 2) Clinch Park; 3) Bryant Beach; 4) Milliken; 5) East Bay State Park; 6) East Bay Township - Four Mile Road; 7) Deep-water Point; 8) Yuba Park; 9) Department of Natural Resources Launch Site; 10) Old Mission Campground (private); 11) Old Mission Park; 12) Old Mission Lighthouse; 13) Marion Island Bay Park; and 14) Department of Natural Resources Launch Site - Bowers Harbor.

MACKINAC COUNTY - LAKES HURON AND MICHIGAN: 1) and 2) Straits State Park; 3) State Campground at Hog Island; 4) State Park Campground located at Knob Nob; 5) Naubinay Township Park; 6) Hiawatha Club (private); and 7) St. Ignace.

MACOMB COUNTY - LAKE ST. CLAIR: 1) New Baltimore Municipal Beach; 2) Metroplitian Beach; 3) Memorial Park Beach; and 4) Civic Center Beach (Blossom - Heath Park).

MONROE COUNTY - LAKE ERIE: 1) Point Aux Peaux; 2) Stoney Point; 3) Woodland Beach; 4) Detroit Beach; 5) Toledo Beach Subdivision; and 6) City of Luna Pier; and 7) Sterling State Park.

OCEANA COUNTY - LAKE MICHIGAN: 1) Mears State Park-Pentwater; 2) Silver Creek (Lake) Channel; 3) Lighthouse Beach; 4) Stony Lake Channel; 5) Whiskey Creek; and 6) Claybanks Township Park.

ST. CLAIR COUNTY - LAKE HURON: 1) Burtchville Community Park; 2) Lakeport State Park Campground; 3) Lakeport State Park - FDR Unit; 4) Lakeside Park; and 5) Lighthouse Park.

SANILAC COUNTY - LAKE MICHIGAN: 1) Forestville Village Park; 2) Sanilac County Park #4; 3) Forester Park; 4) Port Sanilac Village Park; 5) Lexington Park; and 6) Lexington Municipal Park and Campground.

VAN BUREN COUNTY - LAKE MICHIGAN: 1) South Beach in South Haven; and 2) North Beach in South Haven.

WAYNE COUNTY - LAKE ST. CLAIR: 1) Pier Park (Beach Right); 2) Pier Park (Mid-Pier); 3) Crescent Sail Yacht Club (private); and 4) Belle Isle Beach. ALSO: Eleanor Clay Ford Park.

NEW YORK

CHAUTAUQUA COUNTY - LAKE ERIE: 1) Loyal Order of Moose; 2) Brookside; 3) Bluewater; 4) Lake Erie State Park Beach; 5) Van Buren Bay Association; 6) Point Gratiot; 7) Cedar; 8) Wright Park; 9) Sheridan Bay Park; 10) Handford Bay Association; 11) Mulligan's; 12) Calico Jacks; 13) Town of Hanover; 14) Bournes Beach; and 15) Edgewater Tourist Camp.

ERIE COUNTY - LAKE ERIE: 1) Evangola State Park; 2) Evans Beach; 3) Bennett Bathing Beach; 4) Wendt Beach; 5) Hamburg Beach; 6) Woodlawn Beach; 7) Beaver Island (located on Grand Island, on the Niagara West River); and 8) Isley View (located on the Niagara East River at Tonawanda).

JEFFERSON COUNTY - LAKE ONTARIO: 1) Southwick Beach State Park; 2) Westcott Beach State Park; 3) Cedar Point State Park; 4) Grass Point State Park; 5) Kring Point State Park; 6) Wellesley Island State Park; 7) Chaumont Beach; 8) Village of Alexandria Bay Beach; 9) Burnham Point; 10) Canoe Picnic; 11) DeWolf; 12) Keewaydin; 13) Ling Point; 14) Mary Island; and 15) Waterson Point. ALSO: Ontario Bible Conference Campground; 4) Brennans Campground; 5) Sandy Island; and 6) Greenpoint Marina

MONROE COUNTY - LAKE ONTARIO: 1) Hamlin Beach; 2) Ontario Beach; 3) Durand Beach; and 4) Webster Beach.

OSWEGO COUNTY - LAKE ONTARIO: 1) Brennan's Beach; 2) Chedmardo Campsites; 3) Camp Hillis; 4) Dowi Dale Campgrounds; 5) Rainbow Shores Campsites; 6) Sandy Island Beach; and 7) Selkirk Shores State Park.

ST. LAWRENCE COUNTY - ST. LAWRENCE RIVER: 1) Massena Beach; 2) Ogdensburg Beach; 3) Waddington Municipal Beach; 4) Lisbon Beach; 5) Jacques Cartier State Park; 6) Coles Creek State Park; and 7) Robert Moses State Park.

OHIO

ASHTABULA COUNTY - LAKE ERIE: 1) Conneaut Township Beach; 2) Geneva State Park; 3) Lakeshore Park; 4) Saybrook Township Park; and 5) Walnut Beach Park. ALSO: Gevena Township Park.

CUYAHOGA COUNTY - LAKE ERIE: 1) Cleveland Lakefront State Park - Edgewater Beach; 2) Huntington Park; 3) White City Beach; and 4) Euclid Beach.

ERIE COUNTY - LAKE ERIE: 1) Kelly's Island State Beach Park; 2) Cedar Point Causeway; 3) Nickle Plate Beach; 4) Vermilion Beach; 5) Cedar Point Beach; 6) Cedar Point Road; 7) Lion's Point; 8) Showse Park; 9) Elberta; 10) Linwood; 11) Vermilion Lagoons; 12) Bluebird Beach; 13) Sherod Park; 14) Maridoe; 15) Beulah; 16) Heidelberg; 17) Mitiwanga; 18) Oberlin; 19) Laylins; 20) Beachwood; 21) Old Homestead; 22) Huron City; 23) Rye Beach; 24) Bay View East; 25) Bay View West; 26) Crystal Rock; 27) Duarry Recreational Park; 28) White's Landing; and 29) Volunteer Bay Beach.

LAKE COUNTY - LAKE ERIE: 1) Fairport Harbor Beach; 2) Headlands Beach State Park; 3) Madison Township Park; 4) Lakeshore Reservation; and 5) Overlook Beach. ALSO: 4) Mentor Park; and 5) Tuttle Park

OHIO(continued)

LORAIN COUNTY - LAKE ERIE: 1) Avon Lake Park; 2) Century park; 3) Lakeview Park; and 4) Sheffield Lake Park.

LUCAS COUNTY - LAKE ERIE: 1) Crane Creek State Park Beach; and 2) Maumee Bay State Park.

OTTAWA COUNTY - LAKE ERIE: 1) Bay Point; 2) Camp Perry; 3) East Harbor State Park; 4) Catawba Island State Park; 5) Port Clinton; 6) Gem Beach; 7) Lakeside Park; 8) Venture Beach; 9) Wild Wings; and 10) y-Park. ALSO: Lakeside Beach

PENNSYLVANIA

ERIE COUNTY - LAKE ERIE: 1) #1 West (and #1 West Extension); 2) #1 East; 3) #1; 4) Groin 4; 5) Barracks; 6) #2; 7) #3; 8) #6; 9) #7; 10) #8 (Pettinato); 11) Stone Jetty; 12) Duck Pond; 13) Short Jetty; 14) Saw Mill; 15) Ainsworth; 16) Goddard; 17) Lighthouse; 18) #9; 19) #10 (Budny); 20) #11; 21) Racoon Creek County Park Beach; 22) YMCA Camp Fitch Beach; 23) Camp Sherwin Beach; and 24) Freeport Beach.

WISCONSIN

ASHLAND COUNTY - LAKE SUPERIOR: 1) Maslowski Beach; 2) Sunset Park; 3) Madigan; 4) Waverly; and 5) Big Bay State Park. ALSO: 1) Lake Park; 2) Sand Bar; and 3) Kreher

BROWN COUNTY - LAKE MICHIGAN: 1) Bay Beach.

KENOSHA COUNTY - LAKE MICHIGAN: 1) Alford park; 2) Pennoyer Park; 3) Simmons Island; 4) Eichelman; and 5) Southport Park.

MILWAUKEE COUNTY - LAKE MICHIGAN: 1) Doctors Park (Fox Point); 2) Klode Park (Whitefish Bay); 3) Atwater (Shorewood); 4) Bradford; 5) McKinley Park; 6) South Shore Park; 7) Bay View Park (Milwaukee); and 8) Grant Park (South Milwaukee).

OCONTO COUNTY - LAKE MICHIGAN: 1) Rafin Beach

RACINE COUNTY - LAKE MICHIGAN: 1) North Beach; 2) Zoo Beach; 3) Myers Street Beach; and 4) English Street Beach. ALSO: 1) 17th Street Beach.