



Wisconsin's Great Lakes Beach Monitoring & Notification Program

2016 Beach Season Summary



Enjoying the Lake
Kenosha, WI – Lake Michigan
Photo Credit: Brian Wolf



Lake Superior in Action
Oulu, WI - Lake Superior
Photo Credit: Windie Hissa

**Office of Great Waters
Wisconsin Department of Natural Resources
March 7, 2018**

Acknowledgements

Wisconsin's Great Lakes Beach Monitoring & Notification Program could not operate without its partnerships with local health departments and significant support from Julie Kinzelman and her staff at the City of Racine Health Department, Greg Kleinheinz, staff and students at the University of Wisconsin Environmental Research and Innovation Center in Oshkosh. Their continuing commitment to improving beach water quality by developing fundable restoration plans has resulted in successful grant applications bringing significant resources to our coastal communities. Dr. Sandra McLellan's work to identify microbial sources and understand bacterial dynamics along our beaches has made valuable tools available to the program. Her willingness to work with the program and transfer knowledge has enriched the program and aided on-the-ground decision-making.

USGS continues to host the Beach Health website that supports program operations. USGS continues to provide tremendous support and service to our program and last year was no exception.

We also recognize Lindsey Page (City of Milwaukee Health Department) and Todd Breiby (DOA Coastal Program) for their leadership of the Wisconsin Coastal Beaches Stakeholders Group.

Thanks to everyone who helps make Wisconsin's Great Lakes Beach Program a success!

County participants include:

Ashland County Health Department
Bayfield County Health Department
City of Milwaukee Health Department
Door County Health Department
Douglas County Health Department
Iron County Health Department
Kenosha County Division of Health

Kewaunee County Health Department
Manitowoc County Health Department
North Shore/Shorewood Health Department
Ozaukee County Health Department
City of Racine Public Health Department
Sheboygan County Human Services
South Milwaukee Health Department

Additional assistance provided by:

University of Wisconsin - Oshkosh, Environmental Research and Innovation Center
Sampling and Analytical Support for Door, Kewaunee, Manitowoc, and Iron Counties

Racine Public Health Department
Sampling and Analytical Support for Kenosha and Racine Counties and South Milwaukee Health Departments

Northland College
Sampling and Analytical Support for Ashland and Douglas Counties

United States Environmental Protection Agency, Region 5
Grant funding

United States Geological Survey, Middleton, Wisconsin

University of Wisconsin – Sea Grant
Nowcast project to move to sustainability

University of Wisconsin - Milwaukee, School of Freshwater Science

University of Wisconsin-Madison, State Laboratory of Hygiene

Wisconsin Dept. of Administration, WI Coastal Management Program

Bay-Lake Regional Planning Commission (Angela Kowalzek-Adrians)

Summary

Wisconsin's Great Lakes Beach Monitoring & Notification Program has operated since 2002 making the summer of 2016 its fourteenth season.

The fiscal year 2015 BEACH Act grant of \$215,577 from the United States Environmental Protection Agency (USEPA) represented a \$1423 reduction from previously awarded the grants. This grant with supplemental dollars from other sources funded the 2016 beach season.

Beach program collaborators continued efforts to evaluate the beach list accuracy and priorities for monitoring. In addition to prioritizing resources toward on-the-ground monitoring and the data application that supports our public notification system, this year program funds supported an intern who developed materials to inform administrative rule development necessary to adopt the Federal recreational water quality criteria. Through interactions at our annual beach stakeholders meeting, the program evaluated an existing mobile application for collecting beach data and then initiated a student project through Michigan Tech to develop a web-based mobile application for collecting sanitary survey data that more fully meets program needs.

Similar to previous years, 100% of Tier 1 beaches participated in the program and overall 54% of Wisconsin's coastal beaches were monitored for at least part of the season with 3277 samples collected. The total number of samples includes BEACH Act funded monitoring, locally intensified monitoring, and voluntary monitoring efforts reported to the Wisconsin Beach Health website. Beaches in Iron County closed at the end of June in response to a record storm that caused extensive flooding and damage to roads across northern Wisconsin.

The assistance agreements and contracts recognize implementation of Nowcast modeling as a program activity and, for jurisdictions with capability to do rapid testing using qualitative polymerase chain reaction (qPCR) techniques, provide an opportunity to demonstrate their performance at specific beaches and implement more real-time monitoring. In addition, these agreements include a requirement to collect and report a list of sanitary survey parameters at each monitored beach. Standard field collection procedures, analytical protocols, reporting, and public notification practices (including using consistent advisory signs for beach posting) have been formalized in a quality assurance project plan as well as contracts and assistance agreements issued for performing BEACH Act compliance work.

BEACH Act funding supports the Wisconsin Beach Health website (www.wibeaches.us), that is maintained by staff at USGS in partnership with the local health department staff and cooperators who use the site to report beach status and bacteria data. Beach managers also use this site for reporting sanitary survey data associated with their beaches and operate Nowcast models. USGS serves as the primary data manager and oversees all data integration needs with USEPA to support the national information exchange goals of the BEACH Act.

2016 Beach Season: Program Highlights

Each year the list of coastal beaches is evaluated to reassess whether their status and tier for monitoring. The beach list is posted on the DNR website with specific notes of program changes. This includes the following:

- Are there coastal beaches missing from the list (e.g. new parks with beach areas)?
- How is the water quality? Do we have historical data?
- Have conditions surrounding the beach changed (e.g. restoration, drainage, water levels)?
- How many people use the beach? What do local people call (name) the beach?

- Is the location for the beach and its measurements correct?
- Are nowcasts or other same-day tools in place to improve the timing for posting advisories?
- Is the monitoring frequency appropriate for the usage, conditions, and public notification tools in place?

The beach program coordinator reached out to local cooperators and health departments in advance of the beach season to identify needed adjustments. Coastal processes change beach dimensions over time, individual beaches may be improved or restored, and beach usage patterns can also change, so local beach managers are given an opportunity to re-evaluate their priority classification and update their information annually. Beach tier, the existence of an operational Nowcast, and impairment status are major considerations in determining the frequency for monitoring and thus in determining funding allocations. As a result of this input, four locations were proposed for addition, three locations changed monitoring frequency and one beach was removed.

Monitoring occurred at 101 of the 186 Wisconsin beaches, including all 25 beaches identified as Tier 1. Seven beaches were monitored voluntarily or entirely with alternate funding. Local jurisdictions implemented Nowcast models at 16 beaches, with some health departments using it as the primary tool for posting public notifications and others using it in conjunction with other decision tools. Wisconsin's Great Lakes Beach Monitoring & Notification Program relies on the local public health organizations along the coastline for primary outreach and communication. They are the primary point of contact for answering questions and responding to requests for information about beach water quality; however, they are not alone in their efforts to manage beach issues. On-the-ground beach management is often the purview of parks departments which requires coordination. Additionally, beaches are often adjacent to public infrastructure, so developing effective management practices may involve Public Works or Transportation departments. When considering the number of departments with functions that may affect beach management, our stakeholders have come to appreciate the importance of coordinating beyond the usual department boundaries, particularly for implementing best management practices (BMPs), addressing sources of contamination, and implementing beach restorations.

Wisconsin Beach Workgroup

During 2016, the Wisconsin Coastal Beaches Workgroup (WCBW) steering committee met quarterly and planned the annual meeting for beach managers. This meeting, held on November 14, 2016 at University of Wisconsin – Oshkosh facilities, was free and open to both coastal and inland beach managers resulting in 38 registrants. No BEACH Act grant funding were expended for this meeting.

In addition to providing attendees with updates on the Great Lakes Beach Association Annual Conference and program updates through DNR, agenda items included information on:

- Water quality
- Dangerous Currents and Risk Communication
- Harmful Algal Blooms
- Beach Resiliency and Erosion/Sediment Transport
- Beach Dynamics
- Case studies on planning restorations
- Nowcast and Training

Nowcasting

This beach season marked the fourth consecutive year operational Nowcast models informed decisions on whether to issue (or lift) swim advisories and beach closures, as well as whether or not to sample and test on a given day. WDNR continued its partnership with the Wisconsin Coastal

Management Program and the Department of Health to provide University of Wisconsin Sea Grant Institute funding with the goal of building Nowcast modeling to a sustainable level, Activities within the project included development of online training with supporting materials, and formation of a Virtual Beach Users Group (www.seagrant.wisc.edu/virtualbeach). Adam Mednick led the project effort at Sea Grant. Adam continued his discussions with EPA ORD (Kevin Oshima) about long-term support for Virtual Beach which resulted in the formation of a steering committee among key Virtual Beach users.

Water Quality Signage Update

New water quality signage developed based on recommendation from the public appeared at monitored beaches starting in the 2016 swimming season. New signs include a QR code that can link users to the beach health website and contain multi-lingual messaging to explain the three levels of advice on water quality conditions. The QR code can be accessed from a smartphone or tablet. This new signage supplements the existing color-coded signs or flags used at monitored beaches. Kewaunee County implemented these new signs along with flags that are visible across the beach and received positive feedback from beach visitors.

The program received feedback that existing advisory signs were being ignored in part, because the signs were overly wordy and overall sign fatigue. Based on that feedback, the program began a redesign for the individual water quality advice signs for deployment in the 2017 beach season. Key elements in the sign design included:

- Retaining the color-based system
- Recognizable icons accompanying messaging
- Simple, straight-forward wording that can be used for multiple health hazards.
- Space available on the sign for contact information for the local public health contacts

A few counties commented that they do not have a large Hmong population visiting their beaches so including that translation was not important to them.



Microbial Assessments and Source Tracking – Intern Project

Based on recommendations made in the 2015 WCBW meeting, WDNR hired an intern experienced with microbial source tracking techniques to develop program materials to support implementation of these techniques into program operations and perform data analyses associated with revising the Recreational Water Quality rule. This included In addition to evaluating the effect of indicator organism selection and advisory levels, activities included interviews with key stakeholders to consider the priorities for implementing qPCR into routine program operations.

Time Schedule

The activities described in this report took place during Federal Fiscal Year (FFY) 2016 (October 1, 2015 through June 30, 2016). The beach season is defined for Wisconsin coastal beaches as Memorial Day Weekend through Labor Day Weekend (108 days). In Lake Superior, water recreational activities are heavily influenced by spring weather, with storms, water temperatures and the number of warm days affecting beach visitation.

Funding Priorities and Budget – BEACH Act Grant only

Note: Financial paperwork associated with the grant close out documentation identifies actual expenditures charged to this grant.

The strategy for allocating funding placed a priority on support for Wisconsin's Beach Health web application operated by USGS because it both manages the data and provides public notification of beach conditions. Funding for monitoring considered the beach priority (Tier), ability to leverage other funding, or partnership arrangements, locations with operational Nowcasts, travel considerations and status on the 303(d) impaired waters list.

Table 1. Allocation of Beach Act Funds for the 2016 Season

Participating Locations/Counties	Allocation
Ashland County*	\$6,000
Bayfield County	\$6,000
Brown County	\$0
Door	\$60,000
Douglas*	\$6,000
Iron++	\$1,000
Kenosha+	\$9,000
Kewaunee County++	\$4,000
Manitowoc County++	\$12,000
Milwaukee, City of	\$12,000
Northshore/Shorewood (Milwaukee County)	\$4,000
Ozaukee County	\$17,000
Racine, City of	\$24,000
Sheboygan County	\$12,500
South Milwaukee, City of	\$6,000
Total	\$164,500

* Contracted through agreement with Northland College

+ Contracted through City of Racine

++Contracted through agreement with UW-Oshkosh

The highest priority for funding was given to maintaining the USGS website, a central tool for notifying the public about beach conditions and to manage data reported to USEPA as required by the grant. Annual costs for operational and maintenance of these functions is \$35,000.

Contracts for implementing the program bundled monitoring dollars somewhat regionally to optimize available resources. Many counties supplement the funding available through the grant to increase the number of beaches monitored or sample beyond the minimum frequency specified by contract.

Remaining BEACH Act funds supported the summer intern. Supplemental funding was necessary to fully support 2016 operations.

Monitoring Summary Results

Summary data in this section provides information for each monitored beach organized by county and grouped by lake. The tables provide summary information with encoded status information:

- N - Nowcast,
- V - Voluntary,
- A - Alternate funding

Status information is followed by the contracted sampling frequency, total number of samples collected, the number, percentage of samples that exceed the *E. coli* advisory threshold of 235 Colonies/100 mL and the number and percentage of samples that exceed the closure threshold of 1000 Colonies/100 mL. Summary statistics for the *E. coli* monitoring results were derived from the Wisconsin's Beach Health database. The highlighted line for each county provides summary information for the county, with the first entry identifying the number of monitored beaches rather than the contracted frequency.

As a function of Wisconsin's prioritizing monitoring at impaired waters and more intensive monitoring at beaches with higher numbers of exceedances, our monitoring program is inherently biased toward locations with higher risk of exceeding the water quality standard. The summary statistics should not be considered as representative of overall water quality at Wisconsin's Great Lakes beaches. Water quality on any given day can be significantly different than the results of the summary statistics, which were performed over the entire swimming season.

A total of 3293 samples were collected in 2016 and reported on the Beach Health Website (www.wibeaches.us). At 4 locations, results reported were composite of multiple locations so the total sample numbers have been adjusted to avoid duplicated results. Of the samples collected, 10% exceeded the water quality advisory threshold of 235 CFU/100mL (Table 3). Of those exceedances, 2.5% of all samples collected exceeded the 1,000 CFU/100mL criteria for beach closure.

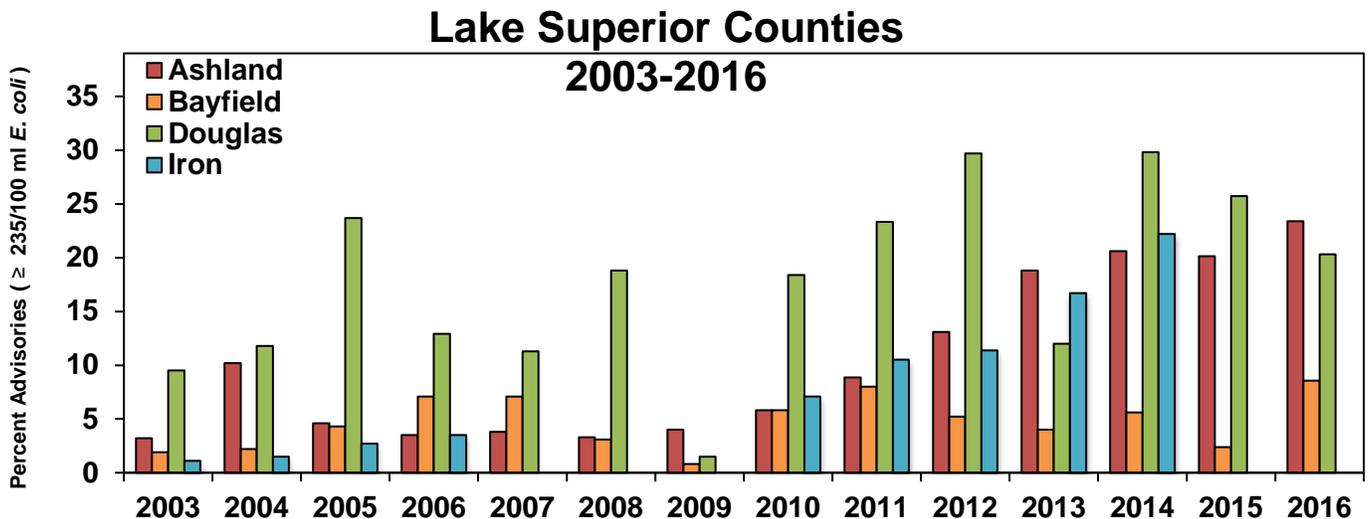
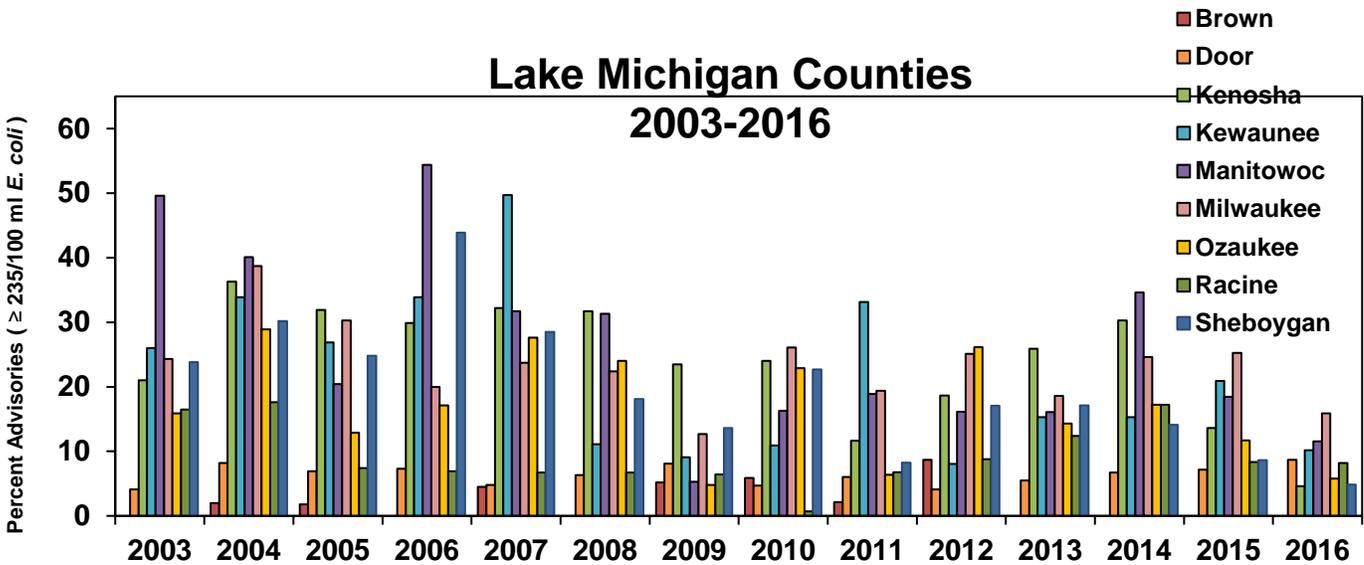
Table 3. 2016 Annual Sample Percentages that exceed the advisory level of 235 CFU/100mL

Row Labels	Sampled Collected	Exceedances (>235)	Closures (>1000)	% Exceedances	% Closures
Ashland	107	25	2	23.4	1.9
Bayfield	269	23	5	8.6	1.9
Door	1131	98	37	8.7	3.3
Douglas	197	40	8	20.3	4.1
Iron*	23	0	0	0.0	0.0
Kenosha	218	10	1	4.6	0.5
Kewaunee	59	6	1	10.2	1.7
Manitowoc	251	29	14	11.6	5.6
Milwaukee	365	58	10	15.9	2.7
Ozaukee	329	19	1	5.8	0.3
Racine	159	13	2	8.2	1.3
Sheboygan	185	9	1	4.9	0.5
Grand Total	3293	330	82	10.0	2.5

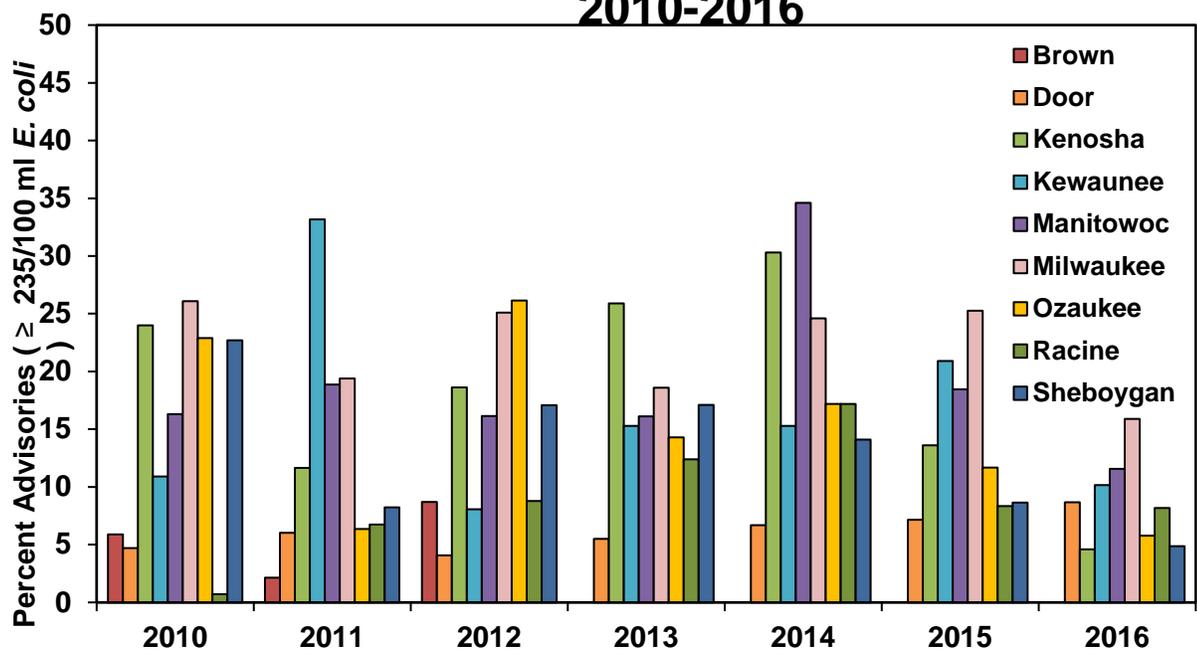
* As a result of intense storms in northern Wisconsin, the beaches in Iron County received extensive damage and closed at the end of June

Table 4. Historic Summary of Percentages that exceed the advisory level of 235 CFU/100mL

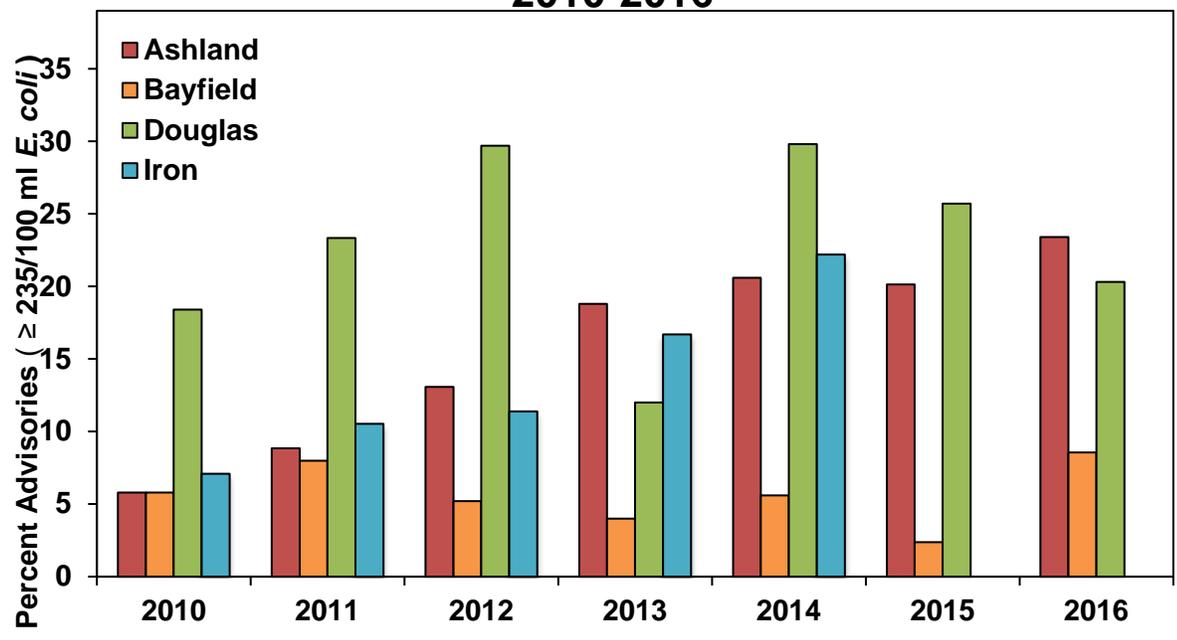
COUNTY	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Ashland	3.2	10.2	4.6	3.5	3.8	3.3	4	5.8	8.85	13.08	18.8	20.6	20.1	23.4
Bayfield	1.9	2.2	4.3	7.1	7.1	3.1	0.8	5.8	8	5.21	4	5.6	2.4	8.6
Brown	0	2	1.8	0	4.5	0	5.2	5.9	2.13	8.7	0			
Door	4.1	8.2	6.9	7.3	4.8	6.3	8.1	4.7	6.03	4.08	5.5	6.7	7.2	8.7
Douglas	9.5	11.8	23.7	12.9	11.3	18.8	1.5	18.4	23.34	29.7	12	29.8	25.7	20.3
Iron	1.1	1.5	2.7	3.5	0	0	0	7.1	10.53	11.39	16.7	22.2	0.0	
Kenosha	21	36.3	31.9	29.9	32.2	31.7	23.5	24	11.66	18.63	25.9	30.3	13.6	4.6
Kewaunee	26	33.9	26.9	33.9	49.7	11.1	9.1	10.9	33.16	8.06	15.3	15.3	20.9	10.2
Manitowoc	49.6	40.1	20.4	54.4	31.7	31.3	5.3	16.3	18.87	16.14	16.1	34.6	18.5	11.6
Milwaukee	24.3	38.7	30.3	20	23.7	22.4	12.7	26.1	19.39	25.1	18.6	24.6	25.3	15.9
Ozaukee	15.9	28.9	12.9	17.1	27.6	24	4.8	22.9	6.37	26.14	14.3	17.2	11.7	5.8
Racine	16.5	17.6	7.4	6.9	6.7	6.7	6.4	0.7	6.75	8.79	12.4	17.2	8.3	8.2
Sheboygan	23.8	30.2	24.8	43.9	28.5	18.1	13.6	22.7	8.23	17.08	17.1	14.1	8.6	4.9
Grand Total	14.6	22.2	15.7	17.5	17.1	14.4	7.3	12.4	11.8	14.38	11	18.1	12.6	10.0



Lake Michigan Counties 2010-2016



Lake Superior Counties 2010-2016



Lake Michigan

Overall, beaches along the Lake Michigan coastline experienced fewer advisories in 2016 than in previous years. Eight counties are currently involved with BEACH Act monitoring and notification: Door, Kewaunee, Manitowoc, Sheboygan, Ozaukee, Milwaukee, Kenosha, and Racine. Brown County has been included in the report because of efforts to restore Bay Beach. Marinette and Oconto County beaches are identified in Tier 3 with no monitoring and do not receive BEACH Act funding.

Brown County

Brown County's 9 beaches were all identified as low priority and did not receive BEACH Act funding. Bay Beach remains on the beach list as inactive and is not included in the map of current locations. The map with other beach locations for Brown County can be found [here](#).

Door County

Door County has the highest number of coastal beaches in the State, making it one of the most popular summer tourist destinations in Wisconsin. Door County places an emphasis on regular monitoring, testing 34 of 54 coastal beaches on the peninsula as well as Washington and Rock Islands throughout the summer. As with past years, the county used a combination of BEACH Act support and local funding to implement their program. This is particularly notable given the transportation costs associated with monitoring the island beaches. The county's partnership with the University of Wisconsin – Oshkosh enables their program to function cost-effectively.

2016 Contract Frequency	Beach	Samples	Exceedances (≥235)	Closures (≥1000)	Exceedances (%)	Closures (%)	Beach Action Days
1	Anclam Park	27	0	0	0.0	0.0	0
2	Baileys Harbor Ridges Park	55	3	1	5.5	1.8	3
2	Clark Lake	13	0	0	0.0	0.0	0
1	Clay Banks #2	29	4	2	13.8	6.9	4
2	Egg Harbor	54	1	0	1.9	0.0	1
2	Ellison Bay Town Park	56	1	0	1.8	0.0	1
2	Ephraim	57	7	1	12.3	1.8	7
1	Europe Bay #1	29	2	1	6.9	3.4	2
1	Europe Bay #3	28	2	1	7.1	3.6	2
1	Europe Lake	13	0	0	0.0	0.0	0
2	Fish Creek	57	14	6	24.6	10.5	14
1	Gislason	16	2	1	12.5	6.3	2
1	Haines Park	28	2	1	7.1	3.6	2
1	Hotz Memorial Park (Europe Bay #2)	28	2	1	7.1	3.6	2
1	Jackson Harbor Ridges	14	0	0	0.0	0.0	0
1	Lakeside Park	29	2	0	6.9	0.0	2
1	Lily Bay Boat Launch	15	2	1	13.3	6.7	2
2	Murphy Park	54	4	1	7.4	1.9	4
2	Newport Bay	54	1	1	1.9	1.9	1
2	Nicolet	55	8	3	14.5	5.5	8
2	Otumba Park	61	15	6	24.6	9.8	15
1	Percy Johnson Memorial Park	20	6	4	30.0	20.0	6
1	Portage Park	27	0	0	0.0	0.0	0
1	Robert E. LaSalle Park	2	0	0	0.0	0.0	0
1	Rock Island State Park	14	0	0	0.0	0.0	0

1	Sand Bay #1	30	6	2	20.0	6.7	6
1	Sand Dune	14	0	0	0.0	0.0	0
1	Sandy Bay Town Park	27	0	0	0.0	0.0	0
1	School House	17	3	0	17.6	0.0	3
2	Sister Bay	54	3	1	5.6	1.9	3
1	Sturgeon Bay Ship Canal Nature	31	6	3	19.4	9.7	6
2	Sunset Park Sturgeon Bay	55	1	0	1.8	0.0	1
2	Whitefish Bay Boat Launch	13	0	0	0.0	0.0	0
1	Whitefish Dunes State Park	55	1	0	1.8	0.0	1
34	Door Co. Total	1131	98	37	8.7	3.3	98

A map with beach locations for Door County can be found [here](#).

Kenosha County

BEACH Act monitoring for Kenosha County beaches was done through an assistance agreement with the City of Racine. This arrangement enabled the program to provide sufficient funding to support summer staff necessary to do the sample collection. Carol Beach in Pleasant Prairie was renamed Prairie Shores and an additional beach was identified in the northern part of Lakeshore Park. A map with beach locations for Kenosha County can be found [here](#).

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Exceedances (%)	Closures (≥ 1000)	Closures (%)	Beach Action Days
2	Alford Park	26	0	0	0.0	0.0	0
3	Eichelman	41	4	1	9.8	2.4	4
2	Pennoyer Park	26	0	0	0.0	0.0	0
	Prairie Shores	30	1	0	3.3	0.0	1
	Lakeshore Park North	28	1	0	3.6	0.0	1
3	Simmons Island	41	4	0	9.8	0.0	4
2	Southport Park	26	0	0	0.0	0.0	0
	Kenosha Co. Total	218	10	1	4.6	0.5	10

Kewaunee County

Kewaunee County monitored 2 of 5 coastal beaches in 2016 and advisory notifications were done at 3 beaches. An additional coastal beach was identified at Pioneer Park which is one city lot away from Selner Park. Given this proximity, Kewaunee chose to use the monitoring results from Selner Park to post advisories at this beach.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
2	Crescent	30	4	1	13.3	3.3	5
2	Selner Park	29	2	0	6.9	0.0	3
2	Kewaunee Co. Total	59	6	1	10.2	1.7	8

A map with beach locations for Kewaunee County can be found [here](#).

Manitowoc County

Manitowoc County partners with University of Wisconsin – Oshkosh (UW-O) to monitor 12 of 16 beaches. Historically, water quality at Fisher Park has had a higher exceedance rate. Overall beach usage is relatively low. Considering the costs to sample that location and the usage, the

beach was sampled weekly and advisories remained in place until the next weekly sample results fell below the advisory threshold. Restoration at Blue Rain Marina beach continued into the 2016 swimming season.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
2	Blue Rail Marina Beach	31	6	2	19.4	6.5	6
1	Fischer Park Beaches	14	2	2	14.3	14.3	14
1	Hika Park Bay	15	1	0	6.7	0.0	1
2	Memorial Drive Mariners at Waldo	30	2	1	6.7	3.3	2
2	Memorial Drive Parkway	30	2	1	6.7	3.3	2
2	Memorial Drive Thiede	30	2	1	6.7	3.3	2
2	Neshotah Beach	28	2	0	7.1	0.0	2
2	Point Beach State Forest - Composite	28	2	0	7.1	0.0	2
2	Red Arrow Park Beach Manitowoc	31	5	2	16.1	6.5	5
1	YMCA Beach	14	5	5	35.7	35.7	29
10	Manitowoc Co. Total	251	29	14	11.6	5.6	67

* Composite sampling considered and approved for Point Beach based on statistical assessment of the water quality data.

A map with beach locations for Manitowoc County can be found [here](#).

Milwaukee County

Multiple government jurisdictions have responsibility for monitoring and making public health decisions for 13 Milwaukee County Great Lakes beaches. The city of Milwaukee continued its partnership with the University of Wisconsin – Milwaukee (UW-M) to monitor Bradford, McKinley and South Shore beach. The northern county beaches are monitored through Northshore Health Department. Atwater Park has an active Friends group to assist with beach management issues. South Milwaukee beaches were monitored through an arrangement with Racine Public Health.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
2	Atwater Park Beach	28	2	0	7.1	0.0	8
1	Bay View Park Beach	18	2	0	11.1	0.0	4
2	Bender Beach	31	4	0	12.9	0.0	10
2	Bradford Beach	65	6	0	9.2	0.0	18
2	Grant Park Beach	32	2	0	6.3	0.0	5
2	Klode Park Beach	28	0	0	0.0	0.0	0
2	McKinley Beach	67	13	1	19.4	1.5	22
2	South Shore Beach	68	29	9	42.6	13.2	40
2	Tietjen Beach / Doctor's Park	28	0	0	0.0	0.0	0
9	Milwaukee Co. Total	365	58	10	15.9	2.7	107

A map with beach locations for Milwaukee County can be found [here](#).

Ozaukee County

Of the 10 beaches listed in Ozaukee County, the Health Department monitors 3 beaches and contracts with Concordia for monitoring the coastal beach on that campus. As part of the 2015 sanitary survey process, state park staff identified a need to align the beach listings with how they are actually managed, recognizing that there is only one natural landmark distinguishing the north

and south beach areas. Each beach at the park retained two historic monitoring locations and results are evaluated independently for declaring a water quality advisory.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
2	Concordia University	25	0	0	0.0	0.0	1
2N	Harrington State Park North	122	8	0	6.6	0.0	13
2N	Harrington State Park South	122	5	0	4.1	0.0	14
2N	Upper Lake Park	60	6	1	10.0	1.7	32
4	Ozaukee Co. Total	329	19	1	5.8	0.3	60

A map with beach locations for Ozaukee County can be found [here](#).

Racine County

The City of Racine places a high priority on monitoring its beaches and uses rapid methods and multiple tools to determine water quality conditions. As restoration work at Sam Myers park nears completion, Racine plans to establish an off-shore swimming area. This area will be monitored in advance of reactivating the beach and opening it to public use.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
2N*	North Beach	62	3	0	4.8	0.0	12
1	Parkway Beach	15	1	0	6.7	0.0	1
1	Wind Point Lighthouse	17	3	0	17.6	0.0	3
2N*	Zoo Beach	65	6	2	9.2	3.1	15
4	Racine Co. Total	159	13	2	8.2	1.3	31

* Composite sampling considered and approved for North and Zoo beaches based on statistical assessment of the water quality data.

A map with beach locations for Racine County can be found [here](#).

Sheboygan County

Sheboygan County monitors 6 of 14 coastal beaches including two at Kohler-Andrae State Park. The park implemented the redesign plan to address erosion and stormwater from the parking lot at the North Picnic beach. Shoreline dunes have been re-established and vegetation planted in the raingarden was completed. Storms that occurred during the construction period demonstrated that the raingarden functions as designed; however, this also uprooted some of the recent plantings. Park staff needed to manage water levels until the plants were well-established.

A map with beach locations for Sheboygan County can be found [here](#).

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Action Days
1	Amsterdam	15	1	0	6.7	0.0	3
2N	Blue Harbor	28	0	0	0.0	0.0	10
2N	Deland Park	28	3	1	10.7	3.6	9
2N	General King Park	28	2	0	7.1	0.0	19
3	Kohler Andrae State Park Picnic Area	44	2	0	4.5	0.0	3
3	Kohler-Andrae State Park North/Nature Center	42	1	0	2.4	0.0	2
6	Sheboygan Co. Total	185	9	1	4.9	0.5	46

Lake Superior

In June 2016, record storms caused extensive flooding across northern Wisconsin and rendering portions of the Lake Superior shoreline inaccessible for a week or more. These storms caused considerable damage to roads, harbors and other infrastructure as well as deaths and the area was declared a disaster. Beaches along Lake Superior sustained damage resulting in closure of all of Iron County's coastal beaches.

Ashland County

Monitoring occurred at 4 of 8 coastal beaches in Ashland County. Northland College continues to work with the community to identify watershed sources of bacterial contamination. Throughout the 2016 beach season, a remediation project occurred in a bay adjacent to Kreher Park.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Actions Days
2	Bayview Park Ashland	18	4	0	22.2	0.0	16
2N	Kreher Park	30	7	1	23.3	3.3	24
2N	Maslowski	31	9	0	29.0	0.0	37
2	Sixth Avenue West Boat Launch/Beach	28	5	1	17.9	3.6	19
4	Ashland Co. Total	107	25	2	23.4	1.9	96

A map with beach locations for Ashland County can be found [here](#)

Bayfield County

Bayfield County received BEACH Act funding for 11 of 16 BEACH Act beaches. Myers Beach at the Apostle Islands National Lakeshore participated in the monitoring and notification program; however, as a federal beach, this location was ineligible for BEACH Act funds.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Actions Days
1	Broad St	15	0	0	0.0	0.0	0
2	Herbster	29	4	0	13.8	0.0	8
1	Little Sand Bay	15	1	0	6.7	0.0	6
1	Port Wing East	17	2	0	11.8	0.0	5
1	Port Wing West	17	4	0	23.5	0.0	18
2	Sioux River North (Onion)	28	1	0	3.6	0.0	1
2	Sioux River South (Friendly Valley Road)	29	1	1	3.4	3.4	1
2	Siskiwit East	29	2	1	6.9	3.4	6
2	Siskiwit West	29	2	1	6.9	3.4	7
2N	Thompson West End Park	30	2	1	6.7	3.3	2
1	Washington Ave	15	0	0	0.0	0.0	0
11	Bayfield Co. Total	269	23	5	8.6	1.9	54

A map with beach locations for Bayfield County can be found [here](#).

Douglas County

Work along Wisconsin Point (the Point) continues as part of the Area of Concern (AOC) program. Shafer Beach has been identified as piping plover habitat with discussions and design work by local and federal partners to develop necessary plans to enhance this habitat area through 2016. Ultimately, this beach area was determined to be unsuitable for habitat enhancement and an alternate site along the Point was selected. Access to Shafer Beach and Wisconsin Point 3 (Dutchman Creek) was restricted until July 15, 2016 (nesting season) when it was opened. This area continues to experience a high number of birds, attracted at least in part by the active landfill fairly near the beach.

Source assessment of the bacterial contaminants at the Point and Barker's Island continued as part of a GLRI AOC project. Samples that exceeded the water quality standard as well as additional investigative samples were sent to Dr. Sandra McLellan's laboratory at the University of Wisconsin - School of Freshwater Science for DNA analyses. Preliminary results indicated potential human and ruminant sources at both Barker's Island and beaches along the Point; however, on further investigation, the results for the Wisconsin Point beaches were determined to be false positives. In 2017, sampling intensified in areas adjacent to Barker's Island to confirm the results and identify possible mitigation strategies.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Closures (≥ 1000)	Exceedances (%)	Closures (%)	Beach Actions Days
2	Barker's Island Inner Beach	32	16	5	50.0	15.6	44
2	Wisconsin Point Dutchman Creek (#3)	29	6	2	20.7	6.9	18
2	Wisconsin Point Lighthouse (# 5)	27	3	0	11.1	0.0	8
1	Wisconsin Point Lot 1 (#1)	29	4	0	13.8	0.0	22
2	Wisconsin Point Lot 12	26	2	0	7.7	0.0	6
2	Wisconsin Point SE of Breakwater (#4)	26	1	0	3.8	0.0	4
2	Wisconsin Point Shafer Beach (#2)	28	8	1	28.6	3.6	25
7	Douglas Co. Total	197	40	8	20.3	4.1	127

* Wisconsin Point (WP). Beach names reflect designations regularly used by beachgoers and the general community.

A map with beach locations for Douglas County can be found [here](#).

Iron County

Flood in northern Wisconsin at end of June caused massive flooding and destroyed Saxon Harbor. No access to beaches so closed.

2016 Contract Frequency	Beach	Samples	Exceedances (≥ 235)	Exceedances (%)	Closures (≥ 1000)	Closures (%)	Beach Actions Days
	Oronto Bay #1	43	0	0	0	0	0
1	Saxon Harbor East	15	0	0	0	0	0
1	Saxon Harbor West	14	0	0	0	0	0
3	Iron Co. Total	72	0	0	0	0	0

A map with beach locations for Iron County can be found [here](#).

Lessons Learned and Improvement Opportunities

As work continues to update with Wisconsin Beach list using local information, at times the program receives information about locations that are “popular” swimming spots. These locations are not associated with public parks or areas that the community maintains for water recreation nor does the community want to encourage swimming in these locations. Local officials express concerns that including these locations on the list and participating in the monitoring and notification program will encourage greater use.

Wisconsin DNR continues to place a priority on using BEACH Act grant resources for on-the-ground monitoring and notification system activities. Local partners have emphasized the need to have secure beach monitoring funding for program implementation on a cycle that aligns with city and county budget planning. Like other states, Wisconsin is using the grant funding for the season following the grant issuance (e.g. FY15 BEACH Act grant funds the 2016 season.) This shift has created more certainty in program operations and allows contracting to occur within the state purchasing deadlines.

The beach program provides a uniform mechanism to evaluate water quality and report data. Should funding be withdrawn entirely, counties have little incentive to report their data to EPA. Additional resources are necessary to support Nowcasting, maintenance and enhancement of information technology tools to support more real-time notification systems, and at beaches that have implemented restoration or other mitigation efforts, enhanced monitoring to re-establish relationships between water quality and predictive conditions. Significant efforts to form a Virtual Beach users group and create a repository of meaningful training and support tools continued through 2016. Capacity to develop and recalibrate the models continues to be a struggle for the smaller communities. Across the coastline, there are varying levels of comfort with using the nowcasts once developed so technical support remains a necessity.

Recreational Water Quality Criteria – Status of Rule Revision

As a condition for receiving BEACH Act grant funding, Wisconsin must revise its recreational water quality criteria to be consistent with the federal rules. The Water Evaluation Section within the Water Quality Bureau evaluated which administrative codes would need revision to fully change the recreational water quality criteria. Wisconsin administrative codes NR 102, NR 104, NR 210 and NR 219 have been identified as affected and revisions considered. Current rules include a limited exemption for disinfection that, depending on how this is addressed, could affect small communities and change the fiscal impact estimate for the rule considerably. Options to address this

Changes to the recreation water quality standards, including

- Re-evaluation of the recreation designated use
- Revisions of the recreation water quality criteria, such as
 - Switching to *E. coli* as the indicator bacteria
 - Evaluation of risk level for selecting the most appropriate criteria
 - Addition of language that allows for the development of bacteria site-specific criteria

Changes to wastewater implementation procedures for bacteria, including

- Re-evaluation of effluent limits, monitoring requirements, and disinfection requirements

Re-evaluation of the assessment protocols for making recreation impairment decisions, including

- Evaluation of using alternate indicators, multiple data sources and methods (e.g. traditional microbiology, qPCR), and predictive modeling for impairment decisions

Once draft rule language is complete, the next steps are to draft an economic impact analysis and seek public input on that analysis, hold public hearings, and obtain Natural Resources Board approval on the rule language.

The Beach Program will provide supporting data and technical information throughout the development process. Current procedures used for issuing beach advisories are equivalent to implementing a Beach Action Value (BAV) at 235 colonies/100 mL as described in the federal rule. The Beach Program will continue using this BAV throughout the rulemaking process. Once rule revisions are enacted, the program will determine the effect on the BAV and how this is implemented within the program.

APPENDIX

2015 Beach Action Summary

In 2015, the monitoring program covered 10,908 beach days (108 days per monitored beach). Of the 101 monitored beaches 68 experienced advisories or closures (collectively termed a beach action). This is not unexpected given that the monitoring plan is weighted toward detecting water quality exceedances and advising the public. Beach actions are most commonly the result of high levels of measured *E. coli*, modeling with Nowcasting, or are issued preemptively based on beach conditions (e.g., rainfall, high waves, bluff failures) that can be expected to affect swimming conditions. Local public health departments have discretion in issuing preemptive advisories. Most of our monitoring organizations do not have access to laboratory facilities over the weekend so advisories issued on Friday may last until the following Monday when staff are available again. A few beaches are only monitored weekly, so by default, any beach action would last a minimum of 7 days. National Weather Service began forecasting dangerous currents and this information was available to beach managers. It should be noted that Ozaukee County issued preemptive advisories based on the dangerous current forecast which contributed to the overall number of advisories experienced at Ozaukee County beaches.

Across Wisconsin's coastal counties, a total of 622 beach actions were issued: 491 lasted a single day and an additional 50 actions lasted 2 days. In other words, 87% of beach actions returned to open conditions in 2 days or less. Set in context of the number of beach days available in the swimming season, 1023 beach days (9.4%) were affected by advisories or closures. Beaches that do not appear in Tables 1 or 2 did not have any beach actions.

Appendix Table 1. Summary of 2016 Beach Action Durations \leq 2 Days by Lake Michigan Beach

County	Beach	# Beach Actions	Beach Action Days	% Resolved in \leq 2 Days
Door	Bailey Harbor Ridges Park	3	3	100
	Clay Banks #2	3	4	100
	Egg Harbor	1	1	100
	Ellison Bay Town Park	1	1	100
	Ephraim Village	6	7	100
	Europe Bay #1	2	2	100
	Europe Bay #2	2	2	100
	Europe Bay #3	2	2	100
	Fish Creek	10	14	100
	Gislason Park	2	2	100
	Haines Park	2	2	100
	Lakeside Park	2	2	100
	Lily Bay Boat Launch	2	2	100
	Frank E. Murphy Park	3	4	100
	Newport Bay Beach	1	1	100
	Nicolet Bay at Peninsula State Park	8	8	100
	Otumba Park	12	15	100
	Percy Johnson Memorial Park	5	6	100
	Sand Bay #1	5	6	100

County	Beach	# Beach Actions	Beach Action Days	% Resolved in ≤ 2 Days
	School House	2	3	100
	Sister Bay Park	3	3	100
	Sturgeon Bay Ship Canal Nature Preserve	3	6	67
	Sunset Park Sturgeon Bay	1	1	100
	Whitefish Dunes State Park	1	1	100
Kenosha	Eichelman Park	4	4	100
	Prairie Shores (Lakeshore Drive)	2	2	100
	Simmons Island Park	3	4	100
Kewaunee	Crescent	4	5	100
	Selner Park	2	3	100
Manitowoc	Blue Rail Marina Beach	5	6	100
	Fischer Park Beaches	2	14	0
	Hika Park Bay	1	1	100
	Memorial Drive Mariners at Waldo	2	2	100
	Memorial Drive Parkway	2	2	100
	Memorial Drive Thiede	2	2	100
	Neshotah Beach	2	2	100
	Point Beach State Forest - Concession Stand Beach	2	2	100
	Point Beach State Forest - Lighthouse Picnic Area Beach	2	2	100
	Red Arrow Park Beach Manitowoc	5	5	100
	YMCA Beach	3	29	33
Milwaukee	Atwater Park	2	8	0
	Bayview Park Milwaukee	3	4	100
	Bender Park	5	10	60
	Bradford Beach	9	18	78
	Grant Park	5	5	100
	McKinley	13	22	77
	South Shore	24	40	88
Ozaukee	Harrington State Park North	13	13	100
	Harrington State Park South	14	14	100
	Upper Lake Park	32	32	100
	Concordia University	1	1	100
Racine	North Beach	12	12	100
	Parkway Beach	1	1	100
	Wind Point Lighthouse Beach	3	3	100
	Zoo Beach	15	15	100
Sheboygan	Amsterdam Beach	2	3	100
	Blue Harbor Beach	5	10	60
	Deland Park Beach	4	9	50
	General King Park Beach	7	19	43

County	Beach	# Beach Actions	Beach Action Days	% Resolved in ≤ 2 Days
	Kohler Andrae State Park North/Nature Center Beach	2	2	100
	Kohler Andrae State Park Picnic Beach North and South	3	3	100

Appendix Table 2. Summary of 2016 Beach Actions with Durations ≤ 2 Days by Lake Superior Beach

County	Beach+	Beach Actions	Beach Action Days	% Resolved in ≤ 2 Days
Ashland	6th Ave W Beach	4	19	25
	Bayview Park Beach	1	16	0
	Kreher Park Beach	5	24	20
	Maslowski Beaches	5	37	0
Bayfield	Herbster Beach	2	8	50
	Little Sand Bay Beach	2	6	50
	Port Wing Beach East	1	5	0
	Port Wing Beach West	3	18	0
	Sioux River Beach North	1	1	100
	Sioux River Beach South	1	1	100
	Siskiwit Bay Beach East	2	6	50
	Siskiwit Bay Beach West	2	7	50
	Thompson West End Park Beach	2	2	100
Douglas	Barker's Island Inner Beach	14	44	50
	Wisconsin Point Dutchman Creek (#3)	5	18	40
	Wisconsin Point Lighthouse (# 5)	2	8	50
	Wisconsin Point Lot 1 (#1)	5	22	20
	Wisconsin Point Lot 12	2	6	50
	Wisconsin Point SE of Breakwater (#4)	1	4	0
	Wisconsin Point Shafer Beach (#2)	7	25	57

++Wisconsin Point beach stretches and names were adjusted in 2015 to reflect identifiable access points available to people

* Both Ashland and Douglas Counties used a geometric mean value of 126 MPN/100 mL in addition to the exceedance threshold of 235 MPN/100 mL. This extended the number of days advisories were in effect during the summer. As an example, Barker's Island Inner beach had an advisory in place between July 14 and August 14 when several successive samples exceeded the threshold value. Three samples collected between July 21 and July 27 had results of 126, 156, and 93 MPN/100 mL. Had the threshold value been used alone, there would have been no advisory in effect during that time. A separate sanitary survey project occurred at the Douglas County beaches; however the results were not used for advisory purposes. When evaluating the entire data set, results indicate that water quality conditions can be quite variable even within a single day at the Wisconsin Point beaches

** Big Bay State Park was monitored voluntarily and based on staff availability. As a beach located on an island, transportation costs limited the sampling frequency to weekly.

*** All three advisories at Herbster occurred late in the week so the advisory extended over the weekend.

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Ashland	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Bayview Park Ashland	Beach	Ashland	Yes	2/week	2	46.6029810	-90.8642550	WI883392	0.097	42.98078	-87.86031	42.98846	-87.87199381
Big Bay State Park	Beach - Island	La Pointe	Voluntary	0	3	46.8076890	-90.6760400	WI937015	1.397	46.79893	-90.66855	46.81725	-90.67549937
Big Bay Town Park	Beach - Island	La Pointe	No	0	3	46.8188100	-90.6745450	WI985506	0.224	46.81722	-90.67548	46.82009	-90.67319937
Casper Rd	Beach - Island	La Pointe	No	0	3	46.7525940	-90.7830970	WI415576	0.040	46.75245	-90.78328	46.75243	-90.7829462
Kreher Park	Beach	Ashland	Yes	2/week Nowcast	2	46.5975530	-90.8809550	WI664128	0.170	46.599	-90.87993	46.59714	-90.88222331
La Pointe Memorial	Beach - Island	La Pointe	No	0	3	46.7750750	-90.7840480	WI492046	0.067	46.77436	-90.78389	46.77533	-90.78450742
Maslowski	Beach	Ashland	Yes	2/week Nowcast	2	46.5834360	-90.9207530	WI134911	0.271	46.58309	-90.91676	46.58439	-90.92309168
Sixth Avenue West Boat Launch and Beach	Beach and Boat Launch	Ashland	Yes	2/week	2	46.5907140	-90.8906210	WI510356	0.040	46.5972	-90.8815	46.597	-90.8822
								Total Miles	2.306				
Bayfield	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Bark Bay	Beach - no road access	Herbster	Voluntary	0	3	46.8503700	-91.1947960	WI612731	1.197	46.84394	-91.17271	46.85882	-91.20444032
Broad St	Beach (adjacent to boat launch)	Bayfield	Yes	1/week	2	46.8076520	-90.8171770	WI092383	0.022	46.80725	-90.81718	46.80743	-90.81693057
Herbster	Beach	Herbster	Yes	2/week	2	46.8363780	-91.2574770	WI104571	1.494	46.83811	-91.25461	46.83534	-91.26100274
Highway 13 Wayside	Shoreline wayside	Port Wing	No	0	3	46.7569530	-91.5133580	WI226688	0.091	46.75723	-91.51243	46.75713	-91.51428084
Little Sand Bay	Beach and adjacent Marina	Sand Bay	Yes	1/week	2	46.9473830	-90.8885790	WI665352	0.271	46.94745	-90.88781	46.94689	-90.88969795
Memorial Park Bayfield	Beach (adjacent to ferry area)	Bayfield	Voluntary	0	3	46.8107540	-90.8132490	WI627331	0.021	46.81031	-90.81302	46.81059	-90.81272431
Meyers - Apostle Islands National Seashore	Beach (National Lakeshore)	Cornucopia	Federal	NA	2	46.8836070	-91.0488860	TBD	0.637	46.8823	-91.0517	46.8889	-91.0409
Port Wing East	Beach and Boat Launch	Port Wing	Yes	1/week	2	46.7937090	-91.3697040	WI159171	0.626	46.79607	-91.364	46.79222	-91.37586717
Port Wing West	Beach and natural area	Port Wing	Yes	1/week	2	46.7901460	-91.3923010	WI347339	0.785	46.7886	-91.38584	46.78912	-91.38893154
River Loop Rd	Private beach	Port Wing	No	0	3	46.7679210	-91.4843740	WI887162	0.032	46.76788	-91.48399	46.76778	-91.48472787

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Sioux River North (aka Onion)	Beach	Washburn	Yes	2/week	2	46.7479430	-90.8840650	WI728716	0.175	46.74691	-90.88331	46.74922	-90.88437081
Sioux River South (aka Friendly Valley Road)	Beach	Washburn	Yes	2/week	2	46.7374040	-90.8781370	WI666189	1.133	46.73112	-90.87494	46.74691	-90.88331201
Siskiwit East (aka Comie)	Beach	Cornucopia	Yes	2/week	2	46.8595130	-91.0999860	WI197157	0.308	46.86093	-91.09715	46.85932	-91.10366939
Siskiwit West (aka Comie by Marina)	Beach	Cornucopia	Yes	2/week	2	46.8581920	-91.1035690	WI877155	0.220	46.8588	-91.103	46.8568	-91.1066
Thompson West End Park	Beach (adjacent to boat launch)	Washburn	Yes	2/week Nowcast	2	46.6657360	-90.9048870	WI275933	0.065	46.66532	-90.90498	46.66604	-90.90427157
Washburn Walking Trail (aka BAB)	Beach	Washburn	Voluntary	0	3	46.6677760	-90.8940630	WI437149	0.064	46.66759	-90.89448	46.66766	-90.89350295
Washington Ave	Beach	Bayfield	Yes	1/week	2	46.8127440	-90.8119790	WI984993	0.105	46.81212	-90.812	46.81357	-90.81189087
Wikdal Memorial Boat Launch	Boat Launch and adjacent beach	Washburn	Voluntary	0	3	46.6663910	-90.9020330	WI151032	0.034	46.66628	-90.90234	46.66648	-90.90168089
								Total Miles	7.280				
Brown Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Bay Beach	Inactive - no access	Green Bay	No	Special Project	NA	44.5323230	-87.9793270	WI851239	0.280	44.53167	-87.97685	44.53359	-87.98202305
Bayshore Park	Off-shore boating	Green Bay	No	0	3	44.6380190	-87.7981320	WI740597	0.370	44.63821	-87.79385	44.63792	-87.80130693
Communiversity Park	Boat Launch	Green Bay	No	0	3	44.5363670	-87.9286380	WI403290	0.265	44.53792	-87.92692	44.53512	-87.93054856
Joliet Park	Carry in boat launch	Bay Settlement	No	0	3	44.5516480	-87.9146940	WI488049	0.215	44.55283	-87.91384	44.55034	-87.91581228
Long Tail Point (North and South)	Wildlife area - no road access	Green Bay	No	0	3	44.6023490	-87.9882920	WI477262	0.260	44.59606	-88.01448	44.62498	-88.00799069
Sunset Beach Road	Boat Launch	Suamico	No	0	3	44.6307290	-88.0095500	WI744516	0.019	44.62037	-88.00629	44.632	-88.01140291
Town of Scott Park	Carry in boat launch	Dyckesville	No	0	3	44.6198640	-87.8552150	WI268522	0.017	44.61954	-87.85517	44.61962	-87.85551789
Van Lanen	Beach	Wequiock (Gree)	No	0	3	44.5674990	-87.9028100	WI405669	0.012	44.56747	-87.90265	44.56727	-87.90281882
Volks Landing Boat Launch	Boat Launch	Dyckesville	No	0	3	44.6186890	-87.8429680	WI851821	0.022	44.61872	-87.84278	44.61866	-87.84318426
								Total Miles	1.460				

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Door Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Anclam Park	Beach	Baileys Harbor	Yes	1/week	2	45.0586480	-87.1241760	WI501955	0.010	45.05879	-87.12379	45.05888	-87.12389386
Arrowhead Ln	Beach	Sturgeon Bay	No	0	3	44.8610680	-87.2342430	WI648903	0.034	44.86082	-87.23441	44.86114	-87.23387728
Bailey Harbor Ridges Park	Beach	Baileys Harbor	Yes	2/week	1	45.0696920	-87.1180890	WI914897	0.088	45.06962	-87.11902	45.07006	-87.11732105
Bittersweet Ln (South of Shiver Sands Creek)	Beach	Sturgeon Bay	No	0	3	44.8586310	-87.2403630	WI454590	0.035	44.85843	-87.24061	44.85864	-87.23999462
Braunsdorf	Private Beach	Claybanks	No	0	3	44.6995290	-87.3558690	WI982339	0.112	44.68963	-87.36295	44.69109	-87.36212135
Chippewa Dr	Beach	Sturgeon Bay	No	0	3	44.8124470	-87.2895720	WI822170	0.019	44.81233	-87.28972	44.81243	-87.28936632
Clay Banks #1 (South of Schyler Creek State Fishery Area)	Beach	Claybanks	No	0	3	44.7089970	-87.3495520	WI722618	0.170	44.70815	-87.35037	44.7102	-87.34854407
Clay Banks #2 (Hornspier Rd)	Beach	Claybanks	Yes	1/week	3	44.7593020	-87.3277110	WI198915	0.628	44.75525	-87.33121	44.76275	-87.32460708
Cliff View Dr	Beach	Sturgeon Bay	No	0	3	44.8788560	-87.4568990	WI571574	0.010	44.87883	-87.45678	44.87876	-87.45697896
County Rd TT	Beach	Sturgeon Bay	No	0	3	44.8351910	-87.2752910	WI509669	0.015	44.83502	-87.27515	44.83523	-87.27504159
Deer Path Ln	Beach	Sturgeon Bay	No	0	3	44.8543470	-87.2521230	WI690474	0.011	44.85427	-87.2522	44.85433	-87.25199533
Egg Harbor	Beach	Egg Harbor	Yes	2/week	1	45.0456290	-87.2859050	WI421809	0.062	45.04587	-87.28533	45.04558	-87.28660175
Ellison Bay Town Park	Beach	Ellison Bay	Yes	2/week	1	45.2528830	-87.0775760	WI797561	0.017	45.2529	-87.07736	45.25288	-87.07769465
Ephraim Village	Beach	Ephraim	Yes	2/week	1	45.1501270	-87.1750320	WI062070	0.054	45.15048	-87.17465	45.15009	-87.17558405
Europe Bay #1	Beach	Northport	Yes	1/week	2	45.2646300	-86.9838430	WI890519	0.798	45.24998	-86.98303	45.26964	-86.97827606
Europe Bay #2	Beach	Northport	Yes	1/week	2	45.2588680	-86.9848510	WI186833	0.089	45.24998	-86.98303	45.25943	-86.98503534
Europe Bay #3	Beach	Northport	Yes	1/week	2	45.2560220	-86.9843010	WI902641	0.301	45.24998	-86.98303	45.25812	-86.98488804
Fish Creek	Beach	Fish Creek	Yes	2/week	1	45.1276160	-87.2432120	WI805969	0.031	45.12834	-87.24006	45.12779	-87.24355587
Garrett Bay Boat Launch	Boat Launch	Gills Rock	No	0	3	45.2858180	-87.0511350	WI641392	0.011	45.28547	-87.04156	45.28576	-87.05130434
Gislason Beach	Beach - Island	Washington Island	Yes	1/week	2	45.3403180	-86.9088490	WI218684	0.039	45.33998	-86.90882	45.34053	-86.90907256
Goldenrod Ln	Beach	Sturgeon Bay	No	0	3	44.8642960	-87.2283170	WI239741	0.010	44.86407	-87.22832	44.86413	-87.22813624
Haines Park	Beach	Little Sturgeon	Yes	1/week	2	44.8550070	-87.5043790	WI826309	0.011	44.85484	-87.50409	44.85468	-87.5042924
Hemlock Ln	Beach	Sturgeon Bay	No	0	3	44.8563690	-87.2465180	WI458895	0.034	44.85614	-87.24673	44.85637	-87.24613571
Isle View Rd	Beach	Northport	No	0	3	45.2819320	-86.9721250	WI201331	0.011	45.2746	-86.97304	45.28199	-86.97213224
Jackson Harbor Ridges	Beach - Island	Jacksonport	Yes	1/week	2	45.3970450	-86.8518610	WI171560	0.121	45.39744	-86.85307	45.39691	-86.85078396
Kickapoo Dr	Beach	Sturgeon Bay	No	0	3	44.8055160	-87.3035210	WI868378	0.019	44.80538	-87.30361	44.80556	-87.30331839
Lakeshore Dr Door	Beach	Jacksonport	No	0	3	44.9611480	-87.1883820	WI279186	0.007	44.96107	-87.1886	44.96124	-87.18861797

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Douglas Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Allouez Bay #3 - Lot 10	Boat Launch	Itasca (Superior)	No	0	3	46.6917300	-91.9879980	WI578209	0.052	46.69182	-91.98842	46.69159	-91.98762669
Amnicon River	Beach	Amnicon Falls	No	0	3	46.6915840	-91.8571330	WI545475	0.242	46.69113	-91.85732	46.69131	-91.8580537
Barker Island Inner	Beach and Marina	Superior	Yes	2/week	2	46.7202370	-92.0599260	WI887548	0.009	46.71858	-92.06027	46.72	-92.06220909
Brule River State Forest #1	Beach	Port Wing	No	0	3	46.7477050	-91.6107600	WI137478	0.227	46.74861	-91.60797	46.74749	-91.61171197
Brule River State Forest #2	Beach	Port Wing	No	0	3	46.7466150	-91.6141440	WI750300	0.203	46.74749	-91.61171	46.74516	-91.61663315
Brule River State Forest #3	Beach	Port Wing	No	0	3	46.7151710	-91.7289730	WI983384	0.274	46.71576	-91.72606	46.71406	-91.73127652
Middle River	Beach	Wentworth	Yes	0	3	46.6899310	-91.8292810	WI741058	0.132	46.69015	-91.82801	46.68982	-91.83057687
Wisconsin Point #1 (Lot 1 to monument at Lot #9)	Beach	Itasca (Superior)	Yes	2/week	2	46.6885300	-91.9778100	WI888427	0.75	46.68570	-91.9715	46.6917	-91.9842
Wisconsin Point #2 (Shaefer Beach)	Closed for habitat breeding through July 15	Itasca (Superior)	Yes	2/week	3	46.6815890	-91.9575750	WI669980	0.919	46.68011	-91.94736	46.68343	-91.96596042
Wisconsin Point #3 (Dutchman Creek)	Closed for habitat breeding through July 15	Itasca (Superior)	Yes	1/week	3	46.6798550	-91.9422890	WI573145	0.27	46.6802	-91.9395	46.6801	-91.945
Wisconsin Point Lot 12 to next parking area	Beach	Itasca (Superior)	Yes	2/week	2	46.6656000	-91.9914000	WI731926	0.4	46.6952	-91.9908	46.6917	-91.9842
Wisconsin Point #4 (south-east of breakwater)	Beach	Itasca (Superior)	Yes	2/week	2	46.6993490	-91.9981360	WI831163	1.17	46.6952	-91.9908	46.70540	-92.00970
Wisconsin Point #5 (lighthouse)	Beach	Itasca (Superior)	Yes	2/week	2	46.7057580	-92.0122500	WI956099	0.22	46.7054	-92.0097	46.7067	-92.0138
								<i>Total Miles</i>	<i>4.868</i>				
Iron Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Bch ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Oronto Bay #1	Beach	Cedar	No	0	3	46.5728550	-90.4705030	WI895483	2.16	46.5673	-90.4567	46.5844	-90.495
Saxon Harbor East	Beach	Cedar	Yes	1/week	2	46.5622260	-90.4354500	WI157254	0.218	46.56201	-90.4364	46.56201	-90.43639949
Saxon Harbor West	Beach and Boat Launch	Cedar	Yes	1/week	2	46.5625150	-90.4414830	WI960543	0.427	46.56273	-90.44091	46.56295	-90.44190277
								<i>Total Miles</i>	<i>2.805</i>				

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Kenosha Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Alford Park	Beach	Kenosha	Yes	2/week	2	42.6131820	-87.8198940	WI371142	0.672	42.60753	-87.81915	42.62193	-87.81949527
Eichelman Park	Beach	Kenosha	Yes	3/week	2	42.5799680	-87.8130140	WI197731	0.129	42.58025	-87.81419	42.58093	-87.81200145
Carol Beach (aka Lakeshore Dr -Lk MI Beach)	Beach	Pleasant Prairie	Yes	2/week	2	42.5165370	-87.8107660	WI277295	0.342	42.51399	-87.81027	42.52048	-87.81176414
Lakeshore Dr at 116th St.	Beach (no parking area)	Pleasant Prairie	No	0	3	42.5240920	-87.8119660	TBD	0.120	42.50754	-87.80806	42.50586	-87.807154
Pennoyer Park	Beach	Kenosha	Yes	2/week	2	42.6046960	-87.8181430	WI130707	0.287	42.60362	-87.81758	42.60362	-87.81757715
Prairie Harbor Yacht Club	Private Beach	Pleasant Prairie	No	0	3	42.4945550	-87.8033720	TBD	0.060	42.49487	-87.80355	42.49413	-87.803003
Simmon Island Park	Beach	Kenosha	Yes	3/week	2	42.5910510	-87.8134890	WI892494	0.579	42.5888	-87.81264	42.59628	-87.81532371
Southport Park	Beach	Kenosha	Yes	2/week	2	42.5620390	-87.8121170	WI400905	0.165	42.56082	-87.81242	42.56378	-87.81255606
								<i>Total Miles</i>	2.354				
Kewaunee Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
9th Ave Wayside	Shoreline wayside	Algoma	No	0	3	44.5656850	-87.4577530	WI241184	0.172	44.56428	-87.45878	44.56647	-87.45697756
Crescent	Beach	Algoma	Yes	2/week	2	44.6042610	-87.4377130	WI608310	0.536	44.59964	-87.43971	44.60657	-87.43537142
Selner Park (aka City Park)	Beach	Kewaunee	Yes	2/week	2	44.4561000	-87.4995000	WI620050	0.521	44.45638	-87.4994	44.45538	-87.5001029
Father Marquette Memorial Park (aka Lighthouse Vista)	Beach	Kewaunee	No	0	3	44.4646420	-87.4958370	WI901066	0.040	44.4643	-87.49592	44.46469	-87.4953379
Pioneer Park	Beach	Kewaunee	No	0	3	44.4569000	-87.4991000	TBD	0.020	44.457	-87.499	44.4567	-87.4992
Red River Park	Boat ramp and natural area	Dyckesville	No	0	3	44.6682870	-87.7478420	WI633041	0.062	44.66845	-87.74738	44.66711	-87.74842058
								<i>Total Miles</i>	1.351				
Manitowoc Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Fischer Creek Park	Natural Area	Cleveland	Yes	1/week	3	43.9382240	-87.7187320	WI125039	0.985	43.93778	-87.71904	43.93778	-87.7190438
Hika Park	Boat Launch	Cleveland	Yes	1/week - Nowcast	3	43.9162250	-87.7236400	WI932022	0.039	43.91593	-87.72359	43.91676	-87.72353393
Lincoln Highschool	Beach	Manitowoc	No	0	3	44.0783870	-87.6554820	WI705121	0.083	44.0779	-87.65593	44.07912	-87.65568846

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Blue Rail Marina Beach	Beach and Boat Launch	Manitowoc	Yes	2/week	2	44.1002850	-87.6487980	WI792119	0.079	44.10002	-87.64902	44.1008	-87.6484841
Memorial Dr - Mariner's Trail Parking at Parkway (formerly known as Memorial Dr Wayside North)	Beach	Two Rivers	Yes	2/week	2	44.1367247	-87.587435	WI136397	1.734	44.13033	-87.60275	44.14151	-87.57056615
Memorial Dr - Mariner's Trail Parking at Thiede Rd	Beach	Two Rivers	Yes	2/week	2	44.1328000	-87.5979000	WI866687	0.26	44.1338	-87.5943	44.1323	-87.599
Area at Waldo (formerly known as Wayside South)	Beach	Manitowoc	Yes	1/week	2	44.1090000	-87.6415	WI422085	0.265	44.10869	-87.64119	44.11167	-87.63778086
Neshotah Park	Beach	Two Rivers	Yes	2/week Nowcast	2	44.1497130	-87.5555350	WI821179	0.854	44.14493	-87.56278	44.15334	-87.54913072
Point State Park Concession Stand	Beach	Two Rivers	Yes	2/week Nowcast	2	44.2236440	-87.5072640	WI997982	0.62	44.2208	-87.50737	44.22966	-87.50842792
Point State Park Lakeshore Picnic Area	Beach	Two Rivers	Yes	Composite	2	44.2177030	-87.5069250	WI538951	0.473	44.21399	-87.50723	44.2208	-87.50736672
Point State Park Lighthouse Picnic Area	Beach	Two Rivers	Yes	Composite	2	44.2107420	-87.5072230	WI510658	0.442	44.15741	-87.54292	44.21399	-87.50723205
Red Arrow Manitowoc	Beach	Manitowoc	Yes	2/week Nowcast	2	44.0760640	-87.6557350	WI012139	0.272	44.07387	-87.65586	44.0779	-87.65592807
Silver Creek	Natural Area	Manitowoc	No	0	3	44.0611740	-87.6534310	WI465036	0.272	44.05906	-87.65386	44.06297	-87.65356186
Two Creek Boat Launch	Boat Ramp	Two Creeks	No	0	3	44.3073910	-87.5449030	WI350293	0.632	44.30225	-87.54392	44.30552	-87.54445273
University	Beach	Manitowoc	No	0	3	44.0646160	-87.6535810	WI564320	0.242	44.06297	-87.65356	44.06639	-87.65370312
YMCA	Beach	Manitowoc	Yes	1/week	3	44.0948090	-87.6515390	WI279226	0.088	44.09412	-87.6516	44.09528	-87.65145906
								<i>Total Miles</i>	7.340				
Marinette Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Michaelis Park	Natural Area	Marinette	No	0	3	45.0400020	-87.6254640	WI218531	0.093	45.01158	-87.62523	45.04474	-87.6258129
Peshtigo Harbor Boat Launch	Boat Launch	Peshtigo	No	0	3	44.9730380	-87.6561970	WI819664	0.131	44.9751	-87.65584	44.97367	-87.6555244
Red Arrow Marinette #1	Beach	Marinette	No	0	3	45.0888610	-87.5890140	WI936169	0.413	45.08732	-87.58739	45.09139	-87.59268493
Red Arrow Marinette #2	Beach	Marinette	No	0	3	45.0859610	-87.5866520	WI111115	0.068	45.08593	-87.58595	45.08658	-87.5867582
Red Arrow Marinette #3	Beach/Natural Area	Marinette	No	0	3	45.0819140	-87.5834960	WI997460	0.468	45.07894	-87.58054	45.08494	-87.58500309

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
								<i>Total Miles</i>	<i>1.173</i>				
Milwaukee Beaches		Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Atwater Park	Beach	Shorewood	Yes	2/week	2	43.0901250	-87.8728840	WI607583	0.15	43.08925	-87.8723	43.09551	-87.87508276
Bayview Park Milwaukee	Beach	St.Francis	Yes	1/week	2	42.9847720	-87.8657380	WI628125	0.398	46.60326	-90.86336	46.60268	-90.86491194
Bender Park	Beach	Oak Creek	Yes	2/week	2	42.8676890	-87.8395070	WI977064	0.09	42.86716	-87.83959	42.86849	-87.84000478
Big Bay Park	Beach	Whitefish Bay	No	0	3	43.1090570	-87.8882770	WI247909	0.154	43.10817	-87.88742	43.10995	-87.88933809
Bradford Beach	Beach	Milwaukee	Yes	2/week - nowcast	1	43.0618330	-87.8730780	WI312597	0.523	43.05891	-87.87532	43.06439	-87.86911016
Grant Park	Beach	South Milwaukee	Yes	2/week - nowcast	1	42.9122320	-87.8402980	WI429764	0.194	42.90662	-87.84108	42.90662	-87.84107682
Klode Park	Beach	Whitefish Bay	Yes	2/week	2	43.1244970	-87.8998250	WI291459	0.089	43.12399	-87.89985	43.12495	-87.90024071
Lakeshore State Park	Beach	Milwaukee	Yes	Event	3	43.0314810	-87.8961200	TBD	0.08	43.03181	-87.89664	43.03118	-87.895674
McKinley	Beach	Milwaukee	Yes	3/week	3	43.0532870	-87.8818070	WI234408	0.114	43.05271	-87.88282	43.05426	-87.88119518
Sheridan Park	Beach	Cudahy	No	1/week	3	42.9574570	-87.8448820	WI265434	0.905	42.95232	-87.84398	42.95232	-87.84397797
South Shore	Beach	Milwaukee	Yes	2/week	3	42.9950520	-87.8814470	WI333813	0.094	42.99475	-87.8806	42.99566	-87.88183584
Tietjen Doctors Park	Beach	Bayside	Yes	2/week	2	43.1718020	-87.8811260	WI746946	0.831	43.16688	-87.88253	43.17799	-87.88393148
Watercraft Beach (McKinley Jetski Launch)	Boat Launch	Milwaukee	Yes	1/week	3	43.0550280	-87.8795010	WI987935	0.187	43.05444	-87.881	43.0564	-87.87850493
								<i>Total Miles</i>	<i>3.809</i>				
Oconto Beaches		Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Oconto City Park	Beach	Oconto	No	0	3	44.8586720	-87.8550990	WI455048	0.041	44.85752	-87.85495	44.85888	-87.85420948
								<i>Total Miles</i>	<i>0.041</i>				
Ozaukee Beaches		Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Harrington State Park North	Beach	Belgium	Yes	2/week - nowcast	1	43.4960400	-87.7927130	WI407836	0.60	43.49927	-87.79346	43.4929	-87.791
Harrington State Park South	Beach	Belgium	Yes	2/week - nowcast	1	43.4890670	-87.7927120	WI564539	0.46	43.4929	-87.791	43.49926	-87.793458
Jay Rd	Beach	Belgium	No	0	3	43.5284670	-87.7940270	WI926427	0.006	43.52847	-87.79436	43.52857	-87.79434961

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Lions Den Gorge Nature Preserve	Natural Area	Grafton	No	0	3	43.3420370	-87.8830910	WI750163	0.682	43.33749	-87.88422	43.34722	-87.88220871
Pebble Beach Rd Ozaukee	Beach	Cedar Grove	No	0	3	43.5430680	-87.7914370	WI727293	0.012	43.54296	-87.79217	43.54324	-87.79219977
Sandy Beach Rd	Beach	Belgium	No	0	3	43.4704740	-87.8022010	WI944539	0.015	43.47024	-87.80191	43.47048	-87.80182487
Silver Rd	Beach	Belgium	No	0	3	43.5138630	-87.7935680	WI922794	0.012	43.51383	-87.79398	43.51404	-87.79394237
Upper Lake Park	Beach	Port Washington	Yes	2/week	2	43.3960410	-87.8622120	WI652173	0.364	43.39367	-87.86385	43.39815	-87.86026009
Concordia University	Beach	Mequon	Yes	2/week	2	43.2529880	-87.911144	WI135037	0.05	43.2533	-87.9111	43.2526	-87.9112
Virmond County Park	Beach	Mequon	No	0	3	43.2123480	-87.8963400	WI624360	0.2	43.2133	-87.8958	43.2104	-87.8956
								Total Miles	2.397				
Racine Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
5 1/2 Mile Road	Beach - Public access point	Caledonia	Voluntary	1/week	TBD (3)	42.8066460	-87.7939650	TBD	0.04	42.8068	-87.7944	42.8064	-87.7939
Olympia Center (Curley Rd)	Beach - Public access point	Caledonia	Voluntary	1/week	TBD (3)	42.7983840	-87.7817950	TBD	0.18	42.7991	-87.7831	42.7975	-87.7804
Siena Center	Beach - Public access point	Caledonia	Voluntary	1/week	TBD (3)	42.7958860	-87.7774230	TBD	0.2	42.7966	-87.7791	42.7947	-87.776
North	Beach	Racine	Yes	2/week - nowcast - qPCR - composite	1	42.7411200	-87.7803270	WI721390	0.597	42.73777	-87.77858	42.73777	-87.77858113
Parkway	Beach	North Bay	Yes	1/week	3	42.7643400	-87.7772320	WI889003	0.066	42.76384	-87.77751	42.76499	-87.77682937
Wind Point Lighthouse	Beach	Wind Point	Yes	1/week	3	42.7811850	-87.7574640	WI718147	0.058	42.78085	-87.75776	42.78163	-87.75779619
Zoo	Beach	Racine	Yes	2/week - nowcast - qPCR - composite	1	42.7486210	-87.7814480	WI988510	0.332	42.74592	-87.78209	42.75214	-87.78127485
								Total Miles	1.053				
Sheboygan Beaches	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA_Bch_ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
3rd St	Beach	Sheboygan	No	0	3	43.7751180	-87.7064760	WI986407	0.157	43.77406	-87.70585	43.77616	-87.70688077

2016 Wisconsin Beach List

Beach Name (by County)	Public Usage	Nearest Town	Monitored	Min. Frequency	Tier	Latitude	Longitude	EPA Beach ID	Beach Length (Mi)	Start Latitude	Start Longitude	End Latitude	End Longitude
Amsterdam	Beach	Cedar Grove	Yes	1/week	3	43.5583470	-87.7915110	WI410541	0.107	43.55771	-87.79212	43.55915	-87.79172295
Blue Harbor	Beach	Sheboygan	Yes	2/week - nowcast	1	43.7437710	-87.7069360	WI252842	0.152	43.7435	-87.70796	43.74501	-87.70558604
Deland Park	Beach	Sheboygan	Yes	2/week - nowcast	1	43.7591680	-87.7023800	WI949936	0.876	43.75485	-87.70222	43.76432	-87.69552938
Foster Rd	Beach	Oostburg	No	0	3	43.6221720	-87.7474000	WI365989	0.011	43.62221	-87.74757	43.62239	-87.74741101
General King Park	Beach	Sheboygan	Yes	2/week - Nowcast	1	43.7393580	-87.7092940	WI217913	0.738	43.73283	-87.71002	43.7435	-87.7079636
KK Rd	Beach	Oostburg	No	0	3	43.6293070	-87.7418370	WI902958	0.017	43.62943	-87.7422	43.62972	-87.74198803
Kohler-Andrae State Park North/ Nature Center	Beach	Sheboygan	Yes	3/week	1	43.6650920	-87.7167750	WI526839	1.340	43.65934	-87.72095	43.67654	-87.70880419
Kohler-Andrae State Park Picnic Area (North and South)	Beach	Sheboygan	Yes	3/week	1	43.6570120	-87.7221610	WI406325	0.580	43.6572	-87.7222	43.6548	-87.72378204
Lakeview Park	Beach	Sheboygan	No	0	3	43.7202160	-87.7070740	WI394243	0.380	43.71769	-87.70637	43.72238	-87.70822304
Van Ess Rd	Beach	Oostburg	No	0	3	43.6067510	-87.7602980	WI518118	0.007	43.60688	-87.76057	43.60701	-87.76047007
Vollrath Park	Boat Launch	Sheboygan	No	0	3	43.7710650	-87.7039010	WI975330	0.316	43.76904	-87.70253	43.77315	-87.70536772
Whitcomb Ave	Beach	Sheboygan	No	0	3	43.7234360	-87.7084090	WI858481	0.033	43.72314	-87.70844	43.72365	-87.70852032
Wilson Lima (aka Whites)	Beach	Oostburg	No	0	3	43.6434020	-87.7310430	WI634281	0.012	43.64344	-87.73149	43.64368	-87.7313552
								<i>Total Miles</i>	4.726				

Wisconsin Beach Count	181	Monitored	101
		Voluntary	6
		Not Monitored	74

Wisconsin Beach Miles 49.8