

MARYLAND

8th in beachwater quality (2% of samples exceeded national standards)

There are 71 coastal beaches in Maryland lining 20 miles of the Atlantic Ocean, Chesapeake Bay, and other bays and sounds. Counties with coastal beaches are Anne Arundel, Baltimore, Cecil, Calvert, Kent, Queen Anne's, St. Mary's, Somerset, and Worcester. Other Maryland counties along the coast, including Harford, Talbot, Dorchester, and Wicomico, have no coastal beaches.

Beachwater quality is monitored in a program administered by the Maryland Department of the Environment (MDE). Sampling and notification activities are delegated to nine local health departments. Individual counties have had their own beach monitoring programs since the 1980s, and Maryland has worked closely with the counties to standardize the programs across the state.¹ Current guidance and regulation at this time is consistent across the board and applies to all beaches in Maryland. The monitoring season runs from Memorial Day to Labor Day. Maryland also monitors inland beachwater quality; this summary includes only information on the coastal beach monitoring program.

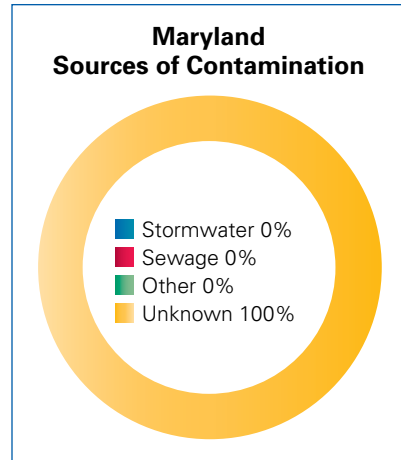
Maryland requires a sanitary survey to be conducted at all beaches prior to each season to assure that conditions have not changed and to identify problems that may adversely impact beachwater quality. By law, any problems observed must be addressed immediately.¹ At this time, the MDE is in the process of analyzing information collected during a sanitary survey at Bay Country Campground and Beach. When complete, the MDE will share this information with Kent County so that the state, county and owners of the beach can work together to improve beachwater quality at this location.

Beaches with elevated bacteria concentrations are targeted for pollution source surveys using GIS-based software.¹

Maryland's beach monitoring program maintains a website that provides tips for beachgoers to help keep beaches clean, and counties conduct their own outreach activities.¹

The MDE works closely with the Maryland Department of Natural Resources (DNR) and the Maryland Department of Health and Mental Hygiene to monitor, track, report, and advise the public about harmful algal blooms. The DNR maintains a website with harmful algal bloom monitoring data. A hotline is available for the public to report algae blooms, and the public is notified swiftly through local health departments via signs, press releases, and national, state and local websites anytime an algae bloom poses a risk to swimmers or beachgoers.¹

Maryland received a \$266,900 federal BEACH Act grant in 2008 and was eligible for a \$269,000 grant in 2009. The federal grant fully funds Maryland's beach monitoring and notification program.



Standards

Indicator Organism: Enterococcus

Standards: At marine beaches, Maryland applies a geometric mean standard of 35 cfu/100 ml plus a single-sample maximum standard for enterococcus of 104 cfu/100 ml at Tier 1 and Tier 2 beaches and 158 cfu/100 ml at Tier 3 beaches. Three samples are taken per sampling event and the average of the sampling results is used to determine whether the standard is being met.²

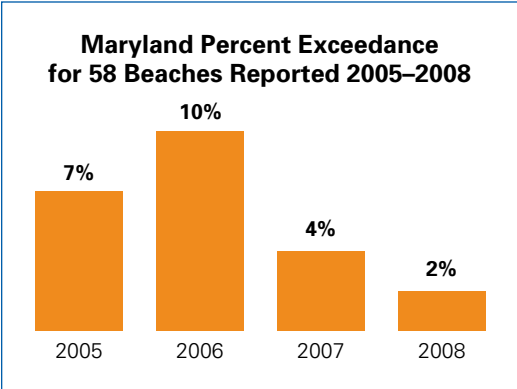
Maryland does not have preemptive rainfall advisory standards, but the MDE is working with local health departments to develop a tool to document precipitation at beaches so that they can analyze water quality data versus precipitation at their beaches.¹ A predictive model is being developed for a high-use beach at Sandy Point State Park.¹ If a known pollution source exists (e.g., a combined sewer overflow, failing sewer infrastructure, or wastewater treatment discharge), the county must close the beach.¹ Also, if there is any dangerous contaminant or condition, the local health department or the MDE may issue an immediate closing.³

Monitoring

Determination of Monitoring Locations and Frequency: Priority for monitoring Maryland’s coastal beaches is based on bather use level, historical water quality, proximity of potential or actual pollution sources, human and animal fecal contamination sources, beach structure, ecological factors, and any other factors that may contribute to beachwater quality.¹

Practice: Samples are taken in knee-deep water, 12 inches below the water’s surface. Three samples are taken per sampling event. Generally, 30 hours pass before sampling results are known.

Results: In 2008, Maryland reported 71 coastal beaches, 6 (8%) of which were monitored more than once a week, 20 (28%) of which were monitored once a week, 24 (34%) every other week, and 21 (30%) once a month. (Maryland also monitors one beach at Assateague Island National Seashore in Accomack County, Virginia. The monitoring results for that beach are included in the Virginia State Summary.) For the fourth consecutive year, NRDC looked at the percent of monitoring samples that exceeded the state’s daily maximum bacterial standards (all reported samples were used to calculate the 2008 percent exceedance values, including duplicate samples and samples taken outside the official beach season, if any). In 2008, 2 percent of all reported beach monitoring samples exceeded the state’s daily maximum bacterial standards. The beaches with the highest percent exceedance rate in 2008 were Kurtz Beach in Anne Arundel County (18%), Red Point Beach in Cecil County (17%), YMCA Camp Tockwogh (Youth Camp) in Kent County (15%), Elk Neck State Park North East River in Cecil County (14%), Bay Country Campground and Beach in Kent County (11%), Grove Point Camp in Cecil County (11%), Tolchester Estates Beach in Kent County (10%), Elm’s Beach—Public Beach in St Mary’s County (8%), and Cedarhurst in Anne Arundel County (8%).



Cecil County had the highest percent exceedance rate in 2008 (10%) followed by Kent (8%), St Mary’s (4%), Anne Arundel (2%), Baltimore (2%), and Calvert (1%). There were no exceedances reported for Worcester, Queen Anne’s, and Somerset Counties.

Comparing percent exceedance values to previous years, NRDC includes only those beaches monitored and reported each year between 2005 and 2008. For this consistent set of 58 beaches, the percent of samples exceeding the standard decreased to 2 percent in 2008, its lowest level since 2005 (4, 10, and 7 percent in 2007, 2006, and 2005 respectively).

2008 Maryland Monitoring Frequency and Results by Beach					
County	Beach	Tier	Monitoring Frequency	Total Samples	Percent Exceedance
Anne Arundel	Kurtz Beach	3	1/mo	17	18%
Anne Arundel	Cedarhurst	2	2/mo	24	8%
Anne Arundel	Franklin Manor	2	2/mo	27	7%
Anne Arundel	Beverly Beach	2	2/mo	24	4%
Anne Arundel	Cape St. Claire at Persimmon Point	2	2/mo	24	4%
Anne Arundel	Sandy Point State Park South Beach	1	1/wk	189	3%
Anne Arundel	Bay Ridge at River Dr.	1	1/wk	45	2%
Anne Arundel	Bay Ridge Beach at Bay Dr.	1	1/wk	45	2%
Anne Arundel	Annapolis Sailing	1	1/wk	45	0%
Anne Arundel	Bayside Beach	2	2/mo	21	0%

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County	Beach	Tier	Monitoring Frequency	Total Samples	Percent Exceedance
Anne Arundel	Sandy Point State Park East Beach	1	1/wk	185	0%
Anne Arundel	Saunders Point	2	2/mo	21	0%
Anne Arundel	Mayo Beach Park	1	1/wk	45	0%
Anne Arundel	Fairhaven	2	2/mo	24	0%
Anne Arundel	Mountain Point at Gibson Island	2	2/mo	24	0%
Anne Arundel	Atlantic Marina Resort	2	2/mo	21	0%
Anne Arundel	Arundel on the Bay	2	2/mo	21	0%
Anne Arundel	Oyster Harbor	2	2/mo	21	0%
Anne Arundel	Highland Beach	2	2/mo	21	0%
Anne Arundel	Rosehaven	2	2/mo	24	0%
Anne Arundel	Turkey Point at Cloud Beach	2	2/mo	21	0%
Anne Arundel	Venice on the Bay	2	2/mo	24	0%
Anne Arundel	Mason's Beach	3	1/mo	12	0%
Anne Arundel	Idlewilde on the Bay	3	1/mo	12	0%
Anne Arundel	Fort Smallwood at Pond Drive	3	1/mo	15	0%
Anne Arundel	Cape Anne	3	1/mo	6	0%
Anne Arundel	Town Point at Arkhaven	3	1/mo	12	0%
Anne Arundel	Fort Smallwood Park	3	1/mo	15	0%
Anne Arundel	Deale Beach	3	1/mo	12	0%
Baltimore	GunPowderSPHammerman	2	2/mo	45	4%
Baltimore	Miami Beach	2	2/mo	50	2%
Baltimore	Hart Miller Island	2	2/mo	55	0%
Baltimore	Rocky Point Park	2	2/mo	50	0%
Calvert	Brownie's Beach	1	1/wk	60	3%
Calvert	North Beach	1	1/wk	64	3%
Calvert	Chesapeake Station	3	1/mo	35	0%
Calvert	Driftwood	3	1/mo	35	0%
Calvert	Seahorse	3	1/mo	40	0%
Calvert	Flag Harbor	3	1/mo	40	0%
Calvert	Breezy Point	1	1/wk	55	0%
Calvert	Flag Ponds	2	2/mo	30	0%
Calvert	Scientists Cliffs	3	1/mo	19	0%
Cecil	Red Point Beach	3	1/mo	18	17%
Cecil	Elk Neck State Park North East River	1	1/wk	42	14%
Cecil	Grove Point Camp	3	1/mo	18	11%
Cecil	West View Shores	3	1/mo	18	6%
Cecil	Crystal Beach Manor	2	2/mo	24	0%
Kent	YMCA Camp Tockwogh (Youth Camp)	1	1/wk	120	15%
Kent	Bay Country Campground and Beach	1	1/wk	36	11%
Kent	Tolchester Estates Beach	2	2/mo	42	10%
Kent	Boy Scout Beach (Eliaison)	3	1/mo	15	7%

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County	Beach	Tier	Monitoring Frequency	Total Samples	Percent Exceedance
Kent	Echo Hill Camp (Youth Camp)	1	1/wk	117	6%
Kent	Ferry Park	1	1/wk	39	3%
Kent	Tolchester Marina and Beach	2	2/mo	39	0%
Kent	Great Oak	3	1/mo	39	0%
Queen Anne's	Camp Wright	3	1/mo	43	0%
Somerset	Wellington	3	1/mo	9	0%
Somerset	Janes Island	3	1/mo	6	0%
St Mary's	Elm's Beach-Public Beach	2	2/mo	48	8%
St Mary's	Point Lookout State Park	1	1/wk	79	4%
St Mary's	Cedar Cove Community Beach	1	1/wk	42	0%
Worcester	Ocean City Beach 6	1	2/wk	105	1%
Worcester	North Beach Site #1 (State Park Boundary)	1	1/wk	30	0%
Worcester	Ocean City Beach 1	1	2/wk	105	0%
Worcester	Ocean City Beach 3	1	2/wk	315	0%
Worcester	Ocean City Beach 4	1	2/wk	105	0%
Worcester	Ocean City Beach 2	1	2/wk	105	0%
Worcester	North Beach Site #2 (Ranger Station)	1	1/wk	30	0%
Worcester	Ocean City Beach 5	1	2/wk	105	0%
Worcester	Oceanside #3	1	1/wk	30	0%
Worcester	Assateague State Park	1	1/wk	30	0%

Closings and Advisories

Closing/Advisory Issuance: In Maryland, both closings and advisories are issued. If the mean of three simultaneous samples exceeds the single-sample maximum standard or if the 30-day geometric mean standard is exceeded, consideration for advisory issuance is triggered. Beach advisories are issued when bacteria standards are exceeded and no known pollution source is present; closings are issued for known pollution events or other unsafe conditions.

If the local health department determines that sampling results indicating an exceedance of standards are valid, a notification can be issued without resampling.¹ If the validity of the sample is in doubt, local health departments may resample before issuing an advisory.

All counties notify the public when a beach is closed or an advisory issued by posting signs at the beach, providing phone hotlines, sending press releases, and e-mailing interested parties.¹ The MDE is in the process of developing a notification website to replace Earth911's website.¹ In some cases, sections of a beach may be placed under advisory or closed, rather than the entire beach.¹

Reopening Procedures: Closings and advisories remain in effect until monitoring data indicates that water quality meets standards. Maryland's beach monitoring program recommends that local health departments sample the following day when a beach is closed or placed under advisory. In 2007, most beaches did not have follow-up monitoring, and the duration of the closing and advisory events in 2007 generally reflected the length of time between routine sample collections rather than ongoing monitoring exceedances. For the 2008 swim season, Maryland encouraged beach managers to conduct more frequent follow-up monitoring.¹

Number of Closings and Advisories: Maryland had 11 closing/advisory events in 2008. Total closing/advisory days for 11 events lasting six consecutive weeks or less increased decreased 75 percent to 61 days in 2008 from 243 days in 2007,

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317 days in 2006, and 209 days in 2005. In addition, there were no extended or permanent events in 2008 or 2007. Extended events are those in effect more than six consecutive weeks but not more than 13 consecutive weeks; permanent events are in effect for more than 13 consecutive weeks.

Causes of Closings and Advisories: All closing and advisory days in 2008 were due to monitoring that revealed elevated bacteria levels from unknown sources of contamination.

2008 Maryland Beach Closings and Advisories					
County	Beach	Start Date	End Date	Reason	Source
Calvert	Brownie's Beach	7/17/08	7/23/08	Bacteria	Unknown
Calvert	Chesapeake Station	7/17/08	7/23/08	Bacteria	Unknown
Calvert	North Beach	8/13/08	8/15/08	Bacteria	Unknown
Cecil	Elk Neck State Park North East River	6/18/08	6/25/08	Bacteria	Unknown
Cecil	Grove Point Camp	8/5/08	8/12/08	Bacteria	Unknown
Cecil	West View Shores	8/5/08	8/12/08	Bacteria	Unknown
Kent	Boy Scout Beach (Eliason)	7/2/08	7/8/08	Bacteria	Unknown
Kent	Tolchester Estates Beach	7/2/08	7/8/08	Bacteria	Unknown
Kent	YMCA Camp Tockwogh (Youth Camp)	6/4/08	6/12/08	Bacteria	Unknown
Kent	YMCA Camp Tockwogh (Youth Camp)	8/27/08	9/1/08	Bacteria	Unknown
St Mary's	Elm's Beach-Public Beach	5/29/08	5/30/08	Bacteria	Unknown

Notes

- 1 Heather Morehead, Maryland Department of the Environment, personal communication, April 2009.
- 2 Maryland Department of the Environment, Guidance for County Recreational Water Quality Monitoring and Notification Programs, December 2003.
- 3 Code of Maryland. Subtitle 09 Water Pollution. 26.08.09 Public Bathing Beaches.