

## MARYLAND

### 16th in Beachwater Quality

7% of samples exceeded national standards in 2010

Polluted urban and suburban runoff is a major threat to water quality at the nation's coastal beaches. Runoff from storms and irrigation carries pollution from parking lots, yards, and streets directly to waterways. In some parts of the country, stormwater routinely causes overflows from sewage systems. Innovative solutions known as green infrastructure enable communities to naturally absorb or use runoff before it causes problems. The U.S. Environmental Protection Agency is modernizing its national rules for sources of runoff pollution and should develop strong, green infrastructure-based requirements.

There are 70 coastal beaches in Maryland lining 20 miles of the Atlantic Ocean, Chesapeake Bay, and other bays and sounds. Beachwater quality is monitored in a program administered by the Maryland Department of the Environment (MDE).

Maryland's recent actions to reduce stormwater pollution, including the Stormwater Management Act of 2007, a new general permit to control stormwater discharge during construction, and new municipal stormwater permits now being issued for Maryland's 10 largest counties, are estimated to reduce urban stormwater by 20 to 30 percent when fully implemented.<sup>1</sup>

In 2010, Maryland took part in a study to investigate the role of bacterial regrowth in near shore sediments and how this regrowth contributes to indicator bacterial levels in the water column. Results from this study will help to determine actual and potential pollution sources at beaches that have the highest rate of water quality exceedences because it will show whether bacterial regrowth in the sediments is contributing to exceedance of water quality standards.<sup>2</sup>

### Monitoring Results

In 2010, Maryland reported 70 coastal beaches, 30 (43%) of which were monitored once a week, 25 (36%) every other week, and 15 (21%) once a month. Maryland also monitors Assateague Island National Seashore in Virginia. For this section of the report, 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 2010 percent exceedance rates, including duplicate samples and samples taken outside the official beach season, if any). In 2010, 7% of all reported beach monitoring samples exceeded the state's daily maximum bacterial standards. The beaches with the highest percent exceedance rates in 2010 were Tolchester Estates Beach in Kent County (43%), Elk Neck State Park North East River in Cecil County (36%), and YMCA Camp Tockwogh (Youth Camp) (24%), Tolchester Marina and Beach (22%), Echo Hill Camp (Youth Camp) (20%) in Kent County.

Kent County had the highest exceedance rate (25%) in 2010 followed by Cecil (22%), Anne Arundel (7%), Worcester (3%), Calvert (2%), Baltimore (2%), and St Mary's (2%). There were no exceedances at beaches in Queen Anne's and Somerset counties

### KEY FINDINGS IN MARYLAND

#### Beachwater Contamination

(% of samples exceeding state standards in 2010)

- Tolchester Estates Beach in Kent County (43%)
- Elk Neck State Park North East River in Cecil County (36%)
- YMCA Camp Tockwogh (Youth Camp) in Kent County (24%)

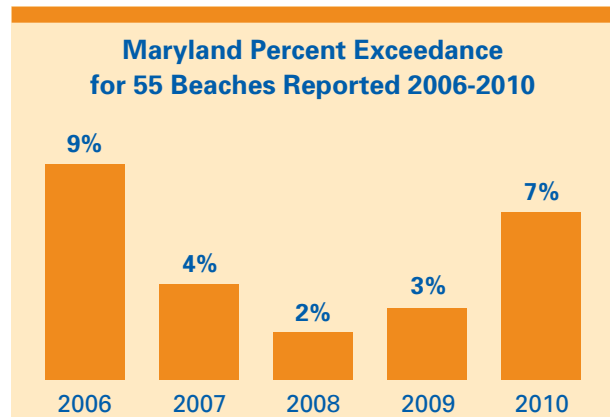
#### Reported Sources of Beachwater Contamination Statewide (number of closing/advisory days)

- 296 (100%) unknown sources of contamination

**Sampling Practices:** The monitoring season runs from Memorial Day to Labor Day.

Sampling and notification activities are delegated to local health departments. Current guidance and regulation at this time is consistent across the board and applies to all beaches in Maryland. Samples are taken in knee-deep water, 12 inches below the water's surface. 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.<sup>2</sup> The highest priority beaches are assigned to Tier 1 and the lowest priority beaches are assigned to Tier 3. Beaches in Maryland are defined in part by use; beaches that are not used are not considered to be beaches and are removed from the beach list.<sup>1</sup>

Maryland's beach monitoring program recommends that local health departments resample the following day when a beach is closed or placed under advisory. States that monitor more frequently after an exceedance is found will tend to have higher percent exceedance rates and lower total closing/advisory days than they would if their sampling schedule was not altered after an exceedance was found.



### Closings and Advisories

Total closing/advisory days for 28 events lasting six consecutive weeks or less more than doubled to 296 days in 2010. For prior years, there were 133 closing and advisory days in 2009, 61 days in 2008, 243 days in 2007, 317 days in 2006, and 209 days in 2005). In addition, there was one extended advisory (55 days) and no permanent events in 2010. Extended events are those in effect more than six but not more than 13 consecutive weeks; permanent events are in effect for more than 13 consecutive weeks. All closing and advisory days in 2010 were due to monitoring that revealed elevated bacteria levels.

**Standards and Procedures:** In Maryland, closings are issued for known pollution events or other unsafe conditions and advisories are issued when bacteria standards are exceeded and no known pollution source is present. At its coastal beaches, Maryland applies a 30-day geometric mean standard of 35 cfu/100 ml and a single-sample maximum standard for enterococcus of 10<sup>4</sup> 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 single-sample standard is being met.<sup>3</sup> The average of three samples taken per sampling event is used to find five evenly spaced values over a 30-day period that are used to calculate the geometric mean.

If the local health department determines that sampling results indicating an exceedance of the single-sample maximum or geometric mean standard are valid, a notification can be issued without resampling.<sup>2</sup> If the validity of the sample is in doubt, local health departments may resample before issuing an advisory, but this is not common.

Maryland does not have preemptive rainfall advisory standards, but rainfall information for each beach is provided on the Maryland Healthy Beaches website. The public is always advised to avoid swimming following a significant rain event because potentially harmful bacteria concentrations may rise after heavy rains due to polluted stormwater runoff.<sup>2</sup>

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.<sup>4</sup> Also, if there is any dangerous contaminant or condition, the local health department or the MDE may order an immediate closing.<sup>4</sup>

### Maryland 2010 Monitoring Results and Closing or Advisory Days

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
<b>Anne Arundel County</b>					
Annapolis Sailing	1	1/wk	17	6%	0
Arundel on the Bay	2	2/mo	7	0%	0
Atlantic Marina Resort	2	2/mo	9	22%	0
Bay Ridge at Bay Drive	1	1/wk	17	6%	0
Bay Ridge at River Drive	1	1/wk	17	0%	0
Bayside Beach	3	1/mo	11	27%	6
Beverly Beach	2	2/mo	9	11%	0
Cape Anne	3	1/mo	5	20%	0
Cape St. Claire at Persimmon Point	2	2/mo	9	11%	0
Cedarhurst	2	2/mo	8	0%	0
Fairhaven	2	2/mo	8	0%	0
Fort Smallwood at Pond Drive	3	1/mo	7	0%	0
Fort Smallwood Park	3	1/mo	6	0%	0
Franklin Manor	2	2/mo	8	0%	0
Highland Beach	2	2/mo	7	0%	0
Idlewilde on the Bay	3	1/mo	4	0%	0
Mason's Beach	3	1/mo	4	25%	0
Mayo Beach Park	1	1/wk	17	0%	0
Mountain Point at Gibson Island	2	2/mo	7	0%	0
Oyster Harbor	2	2/mo	8	13%	0
Rose Haven	2	2/mo	8	0%	0
Round Bay Main Beach	1	1/wk	17	0%	0
Sandy Point State Park East Beach	1	1/wk	19	5%	0
Sandy Point State Park South Beach	1	1/wk	17	0%	0
Saunders Point	2	2/mo	9	22%	0
Town Point at Arkhaven	3	1/mo	4	0%	0
Turkey Point at Cloud Beach	2	2/mo	7	0%	0
Venice on the Bay	2	2/mo	10	30%	9
<b>Baltimore County</b>					
Gunpowder Falls State Park–Hammerman	2	2/mo	14	7%	24
Hart Miller Island	2	2/mo	10	0%	0
Miami Beach	2	2/mo	13	0%	9
Rocky Point Park	2	2/mo	10	0%	0
<b>Calvert County</b>					
Breezy Point	1	1/wk	13	0%	0
Brownie's Beach	1	1/wk	13	0%	0
Chesapeake Station	2	2/mo	6	0%	0
Driftwood	2	2/mo	9	11%	8

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
<b>Calvert County</b>					
Flag Harbor	2	2/mo	7	0%	0
Flag Ponds	2	2/mo	7	0%	0
North Beach	1	1/wk	13	8%	5
Scientists Cliffs	3	1/mo	4	0%	0
Seahorse	2	2/mo	8	0%	0
Windward Keys	2	2/mo	15	0%	0
<b>Cecil County</b>					
Crystal Beach Manor	2	2/mo	10	20%	12
Elk Neck State Park North East River	1	1/wk	14	36%	35
Grove Point Camp	3	1/mo	6	17%	7
Red Point Beach	3	1/mo	5	0%	0
West View Shores	3	1/mo	6	17%	7
<b>Kent County</b>					
Boy Scout Beach (Eliason)	1	1/wk	8	25%	0
Echo Hill Camp (Youth Camp)	1	1/wk	20	20%	49
Ferry Park	1	1/wk	18	17%	19
Tolchester Estates Beach	1	1/wk	21	43%	9 (55)*
Tolchester Marina and Beach	1	1/wk	18	22%	71
YMCA Camp Tockwogh (Youth Camp)	1	1/wk	21	24%	19
<b>Queen Anne's County</b>					
Camp Wright	3	1/mo	10	0%	0
Matapeake	3	1/mo	15	0%	7
<b>Somerset County</b>					
Janes Island	3	1/mo	4	0%	0
Wellington	3	1/mo	5	0%	0
<b>St. Mary's County</b>					
Cedar Cove Community Beach	1	1/wk	16	0%	0
Elm's Beach–Public Beach	1	1/wk	16	6%	0
Point Lookout State Park	1	1/wk	16	0%	0
<b>Worcester County</b>					
Assateague State Park	1	1/wk	15	0%	0
North Beach Site #1 (State Park Boundary)	1	1/wk	15	0%	0
North Beach Site #2 (Ranger Station)	1	1/wk	15	0%	0
Ocean City Beach 1	1	1/wk	29	3%	0
Ocean City Beach 2	1	1/wk	29	3%	0
Ocean City Beach 3	1	1/wk	29	3%	0
Ocean City Beach 4	1	1/wk	29	3%	0
Ocean City Beach 5	1	1/wk	29	3%	0
Ocean City Beach 6	1	1/wk	29	3%	0

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
<b>Worcester County</b>					
Oceanside #3	1	1/wk	15	0%	0
<b>Accomack County, VA</b>					
Assateague Island National Seashore (managed by Maryland)	1	1/wk	14	0%	0

\*Reported closing or advisory days are for events lasting six consecutive weeks or less. Number of days in parentheses are for events lasting more than six consecutive weeks.

## NOTES

- 1 Heather Merritt, Maryland Department of the Environment, personal communication, June 2011.
- 2 Heather Merritt, Maryland Department of the Environment, personal communication, March 2011.
- 4 Maryland Department of the Environment. Guidance for County Recreational Water Quality Monitoring and Notification Programs. December 2003.
- 4 Code of Maryland. Subtitle 09 Water Pollution. 26.08.09 Public Bathing Beaches.

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*Testing the Waters 2011 reflects data as of June 27, 2011.*