



MISSISSIPPI

20th in Beachwater Quality

10% 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.

Mississippi has 22 beaches stretching along 43 miles of Gulf of Mexico waters. The Mississippi Department of Environmental Quality (MDEQ) conducts Mississippi's beachwater quality monitoring program in conjunction with the State Beach Monitoring Task Force.

During 2010, Mississippi's beaches were impacted by the BP oil disaster. A total of 2,148 closure and advisory days at 17 beaches were issued in 2010 due to the spill. Clean-up crews were working along Mississippi's coast into 2011. Mississippi has posted additional signage at all of its beaches educating visitors about what to do if they encounter tarballs and what the health effects of the oil spill may be.

Although Gulf Park Estates had oil spill advisory days in 2010, the beach is now a boat launch and fishing pier area and swimming is no longer allowed.¹ Oil spill advisory days were issued at this beach in 2010.

Monitoring Results

In 2010, Mississippi reported monitoring information for 22 coastal beaches, all of which were monitored once a week. 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, 10%* 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 Gulfport Central Beach (24%), Gulfport East Beach (20%), and Courthouse Road Beach (20%) in Harrison County and Front Beach in Jackson County (20%).

Harrison County had the highest exceedance rate (10%) in 2010 followed by Jackson (10%) and Hancock (7%) counties.

Sampling Practices: Mississippi's beaches are monitored year-round. The MDEQ determines sampling practices, locations, standards, and notification protocols and practices throughout the state. Samples are taken in the middle of the water column at wading depth (approximately 0.5 m). The frequency of routine monitoring for each beach is based on the period of recreational use, the nature and extent of use during each period, and the water quality history for the beach.

KEY FINDINGS IN MISSISSIPPI

Beachwater Contamination

(% of samples exceeding state standards in 2010)

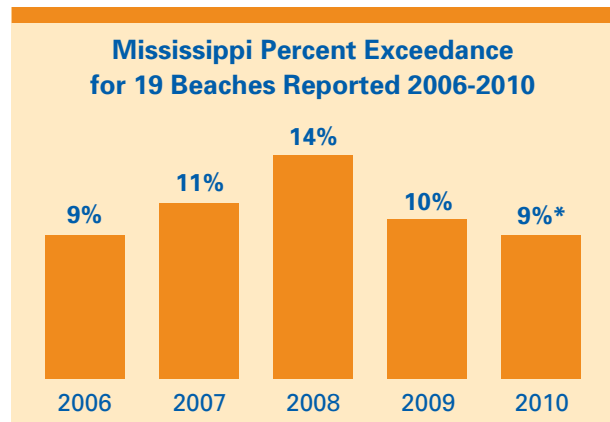
- Gulfport Central Beach in Harrison County (24%)
- Gulfport East Beach in Harrison County (20%)
- Courthouse Road Beach in Harrison County (20%)
- Front Beach in Jackson County (20%)

Reported Sources of Beachwater Contamination

Statewide (number of closing/advisory days)

- 76 (86%) unknown sources of contamination
- 12 (14%) sewage spills/leaks

Once a beach is placed under advisory, the monitoring frequency is increased until two consecutive samples meet standards, after which the beach is reopened.¹ 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 17 events lasting six consecutive weeks or less decreased 73% in 2010, down to 88 days from 331 days in 2009. In prior years, there were 187 closing/advisory days in 2008, 249 days in 2007, 0 days in 2006, and 41 days in 2005. In addition, there were no extended events and 17 permanent events (2,148 days) in 2010 due to the BP oil disaster. Extended events are those in effect more than six weeks but not more than 13 consecutive weeks; permanent events are in effect for more than 13 consecutive weeks. For the 17 events lasting six consecutive weeks or less, 86% (76) of closing/advisory days in 2010 were due to monitoring that revealed elevated bacteria levels, and 14% (12) were preemptive (i.e., without waiting for monitoring results) due to known sewage spills/leaks.

Standards and Procedures: Notifications issued because of bacterial exceedances or anticipated bacterial exceedances caused by rainfall are called advisories; all other notifications are generally called closings, although but oil spill advisories were issued in 2010. To issue contamination advisories, Mississippi applies an enterococcus single-sample maximum standard of 104 cfu/100 ml. No geometric mean standard is applied when determining whether a beachwater sample exceeds bacterial standards.

When a sample indicates an exceedance, a resample is required. When two consecutive samples indicate exceedances, Mississippi issues an advisory.

In addition to bacteria samples, the MDEQ collects monthly nutrient and chlorophyll data. This additional information is not used to inform issuance of beach advisories or closings, but it is used along with the bacteria data to assess the quality of waters along the Mississippi Gulf Coast.¹

Mississippi has a standing preemptive rainfall advisory that warns against swimming at beaches for 24 hours following significant rainfall (characterized by noticeable runoff). Swimmers are particularly advised to avoid swimming near storm drains, which are present at nearly all of Mississippi's Gulf Coast beaches. Beaches are preemptively closed if there is a known sewage spill or when events such as a hurricane or beach recovery project make conditions unsafe for swimming.

* Why don't the 2010 percent exceedance values in this summary match? Only samples from a common set of beaches monitored each year from 2006–2010 are included in the bar chart. The percent exceedance for this subset of beaches (9%) did not have the same value as the percent exceedance for all of the beaches monitored in 2010 (10%).

Mississippi 2010 Monitoring Results and Closing or Advisory Days					
Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Hancock County					
Bay Street Louis Beach	1	1/wk	53	8%	14
Buccaneer State Park Beach	2	1/wk	24	0%	0 (120)*
Lakeshore	1	1/wk	29	14%	6 (120)*
Waveland Beach	2	1/wk	39	5%	0 (120)*

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Harrison County					
Biloxi East Beach	1	1/wk	49	2%	0
Biloxi Porter Ave Beach	1	1/wk	50	4%	0 (128)*
Biloxi West Central Beach	1	1/wk	34	0%	0 (129)*
Courthouse Road Beach	1	1/wk	44	20%	9 (128)*
Edgewater Beach	1	1/wk	38	11%	0 (128)*
Gulfport Central Beach	1	1/wk	45	24%	10 (128)*
Gulfport East Beach	1	1/wk	45	20%	7 (128)*
Gulfport Harbor Beach	1	1/wk	42	12%	9 (128)*
Gulfport West Beach	1	1/wk	39	10%	8 (127)*
Long Beach	1	1/wk	41	10%	4 (127)*
Pass Christian Central Beach	2	1/wk	37	5%	0 (126)*
Pass Christian East Beach	1	1/wk	36	6%	0 (127)*
Pass Christian West Beach	2	1/wk	37	5%	0 (126)*
Jackson County					
Front Beach	1	1/wk	59	20%	11
Gulf Park Estates Beach (retired)	2	no data	0	NA	0 (129)*
Pascagoula Beach East	1	1/wk	50	2%	0
Pascagoula Beach West	1	1/wk	53	8%	0
Shearwater Beach	1	1/wk	52	8%	5
St. Andrews Beach	2	1/wk	38	11%	5 (126)*

*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 Emily Cotton, Regional Biologist, Mississippi Department of Environmental Quality. Personal communication. February 2011.

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