



TEXAS

17th in Beachwater Quality

8% 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.

Texas has 169 public beaches. Out of approximately 2,500 miles of coastal, bay, and estuarine shoreline in Texas, 324 miles are subject to the BEACH Act. The Texas General Land Office (GLO) administers the Texas Beach Watch Program.

Texas experienced a much higher rate of beachwater quality exceedances in 2010 than in 2009. This is due in large part to the flooding that occurred along the Rio Grande River and in Mexico as a result of Hurricane Alex and Tropical Depression #2. The mouth of the Rio Grande River is located at Boca Chica Beach in Cameron County. The flooding increased the bacteria levels on Boca Chica Beach and South Padre Island beaches for a period of several days.¹

Beachwater at Cole Park and Ropes Park along Corpus Christi Bay is monitored at six sites through the Texas Beach Watch Program. These sites have a history of exceeding the water quality standard. These parks have stormwater outfalls and are located in a residential area of the city of Corpus Christi, and the potential for human contamination is high. In 2010, water samples from the monitoring stations at Ropes Park and Cole Park were analyzed using the polymerase chain reaction (PCR) method to detect the *esp* marker as an indicator of human contamination. The results of this preliminary study suggest there is some human contribution to the fecal contamination at these two parks, and investigations are continuing.¹

In 2010 Nueces County had nearly 50% of the state's closings and advisories. Texas's Coastal Management Program has awarded a grant to Texas A&M University–Corpus Christi to develop and conduct a sanitary survey for Nueces and Aransas counties. The grant begins October 1, 2011.²

In 2011, the Texas Beach Watch Program added two testing locations at Sylvan Beach Park. Sylvan Beach Park is located on Galveston Bay in the city of La Porte in Harris County.

Monitoring Results

In 2010, Texas reported 169 coastal beaches. Of these, 65 (38%) were monitored once a week, and 104 (62%) were not monitored. 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 values, including duplicate samples and samples taken outside the official beach season, if any). In 2010, 8% of all reported beach monitoring samples exceeded the state's daily maximum bacterial standards. The beaches with the highest percent exceedance in 2010 were Palacios–Palacios Pavilion in Matagorda County (34%); Ropes Park (33%), Cole Park (29%), and Poenisch Park (22%) in Nueces County; Boca Chica State Park in Cameron County (20%); and Texas City Dike in

KEY FINDINGS IN TEXAS

Beachwater Contamination

(% of samples exceeding state standards in 2010)

- Palacios–Palacios Pavilion in Matagorda County (34%)
- Ropes Park in Nueces County (33%)
- Cole Park in Nueces County (29%)

Reported Sources of Beachwater Contamination

Statewide (number of closing/advisory days)

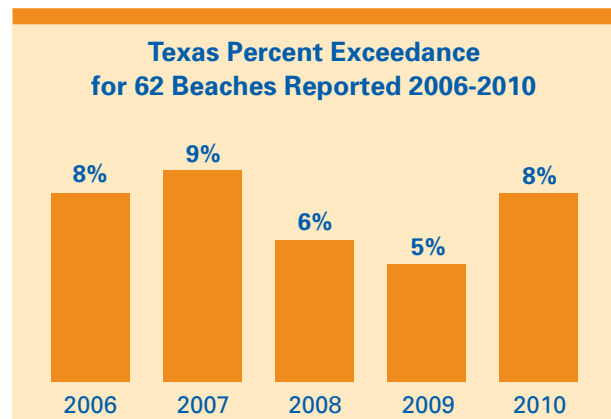
- 436 (62%) unknown sources
- 222 (32%) stormwater
- 38 (5%) other, unspecified sources
- 5 (1%) wildlife
- 2 (<1%) sewage

Galveston County (20%). Matagorda County had the highest exceedance rate (20%) in 2010, followed by San Patricio (13%), Nueces (11%), Aransas (11%), Kleberg (10%), Cameron (8%), Brazoria (5%), Galveston (4%), and Jefferson (1%) counties. Beaches in Calhoun, Chambers, Harris, Refugio, and Willacy counties were not monitored.

Sampling Practices: Beaches are monitored year-round, with more frequent monitoring from May to September for all monitored beaches and during the month of March to coincide with spring break at Gulf of Mexico beaches.³

The GLO determines sampling practices and locations, and recommends that local government and health departments issue beach advisories when the bacterial standard is exceeded. Samples are generally collected about one foot below the surface in water that is knee deep in an area where people are engaging in recreational activity. If the majority of recreational activity occurs at a depth significantly different than two feet, then samples can be collected at the location of greatest swimmer activity. Also, if the two-foot sampling depth is more than 50 meters from shore, samples can be collected at the location of greatest swimmer activity. Recreational beach segments used most frequently by the public and where health risks are the greatest are given priority for monitoring.

If a sample exceeds standards, monitoring is conducted daily until standards are met. 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 did not alter after an exceedance was found.



Closings and Advisories

Total closing/advisory days for 508 events lasting six consecutive weeks or less tripled to 704 days in 2010, from 231 days in 2009. For prior years, there were 318 days in 2008, 532 days in 2007, 473 days in 2006, and 420 days in 2005. There were no extended or permanent events in 2010. 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 508 events lasting six consecutive weeks or less, all closing/advisory days in 2010 were due to monitoring that revealed elevated bacteria levels.

Standards and Procedures: The GLO applies an enterococcus single-sample maximum of 104 cfu/100ml when deciding whether to recommend advisories. In 2010, two samples were taken simultaneously at each location and the results were averaged before comparing with the standard.² No geometric mean standard for five samples taken over a 30-day period is applied. Beginning in 2011, one sample per station is being collected.

V. vulnificus causes a bacterial infection that may be contracted by eating contaminated seafood, especially oysters. The bacteria can also enter the body through open wounds when a bather is swimming or wading in tainted waters. Symptoms of infection include vomiting, diarrhea, abdominal pain, and a blistering dermatitis. The Texas Department of Health tests regularly for *V. vulnificus* in Galveston Bay as it is a primary health consideration to oyster consumption and harvesting as well as skin contact.

Texas does not have preemptive rainfall standards. In the case of a known sewage spill, the decision to issue a preemptive closing or advisory is made by local government.²

Texas 2010 Monitoring Results and Closing or Advisory Days

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Aransas County					
Rockport Beach Park	1	1/wk	332	11%	15
Beaches in Aransas County that were not monitored and that had no closing or advisory days in 2010:					
12th Street Copano Bay Bridge	Copano Bay State Fishing Pier Copano Causeway–North	Copano Causeway–South Goose Island State Park	Highway 188 at Port Bay North Highway 188 at Port Bay South		
Brazoria County					
Bryan Beach	1	1/wk	102	5%	2
Follets Island	1	1/wk	418	6%	14
Quintana	1	1/wk	181	8%	6
Surfside	1	1/wk	641	3%	9
Beaches in Brazoria County that were not monitored and that had no closing or advisory days in 2010:					
County Road 257A	Peach Point WMA San Luis Park	Seidler’s Landing Southwest Brazoria	Swan Lake		
Calhoun County					
Beaches in Brazoria County that were not monitored and that had no closing or advisory days in 2010:					
Bauer Road Bayfront Park Boggy Bayou Row Indianola Beach King Fisher Park	Lighthouse Beach and Bird Sanctuary Magnolia Beach Park Matagorda Island State Park–Backside 1 Matagorda Island State Park–Backside 2	Matagorda Island State Park–Backside 3 Matagorda Island State Park–Backside 4 Matagorda Island State Park–Gulf	Olivia Haterius Park Point Comfort City Park Port Alto Public Park Six Mile Road State Highway 35 Swan Point Park		
Cameron County					
Boca Chica State Park	1	1/wk	586	20%	101
South Padre Island (Town of South Padre Island)	1	1/wk	723	2%	56
Access Point #3	1	1/wk	85	5%	8
Access Point #4	1	1/wk	76	3%	8
Andy Bowie Park	1	1/wk	152	1%	0
Atwood Park	1	1/wk	171	9%	27
Isla Blanca Park	1	1/wk	152	3%	14
Park Road 100 Bay Access #2	1	1/wk	84	7%	2
South Padre Island Access Point #6	1	1/wk	163	3%	16
Beaches in Cameron County that were not monitored and that had no closing or advisory days in 2010:					
North Cameron County– Bayside	Park Road 100 Bay Access #1	South Padre Island–North			
Chambers County					
Beaches in Chambers County that were not monitored and that had no closing or advisory days in 2010:					
Chambers County	McCollum Park				

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Galveston County					
25th Street	1	1/wk	365	6%	11
45th Street	1	1/wk	494	7%	19
61st Street	1	1/wk	290	8%	11
Appfel Park	1	1/wk	160	5%	4
Clara Street	1	1/wk	312	3%	4
Crystal Beach–O’Neill Road	1	1/wk	80	5%	2
Dellanera Park	1	1/wk	152	0%	0
Galveston Island State Park	1	1/wk	152	0%	0
Galveston Island State Park Backside	1	1/wk	78	5%	2
Gulf Shores	1	1/wk	158	4%	3
Indian Beach	1	1/wk	76	0%	0
Pirates Beach	1	1/wk	344	1%	1
Port Bolivar–Rettilon Road	1	1/wk	78	8%	6
Rollover Pass East	1	1/wk	259	0%	0
Rollover Pass West	1	1/wk	76	3%	1
San Luis Pass	1	1/wk	156	3%	2
Seadrift	1	1/wk	78	3%	1
Spanish Grant/Bermuda Beach	1	1/wk	228	0%	0
Stewart Beach	1	1/wk	246	8%	9
Texas City Dike	1	1/wk	20	20%	2
West End	1	1/wk	197	3%	3
West End Galveston–Jamaica Beach	1	1/wk	78	3%	1
West End Galveston–Sea Isle	1	1/wk	154	2%	1
Beaches in Galveston County that were not monitored and that had no closing or advisory days in 2010:					
Caplen	Erman Pilsner Boat Ramp	Gilchrist West	High Island West		
Caplen/Crystal Beach	Frank Carmona Beach	Haney Park	Holiday		
East Beach	Gilchrist East	High Island East	Skyline Drive		
			Skyline Park		
Harris County					
Beaches in Harris County that were not monitored and that had no closing or advisory days in 2010:					
Bayland Park	Evergreen Road	Miramar Street	River Terrace Park		
Clear Lake Park	Lynchburg Row	Pine Gully Park	Sylvan Beach Park		
Jefferson County					
McFaddin National Wildlife Refuge	1	1/wk	481	1%	1
Sea Rim State Park	1	1/wk	228	0%	1
Kleberg County					
Kaufer–Hubert #1	2	1/wk	97	14%	8
Kaufer–Hubert #2	2	1/wk	101	8%	3
Kaufer–Hubert #3	2	1/wk	92	7%	2
Riviera Beach Pier	3	1/wk	87	9%	4

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
Kleberg County					
Beaches in Kleberg County that were not monitored and that had no closing or advisory days in 2010:					
CR 1140 North		CR 1140 South		North Padre Island	
Matagorda County					
Jetty Park	1	1/wk	384	10%	18
Palacios–Palacios Pavilion	1	1/wk	278	34%	37
Sargent Beach	1	1/wk	337	18%	34
Beaches in Matagorda County that were not monitored and that had no closing or advisory days in 2010:					
East Bay		East Sargent Beach		Foley Reserve Park	Lookout Point
East Matagorda Peninsula		Farm Road 1095		Jenson's Point	Oyster Lake Road South Bay Boat Ramp
Nueces County					
Cole Park	1	1/wk	403	29%	60
Corpus Christi Beach–Main	1	1/wk	337	11%	20
Corpus Christi Marina	1	1/wk	267	16%	21
Emerald Beach	1	1/wk	85	14%	6
JFK Causeway–Southwest	1	1/wk	91	18%	8
J.P. Luby Park	1	1/wk	318	2%	2
Laguna Shores	1	1/wk	84	10%	3
Lighthouse Lakes Kayak Trail #1	1	1/wk	26	0%	0
McGee Beach	1	1/wk	164	13%	21
Mustang Island	1	1/wk	80	0%	0
Mustang Island State Park	1	1/wk	399	1%	0
Packery Channel Park	1	1/wk	81	4%	1
Padre Bali Park	1	1/wk	661	5%	19
Poenisch Park	1	1/wk	93	22%	17
Port Aransas–South	1	1/wk	167	2%	2
Port Aransas Park	1	1/wk	338	4%	6
Ropes Park	1	1/wk	217	33%	37
University Beach	1	1/wk	90	19%	7
Beaches in Nueces County that were not monitored and that had no closing or advisory days in 2010:					
Corpus Christi Beach–North		JFK Causeway–Southeast		Port Aransas–Jetty	SH 361 ROW–Southeast
Corpus Christi Beach–South		Mustang Island State Park–Backside		Port Street	SH 361 ROW–Southwest
Doddridge Park				Redhead Pond Wildlife Management Area	SPI Drive–Northeast
Hans and Pat Sutter Wildlife Refuge		Ocean Drive–East		Roberts Point Park	SPI Drive–Northwest
JFK Causeway–Northeast		Ocean Drive–West			SPI Drive–Southeast
JFK Causeway–Northwest		Palmetto Park		SH 361 ROW–Northeast	SPI Drive–Southwest
		Philip Dimitt Municipal Fishing Pier		SH 361 ROW–Northwest	Swantner Park
Refugio County					
Beaches in Refugio County that were not monitored and that had no closing or advisory days in 2010:					
Texas Parks and Wildlife Department Boat Ramp–Refugio					

Beach	Tier	Assigned Monitoring Frequency	Total Samples	% of Samples Exceeding State Standards	Closing or Advisory Days
San Patricio County					
Nueces Bay Causeway #3	3	1/wk	86	13%	5
Beaches in San Patricio County that were not monitored and that had no closing or advisory days in 2010:					
Highway 1069 Right-of-Way	Indian Point Park	Nueces Bay Causeway #1	Nueces Bay Causeway #2	Nueces Bay Causeway #4	
Willacy County					
Beaches in Willacy County that were not monitored and that had no closing or advisory days in 2010:					
Fred Stone Park	Mansfield Cut/County Line	Placement Area #8			

NOTES

- 1 Craig Davis, Texas General Land Office, personal communication, May 2011.
- 2 Coastal Coordination Council. Detection of human fecal contamination in Corpus Christi Bay: final summary report of results. Not dated.
- 3 Craig Davis, Texas General Land Office, personal communication, April 2011.

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