NJ Department of Environmental Protection
Water Monitoring and Standards
Bureau of Marine Water Monitoring

COOPERATIVE COASTAL MONITORING PROGRAM

Summary Report for 2012

August 2013

State of New Jersey
Chris Christie, Governor
Kim Guadagno, Lt. Governor

NJ Department of Environmental Protection
Bob Martin, Commissioner

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New Jersey Department of Environmental Protection

Water Resources Management

Michele Siekerka, Assistant Commissioner

Water Monitoring and Standards

Jill Lipoti, Director

Bureau of Marine Water Monitoring

Bruce Friedman, Bureau Chief

August 2013

Report prepared by:

Virginia Loftin, Program Manager

Cooperative Coastal Monitoring Program

Bureau of Marine Water Monitoring

Cover Photo – New Jersey Coastline (photo by Steve Jacobus, NJDEP)

Introduction

The Cooperative Coastal Monitoring Program (CCMP) is coordinated by the New Jersey Department of Environmental Protection's Bureau of Marine Water Monitoring. The CCMP assesses coastal water quality and investigates sources of water pollution. The information collected under the CCMP assists the DEP in responding to immediate public health concerns arising from contamination in coastal recreational bathing areas. Agencies that participate in the CCMP perform sanitary surveys of beach areas and monitor concentrations of bacteria in nearshore ocean and estuarine waters to assess the acceptability of these waters for recreational bathing. These activities and the resulting data are used to respond to immediate public health concerns associated with recreational water quality and to eliminate the sources of fecal contamination that impact coastal waters. Funding for the CCMP comes from the NJ Coastal Protection Trust Fund and the United States Environmental Protection Agency (EPA) Beaches Environmental Assessment and Coastal Health (BEACH) Act grants. BEACH Development and Implementation grants were awarded in the years 2001 through 2012. DEP designs the beach sampling and administers the communication, notification and response portion of the CCMP. A portion of the BEACH grant funds are passed through to the four county health departments participating in the CCMP who perform the weekly sample collection and analysis. The participating agencies are:

Atlantic County Health Department
Cape May County Health Department
Monmouth County Health Department
Ocean County Health Department

Additional assistance is provided by the following agencies:

Atlantic City Health Department
Long Beach Island Health Department
Long Branch Health Department
Middletown Health Department
Monmouth County Regional Health Commission
New Jersey Department of Health

As part of this program, DEP routinely inspects the 17 wastewater treatment facilities that discharge to the ocean (Appendix 1). DEP also performs aerial surveillance of New Jersey nearshore coastal waters and the Hudson-Raritan estuaries six days a week (May to September) to observe changing coastal water quality conditions and potential pollution sources.

CCMP Procedures

Chapter IX of the State Sanitary Code N.J.A.C. 8:26 and the DEP *Field Sampling Procedures Manual* prescribe the sampling techniques and beach opening and closing procedures the agencies use for the CCMP. The agencies perform routine sampling from mid-May through mid-September on Mondays. Samples are analyzed for enterococci concentrations using DEP-certified laboratories for EPA approved methods; analyses provide results within 24 hours of sampling. Counties submit water monitoring data to DEP in electronic format after each sampling event through the use of DEP's web-based Beach Monitoring System. In 2008, DEP began transferring monitoring and beach closing notification data to EPA via the WQX data system.

The CCMP included water quality monitoring at 181 ocean and 41 bay stations in 2012. Station locations coincided with recreational swimming beaches. Recreational stations are sampled to assess trends and to protect recreational bathers from elevated levels of bacteria. Most ocean beach monitoring stations are selected because of their proximity to other similar recreational beaches and the lack of specific pollution sources. The sample results from these beaches are intended to evaluate the water quality at several lifeguarded beaches in an area rather than just one lifeguarded beach. Other ocean beaches are assigned monitoring stations when effects from potential pollution sources are possible. A monitoring station is assigned at each recreational bay

beach because of their noncontiguous locations.

Recreational beaches, both ocean and bay, are subject to opening and closing procedures of the State Sanitary Code and therefore, must be resampled when during routine sampling, bacteria concentrations exceed the primary contact standard. In the years prior to 2004, the primary contact standard was 200 fecal coliforms per 100 mL of sample. Studies performed by EPA determined that enterococci bacteria have a greater correlation with swimming-associated gastrointestinal illness in marine waters than fecal coliform bacteria. In 2004, the State Sanitary Code was amended to require monitoring for enterococci bacteria with a new primary contact standard of 104 colony forming units per 100 mL of sample. Consecutive samples that exceed the standard require the closing of the beach until a sample is obtained that is within the standard. When high bacteria concentrations are recorded at an ocean station, the sampling is extended linearly along the beach to determine the extent of the problem and the pollution source. This "bracket sampling" can result in an extension of the beach closing to contiguous lifeguarded beaches. Sampling is always performed in conjunction with a sanitary survey, which includes identifying possible pollution sources and observing water and shoreline conditions.

Health or enforcement agencies may close beaches at any time at their discretion to protect the public's health and safety. Swimming advisories may be issued at any beach with initial sample results exceeding the standard. In 2012, only Monmouth and Ocean Counties issued swimming advisories at public beaches.

2012 Beach Actions

The participating health agencies closed 173 ocean and 17 bay beaches in the 2012 summer season, a 61% increase in beach closings over the previous year. The increased number of ocean closings is directly related to a one-day washup of floatable debris, including approximately 50 syringes that closed 12 miles of beaches on Long Beach Island in mid-June. Heavy rains the previous week caused combined sewers in New York (426) and northern New Jersey (180) to discharge, washing trash and debris into the shared waters of the New York Harbor. New Jersey CSOs employ floatable and debris controls such as trash netting; New York does not require such controls. Ocean currents carried this debris south to the beaches of southern Ocean County the following week. After the incident, DEP's Water Compliance and Enforcement staff conducted inspections of all NJ's CSO outfalls and all were found to have operational floatable controls.

Beaches may be closed when bacteria levels exceed the standard or as a precautionary measure in response to an environmental condition, i.e., a heavy rain event or floatables washup. Health agencies may also issue advisories to the public on an initial exceedance of the bacterial standard. Of the four coastal counties participating in the CCMP, only Monmouth and Ocean Counties issue bathing advisories at beaches when initial sample results exceed the water quality standard. Beach conditions, advisories and beach closings, and the reasons for beach closings were posted on the DEP web page (www.njbeaches.org) and on the DEP Sandline (800-648-SAND) each day. Additionally, when beach closings were necessary, the county or local health agency posted "No Swimming" signs at the beach. Signs remained posted until the swimming ban was lifted. Detailed beach closing and advisory information for 2012, including the specific beaches closed and reasons for the closings for this period are presented in Appendix 2. Table 1 below presents the numbers of closings and advisories from 2003 through 2012.

Table 1: Numbers of Ocean and Bay Beach Actions

Ocean	2003	2004[1]	2005	2006	2007	2008[2]	2009	2010	2011	2012
closed for bacteria	9	17	7	18	0	1	6	0	3	3
precautionary closing	58	42	50	79	85	45	111	64	84	67
# Rainfall Provisional Beaches	2	2	3	3	4	4	4	4	4	4
closed for floatables	13	0	0	0	4	120 [2]	0	0	0	103[4]

advisories[4]	n/a	n/a	n/a	n/a	n/a	n/a	7	17	15	10
Total ocean beach actions	80	59	57	97	89	158	117	81	102	183
Bay	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
closings for bacteria	82	89	4	27	35	30	32	7	8	13
precautionary closing	26	20	18	10	18	13	24	20	21	4
# Rainfall Provisional Beaches	1	1	1	1	1	2	2	2	2	2
closed for floatables	0	0	0	0	0	0	0	0	0	0
Advisories[3]	n/a	n/a	n/a	n/a	n/a	n/a	0	1	3	48
Total bay beach actions	108	109	22	37	53	43	56	27	30	65

Note: Precautionary rainfall-related beach closing policy implemented for two Spring Lake beaches in 2002. Two additional ocean and two bay beaches added to policy in subsequent years.

1 Indicator changed from fecal coliform to enterococci in 2004

2 A criminal medical waste dumping event was responsible for 120 ocean beach closings

3 Monmouth County health agencies added swimming advisory policies late in the 2009 bathing season. In 2012, Ocean County also began issuing bathing advisories.

4 An unusually heavy rain event in the New York Harbor area the previous week caused combined sewers in New York and northern New Jersey to overflow into shared waters. Trash and debris from this event is the probable cause of the washup on Long Beach Island.

Closings include those required for consecutive high fecal coliform or enterococci concentrations and by health agency discretion due to public health concerns. The vast majority of the closings listed above are precautionary due to concerns of nonpoint pollution transported by stormwater during a rain event. Beach closings due to wash ups of floatable debris have been fairly uncommon. In 1990, floatable debris was responsible for a total of 10 separate beach closings. In the following 12 years, no closings were due to floatables; however, in 2003, 13 separate closings and in 2007 four closings were due to reported wash ups of trash and debris. In 2008, a criminal medical waste dumping event was responsible for 120 ocean beach closings. In 2012 approximately 50 syringes along with other floatable debris washed onto beaches on Long Beach Island closing 12 miles of beaches for one day. Bay beaches are rarely affected by washups of floatable debris.

In 2002, the Monmouth County Health Department implemented a precautionary rainfall beach closing procedure which is in effect at beaches with known and identified sources of potential contamination. Precautionary beach closings after significant rainfall at these locations are more protective of public health since there is no need to wait for laboratory results from water quality sampling. The bathing public is protected from exposure to potentially contaminated stormwater by this approach. Since 2002, a total of four ocean beaches and two bay beaches in Monmouth County have been identified as rain provisional beaches, which accounts for the increase in beach closing numbers at ocean and bay beaches.

The CCMP does not record closings related to rough seas, beach maintenance projects, shark sitings, and fish and clam wash ups. The CCMP also does not include those closings that are briefly in effect during the assessment of water conditions by local officials. Only those beach closings ordered by local health officials are included.

The ocean beaches of Spring Lake Borough have been particularly affected by the discharge from Wreck Pond during and immediately after rain events. As mentioned above, in 2002, a precautionary beach closing plan

was implemented in Spring Lake Borough. It requires that the two beaches north of the Wreck Pond outfall, Brown Avenue and York Avenue, close for a specified time period following a rain event. The bathing areas of these two beaches are automatically closed for 24 hours after the end of all rainfalls greater than 0.1 inch or that cause an increased flow in storm drains; and for 48 hours from the end of all rainfalls greater than 2.8 inches within a 24 hour period. In addition, lifeguards (or staff as designated by Spring Lake Borough) will prohibit swimming near any parts of these beaches where the stormwater plume is observed to be mixing within the swimming area. In 2005, the Terrace beach and in 2007, Beacon Boulevard beach, both beaches in Sea Girt just south of the Wreck Pond outfall, were added to the precautionary beach closing plan.

Intensive source trackdown has identified that sources of pollution to Wreck Pond include stormwater discharges directly to the pond and suspected failing infrastructure in the community surrounding the pond. These factors contribute to the elevated levels of enterococcus bacteria discharged to the ocean during rain events. The Department is moving ahead with steps to alleviate these sources of contamination. In 2006, DEP completed a 300-foot extension to the Wreck Pond ocean discharge outfall pipe in order to carry contaminated stormwater further out into the ocean and reduce the impact to bathing beaches. The total number of beach closings related to bacteria (Figure 1) have been lower in the years after 2006, but the total number of beach closings at the four "rain provisional" beaches varies (Figure 2). These rain closing numbers are dependent on the amount of rainfall in any given summer season. DEP, Spring Lake, Sea Girt, the Monmouth County Health Department, the Monmouth County Regional Health Commission and Clean Ocean Action are reevaluating the provisional rainfall closure policy at Wreck Pond. DEP reinstituted wet weather monitoring at the four Wreck Pond beaches during the summer 2012 beach season and has continued sampling in the offseason to gather additional data for this evaluation. DEP will continue wet weather monitoring during the 2013 beach season.

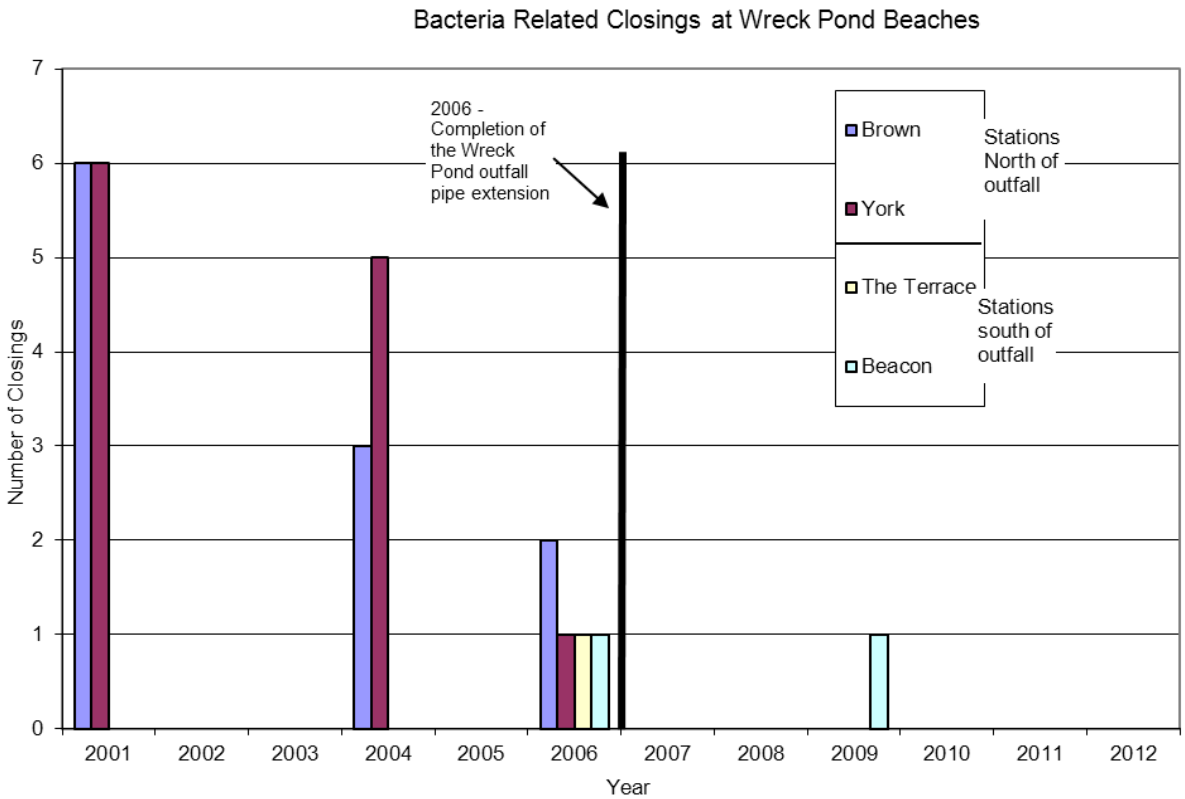


Figure 1. Beach closings caused by bacteria exceeding the standard at the four beaches surrounding the Wreck Pond outfall in the years 2001 - 2012.

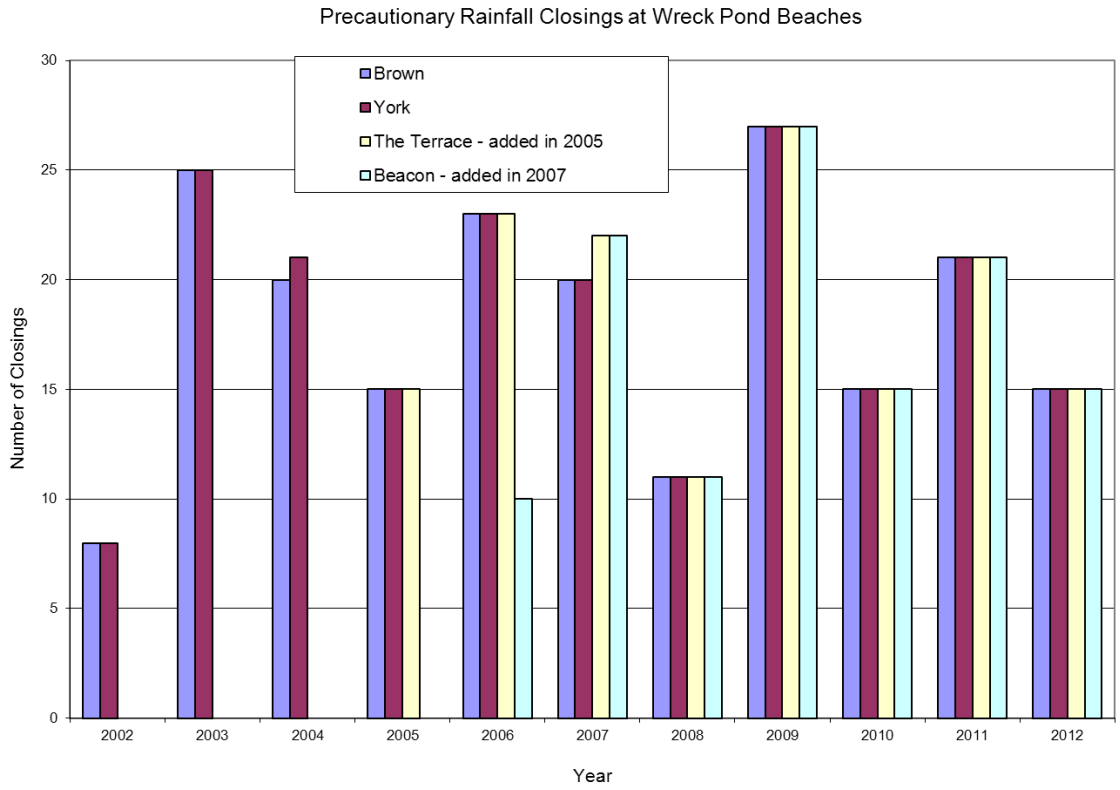


Figure 2. Beach closings at the four "rain provisional" beaches surrounding the Wreck Pond outfall in the years 2002 - 2012. The rainfall closing policy went into effect in 2002. Beacon Beach had rain provisional closings in 2006 but was not officially added to the policy until 2007.

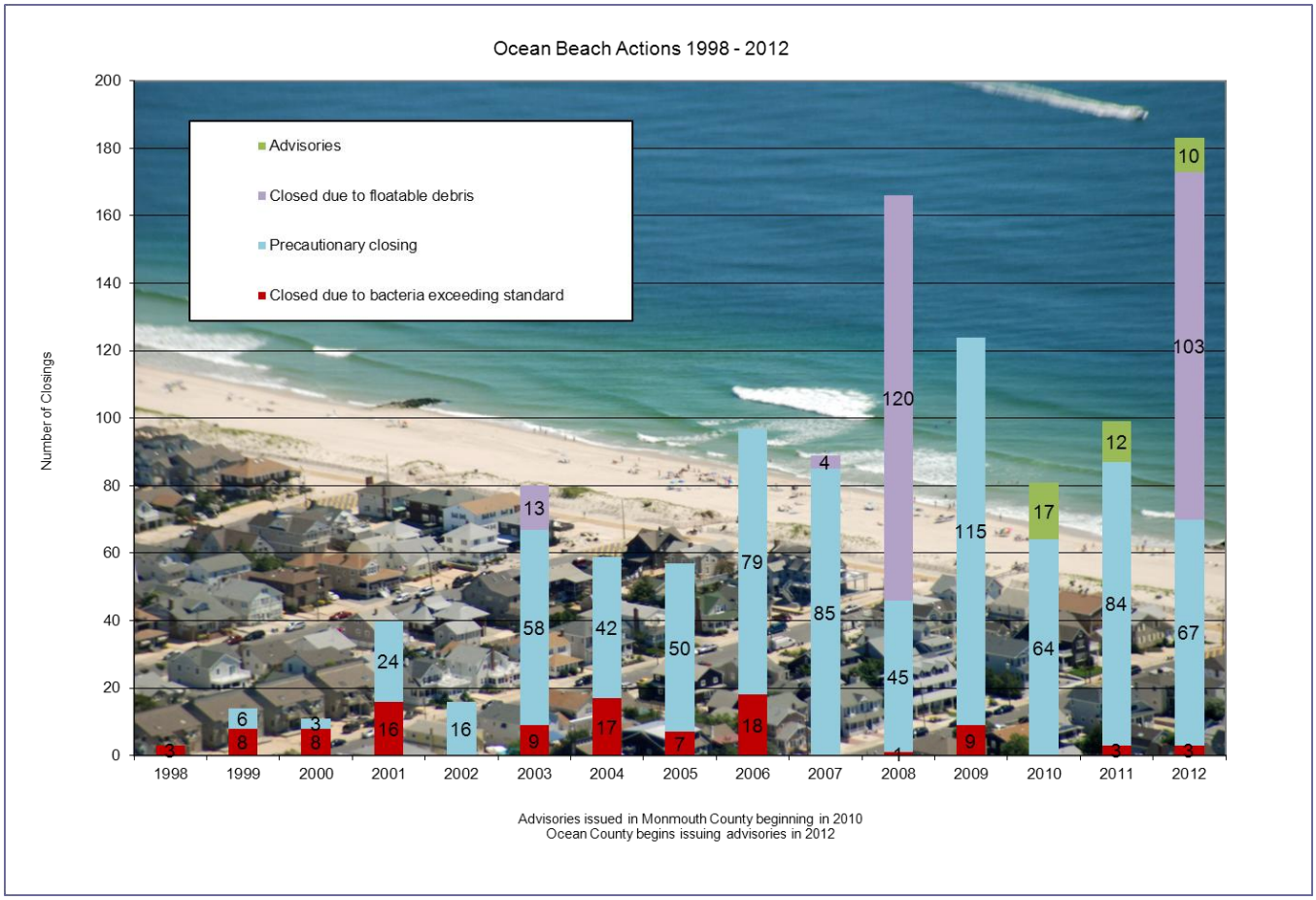


Figure 3. 15-Year Trend in NJ ocean beach actions.

As shown in Figure 3 and
Figure 5, closures at New Jersey's ocean and bay beaches due to exceedances of the water quality standard are low. Figure 4 and Figure 6 show the 2012 ocean and bay closings and the reasons for closure. However, the overall number of closures is up at ocean beaches primarily due to precautionary closures since 2000, the criminal medical waste dumping event in 2008 and the one-day floatable washup in 2012. These precautionary closures represent an enhanced level of public health protection that has been implemented by county and local health officials with the support of DEP. Even with these additional precautionary closures, New Jersey beaches are open to bathing over 99.7% of the time (Figure 7). The national average was 95% in 2012[5], the most recent year for which data is available. With more than 650 ocean and bay beaches (Figure 9), New Jersey has more recreational beaches than any other state on the east coast.

[5] United States Environmental Protection Agency, EPA's Beach Report 2012 Swimming Season
June 2013, EPA 820-F-13—014, http://water.epa.gov/type/oceb/beaches/upload/national_facsheet_2012.pdf

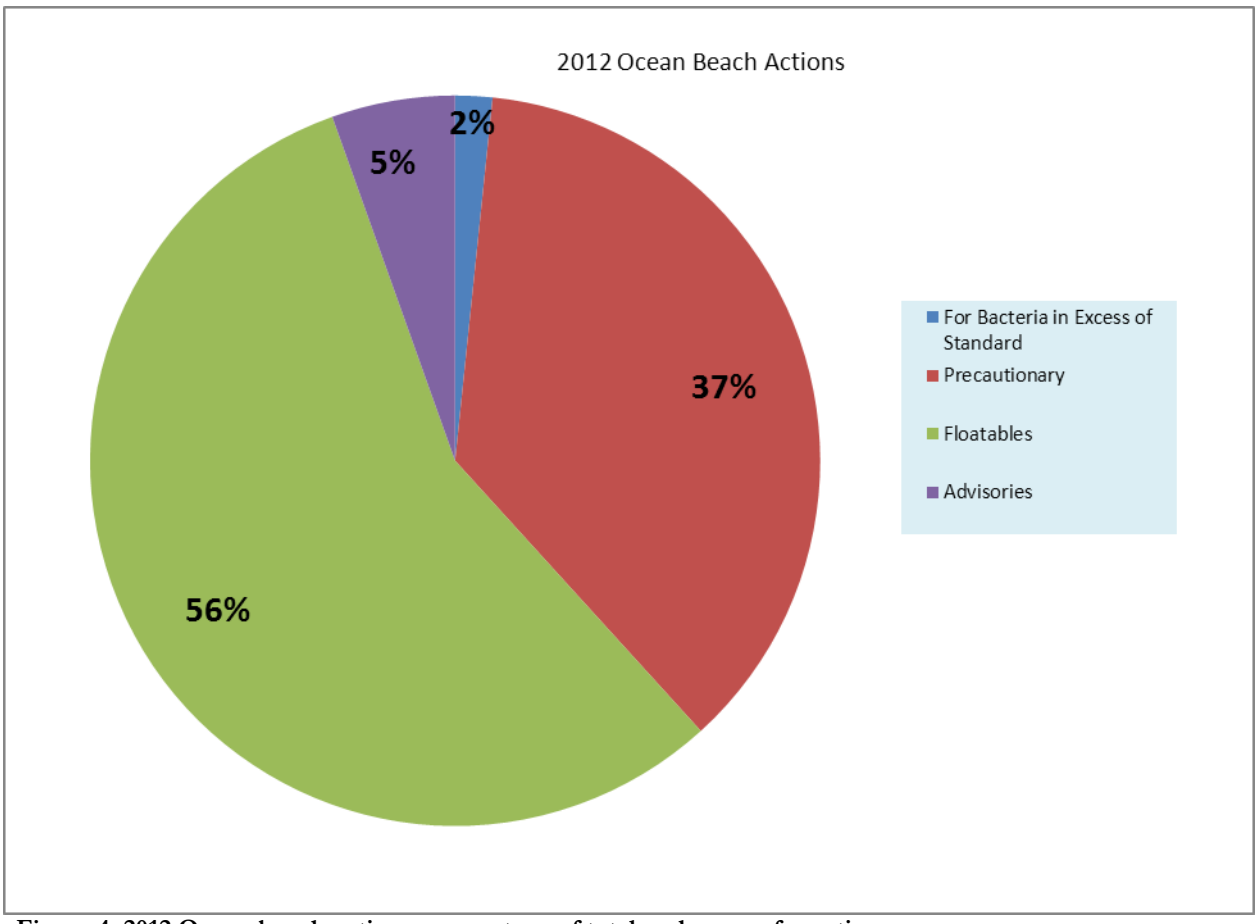


Figure 4. 2012 Ocean beach actions: percentage of total and reason for action.

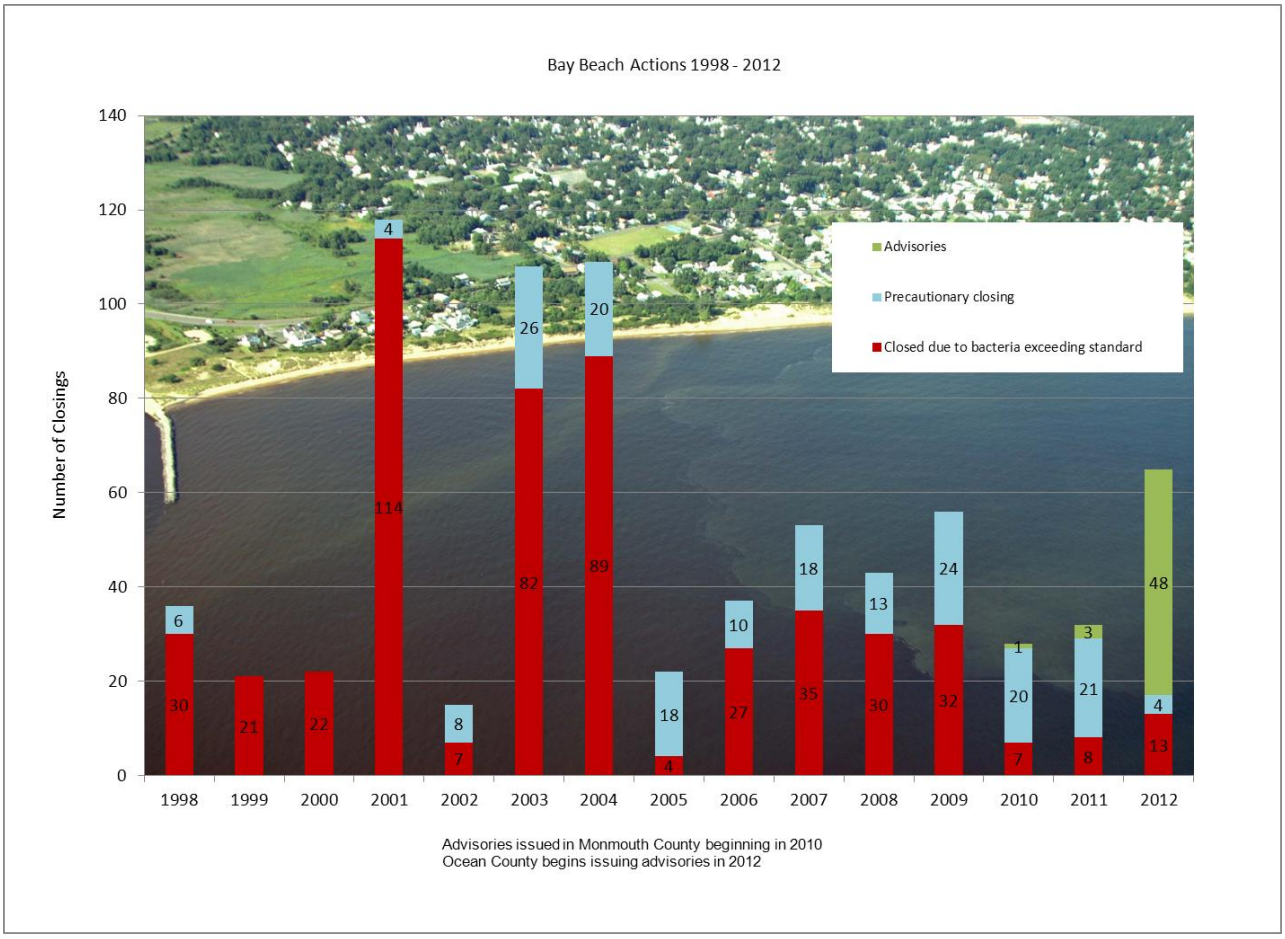


Figure 5. 15-Year Trend in NJ bay beach actions.

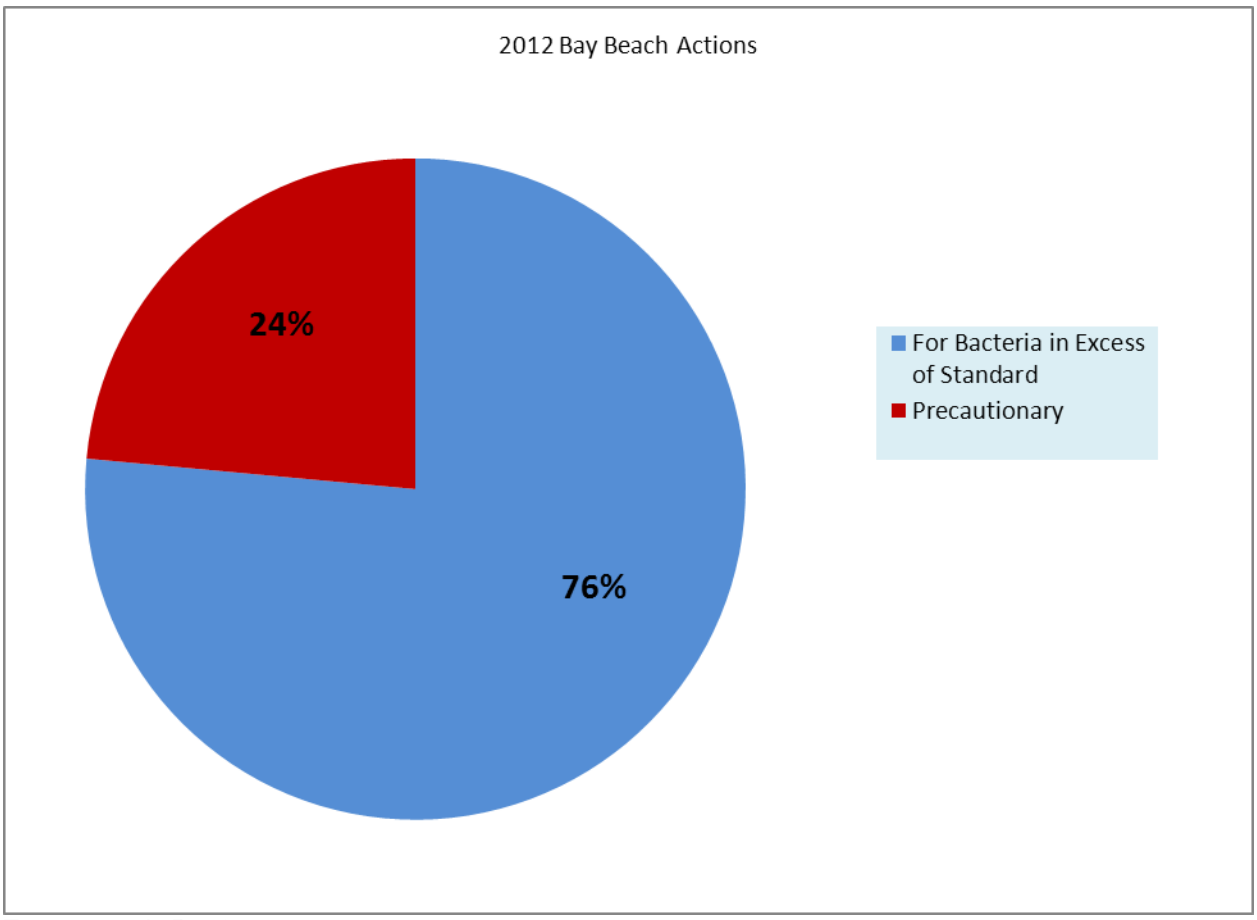


Figure 6. 2012 Bay beach actions: percentage of total and reason for action.

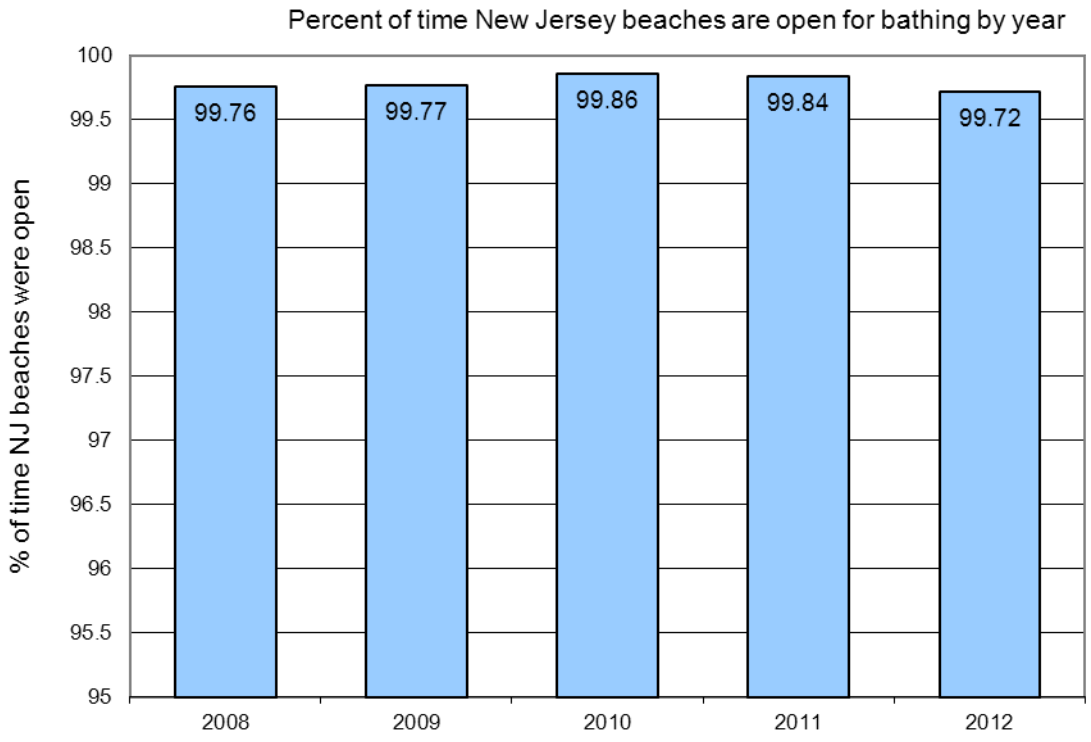


Figure 7. Percent of time NJ ocean and bay beaches are open for bathing by year

Enhancements to CCMP

DEP has joined with the EPA and others in the private and public sectors to identify and address sources of pollution impacting the State's beaches. This approach will accelerate improvements in the quality of our beaches and coastal waters as a result of the increased coordination and leveraging of resources.

Wreck Pond

In 2012, DEP developed the Wreck Pond Restoration Action Plan with local stakeholder input. This is a 12-point comprehensive plan developed to address water quality within the Wreck Pond Watershed and beaches of Spring Lake and Sea Girt. In early 2006, DEP completed a 300-foot extension of the Wreck Pond outfall into the ocean. In 2007, the Bureau of Marine Water Monitoring began an intensive stormwater source track-down study and has identified a number of potential sources of bacteria to the pond and surrounding beaches. DEP is working with the county and local governments to address these sources. A website was developed to incorporate all research, reports and analytical data for the watershed and includes an interactive map that displays all analytical data. The website can be found at: http://www.nj.gov/dep/wreckpond/. The towns of Spring Lake and Sea Girt have committed to conducting infrastructure assessments of their entire sanitary and storm sewer systems within the watershed, which includes videoing and GIS/GPSing of these systems. This assessment will be completed in 2013. The Bureau of Marine Water Monitoring is conducting a continuous 48-hour storm event monitoring plan to capture data for an entire storm event. Clean Ocean Action and Rutgers Cooperative Extension have joined as partners with DEP to facilitate education and public outreach

including nonpoint pollution seminars, build-a-rain-barrel and rain garden workshops and watershed cleanups. DEP has also partnered with the Freehold Soil Conservation District to prioritize stream bank restoration areas, and the Monmouth County Public Works and Engineering Departments to conduct outfall stabilization projects and dredge areas of the pond in a phased approach. Phases 1 and 2 have been completed and Phase 3 is scheduled for 2013. In addition, a Wreck Pond Watershed Restoration Implementation Plan and a Living Shoreline Conceptual Design are currently in development. In October 2012, during Superstorm Sandy, the sand dune breached to the north of the outfall creating an inlet through the emergency spillway. The inlet naturally closed a few weeks later. Under normal circumstances Wreck Pond discharges through the outfall pipe. During large rain events, the level of the lake rises and discharges through the emergency spillway in addition to the outfall pipe. Spring Lake, with DEP approval, has been maintaining and grading the beach to allow for this emergency spillway discharge through the newly-opened inlet. DEP has joined with the United States Army Corps of Engineers to conduct an ecological restoration project to stabilize the newly-opened inlet to restore natural flow and tidal exchange.

Rapid Method Testing

In 2007, 2008, 2009 and 2010, DEP joined with EPA, Monmouth and Ocean County Health Departments and the Ocean County Utilities Authority in a joint sampling program to study the correlation between three different methods for the analysis of enterococcus bacteria in marine waters. EPA Method 1600 is the traditional method used by the CCMP and by Monmouth County for this study. Enterolert was used by Ocean County for the 2007 bathing season only and for the 2007 comparative study. Additional samples were collected and analyzed by EPA using quantitative polymerase chain reaction (qPCR) - a method for the rapid detection of enterococcus bacteria in bathing water. Samples were collected at 20 ocean and bay stations in 2007, at two bay beaches in 2008 and at 10 ocean and bay stations in 2009 and 2010. Final results for the 2008 study are available at: http://www.epa.gov/region02/water/oceans/2008Report_QPCR_NJ_Final_Jan2010.pdf.

In 2011, a rapid method demonstration project was conducted at four bay beaches in Ocean County. Samples were collected each Monday and analyzed using qPCR and results were posted "live" on the NJDEP beach website. Swimming advisories were issued based results of rapid method sampling and later compared to the standard membrane filtration result. Results of the project were compared to EPA Method 1600 and found to have an 82% correlation.[6] Information on the project is available at: http://www.njbeaches.org/qpcr.htm.

Wet Weather Monitoring

In 2009, 2010, 2011, and 2012, 10 river beaches in Ocean County were sampled during wet weather conditions to determine whether increased rainfall contributed to increased levels of bacteria at bathing beaches (http://www.njbeaches.org/ocean2009to2012rainfallccmp.pdf). The data were inconclusive in 2009 and due to the lack of rain events in 2010, the Ocean County Health Department continued the study in 2011 and 2012 as well as conducted several rounds of dye testing in order to gather additional data. At this time, there is no clear correlation between rainfall and increased bacteria levels at these beaches. Additional water quality monitoring performed in 2011 by the Marine Academy of Technology and Environmental Science (MATES), a magnet public high school in Ocean County, indicated that increased rainfall lead to increased bacteria levels at beaches in Pine Beach and Beachwood. Information from these studies is being used by DEP's Bureau of Marine Water Monitoring in a new source trackdown study at Beachwood Beach in order to identify possible sources of contamination to that beach. DEP has partnered with Ocean County Department of Engineering in mapping existing sanitary and stormwater infrastructure, and outfall locations. In 2012, DEP's Bureau of Marine Water Monitoring responded to a complaint in South Toms River. Further investigation and sanitary survey identified a community of live-aboard vessels at an upstream marina without connection to proper sanitary facilities. DEP, South Toms River Township and the Ocean County Health Department have worked

[6] Ferretti, J.A., Tran, H.V., Peterson, S.J., Loftin, V., 2013, Rapid method demonstration project at four New Jersey marine beaches using real time quantitative Polymerase Chain Reaction (qPCR). Marine Pollution Bulletin, 2013 Apr 24.

together to relocate these residents and clean up the facility (including a boat scrap yard). DEP will continue to work with partners to identify any additional potential sources of contamination to these river beaches.

Coastal Incidents of Note – 2012

The following pollution incidents received public, DEP, and local health agency attention in 2012, although the incidents did not always require beach closings:

On May 31, a 38 foot vessel ran aground on the north jetty of the Barnegat Inlet and sank in approximately 10 feet of water ½ mile off the beach. No beaches were closed due to the incident.

On June 1, a 25 foot vessel sank at Leonardo State Marina in Middletown. An estimated 35 gallons of fuel discharged into the bay. No beaches were impacted by the event.

On June 16, a major washup of floatable trash and debris, including syringes, occurred at beaches on Long Beach Island. More than 50 syringes were collected by the Long Beach Island Health Department and approximately 12 miles of beaches were closed starting at 1:00 on Saturday afternoon. The debris came in with the first high tide of the day. Public works crews, beach patrol and local beach staff worked through the weekend to mechanically rake beaches where possible and hand rake when necessary. All beaches were reopened Sunday morning. Heavy rains the previous week caused combined sewers in the northern part of the state to overflow. Trash and debris from that event was the likely source of the debris on these beaches.

On June 29, a beachgoer was injured after stepping on a syringe on the beach at Brant Beach on Long Beach Island. The beach was surveyed following the incident and no other trash or debris was found. The needle was old and weathered and may have been on the beach from the previous washup.

On July 30, 1st Street beach in Ocean City was closed as a precaution due to a sewage overflow from a small public restroom to a nearby storm drain that flows to the ocean. Water samples were collected that afternoon. Bacteria results were well below the standard and the beach reopened the following afternoon.

On August 5, the DEP hotline received a report that dead menhaden were washing onto beaches between 2nd and 26th Streets in North Wildwood and Wildwood. Local public works crews removed more than 2 ½ tons of dead fish from the beaches. The fish were very likely dumped from a bait fishing boat. Water quality samples were collected at the affected beaches and no increase in bacteria was found. No beaches were closed.

On August 6, 8th and 9th Avenue beaches in Ocean City were closed as a precaution due to a sewage overflow to a storm drain that discharges to the ocean. The overflow was caused by a blockage in a nearby sewer line. The beaches reopened two days later after water quality results were shown to be within the standard.

On August 12, the Cape May County Health Department closed 1st Street beach in Ocean City again as a precaution due to another sewage overflow from the same public restroom. Beach closings were extended the following day to Stenton Avenue north of 1st Street and south to 3rd Street pending water quality sample results. All beaches were reopened the following day.

On August 20 during the daily coastal observation flight, pink-colored water was observed in the ocean off of Monmouth and Ocean Counties. Samples collected during the week confirmed mild bloom concentrations of dinoflagellates, a non-toxic algae, along with heavy concentrations of comb jellies. The colored water persisted for several days. No beaches were closed.

On August 22, the DEP hotline received a report of approximately 1,000 dead menhaden washed up on a beach at Gateway National Recreation Area at Sandy Hook. Park staff removed the fish and no beaches were

closed. The fish were likely from a bait fishing boat dumping event.

On August 23, hundreds of dead peanut bunker (juvenile menhaden) were reported in a lagoon in South Toms River. The Ocean County Health Department investigated the incident and found no obvious source of pollution or contamination. It is common for very large schools of peanut bunker to swim into shallow waterways. The large schools then use up all the dissolved oxygen which results in fish kills.

On August 27, the Long Beach Island Health Department reported several washups of debris including single syringes in Loveladies, Surf City and Long Beach Township. The washup was consistent with prolonged east and northeast winds that tend to push debris onto beaches. No beaches were closed.

On August 29, the Long Beach Island Health Department reported two separate single syringe washups in Harvey Cedars. These were isolated incidents and thought to be part of the washup on the previous weekend. No beaches were closed.

On September 5, the Wildwood Police Department reported a 1.5 mile long fish kill in North Wildwood. This was another net dump of a commercial menhaden bait fishing operation. Public works crews removed the dead fish and no beaches were closed.

Relative Status of New Jersey Beach Water Quality

According to the latest data from an assessment report of the nation's beaches, New Jersey's beach water quality at 665 public recreational bathing beaches is among the best in the country.[7] In 2012, the most recent year for which data is available, New Jersey ranked 7th in the nation for beach water quality (Figure 9). States are ranked by total number of exceedances of the standard as reported to EPA. The state ranked 1st in the nation had the lowest number of exceedances; the state ranked 30th had the highest number of exceedances. This good water quality is also reflected in the number of days the beaches were open to the public in New Jersey. With 665 lifeguarded marine beaches in New Jersey and 15 weeks to the bathing season, New Jersey has a total of 69,825 beach-days available in 2012. In 2012, there were a total of 190 beach closings, representing 0.26% of the available beach days. In other words, when the public in New Jersey went to the beach in 2012, they found the beach was open for bathing 99.7 percent of the time. As Figure 8 shows, according to EPA, New Jersey has among the highest percentage of beaches open on the East Coast in 2011, the most recent year data is available.

[7] National Resources Defense Council: Testing the Waters 2013, A Guide to Water Quality at Vacation Beaches

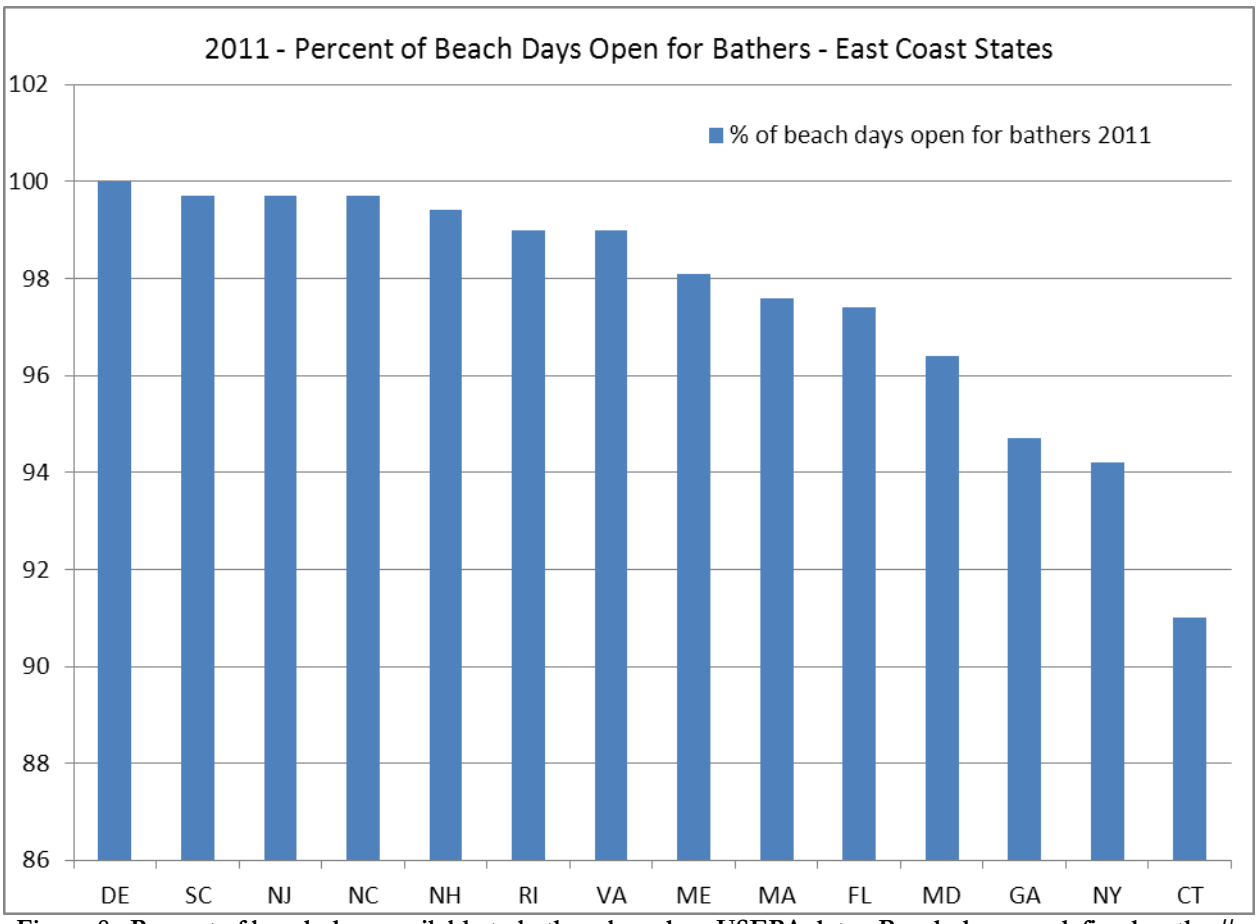


Figure 8. Percent of beach days available to bathers based on USEPA data. Beach days are defined as the # of beaches open multiplied by the # of days in the beach season.

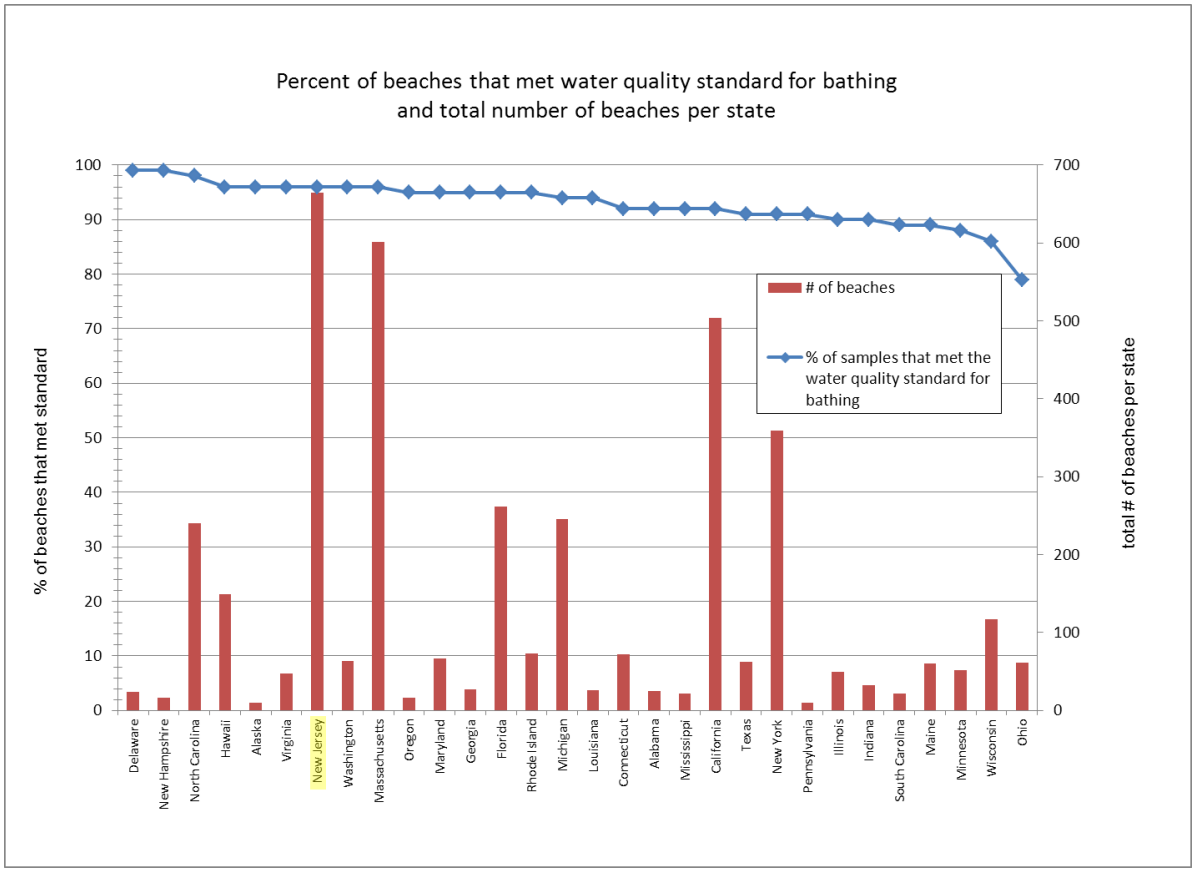


Figure 9. Ranking of states based on percentage of beach water quality samples meeting the bacteria standard.

Related Program:

Clean Shores

Non-recreational shorelines that have been left unattended serve as reservoirs for floatable debris and trash that can be refloated during coastal storms and extreme high tides. This trash and debris can wash up on recreational beaches, become floating hazards to navigation, or impact marine life. DEP has a unique program that uses state correctional facility inmates to remove floatable debris from the shorelines of the Hudson, Raritan, and Delaware estuaries, tidal shorelines and barrier island bays. The Clean Shores Program conducts these shoreline cleanups year-round. The program is entirely funded by the sale of the "Shore to Please" license plates. In January 2010, the Clean Shores Program was suspended for four months due to a shortfall in revenue from the sale of the Shore to Please license plates. The program was reinstated in early May 2010. From May – December 2010, Clean Shores removed 3.96 million pounds of trash and debris from 43.8 miles of shoreline. The reduced mileage is due to a focused effort in the northern area of the state with heavy concentrations of timbers and trash. In 2011, the program removed 3.36 million pounds of trash and debris from 99.5 miles of shoreline (Figure 10). The mileage cleaned and total number of pounds of debris removed changes each year depending on the number and severity of coastal storms and their impact on shorelines. Hurricane Irene impacted some beaches, mostly in the northern area of the state, and the Clean Shores Program provided assistance to towns as requested. In 2012, the program removed 3.36 million pounds from 94.4 miles of shoreline. This amount is expected to increase in 2013 after cleaning beaches and shorelines impacted by Superstorm Sandy.

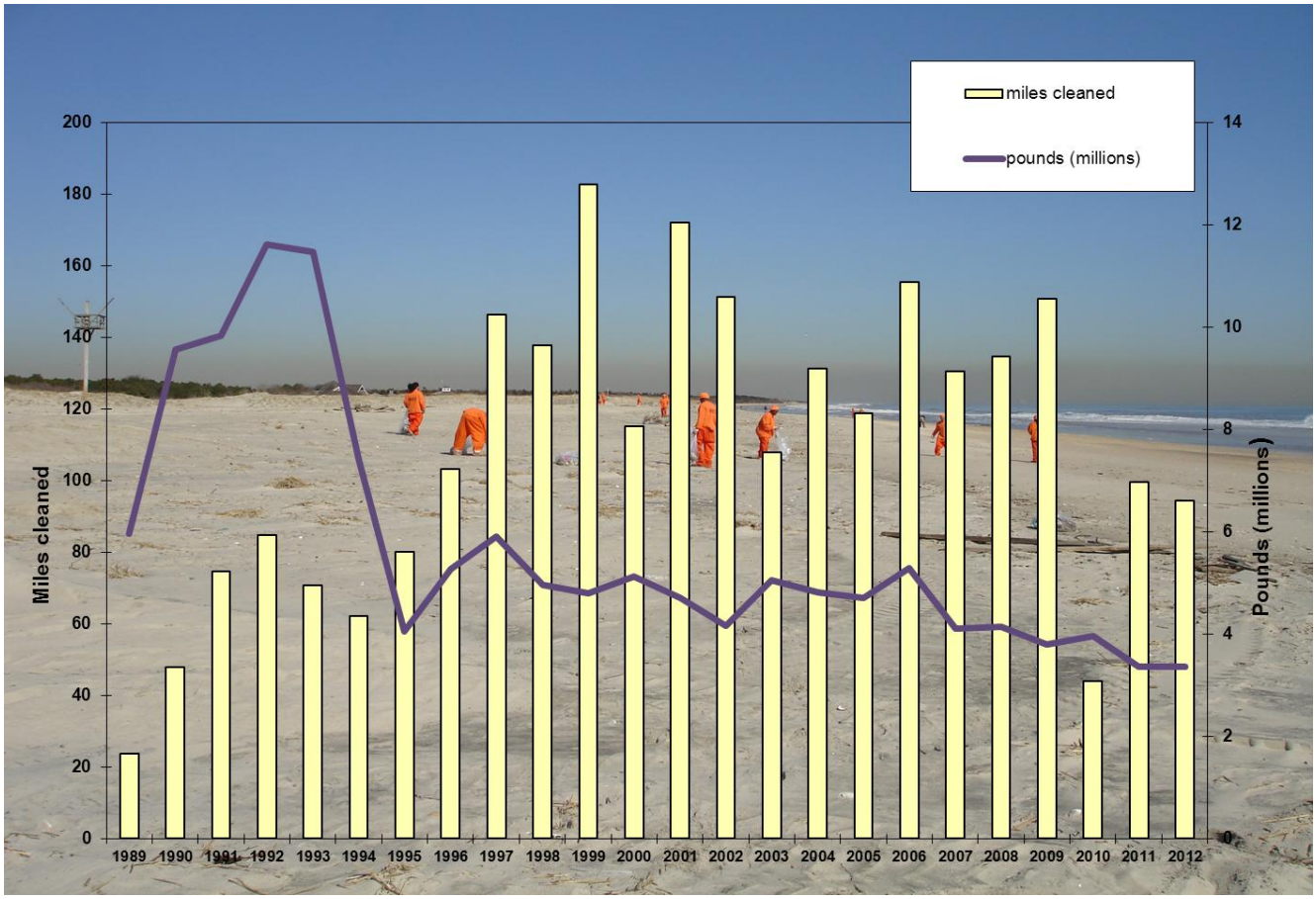
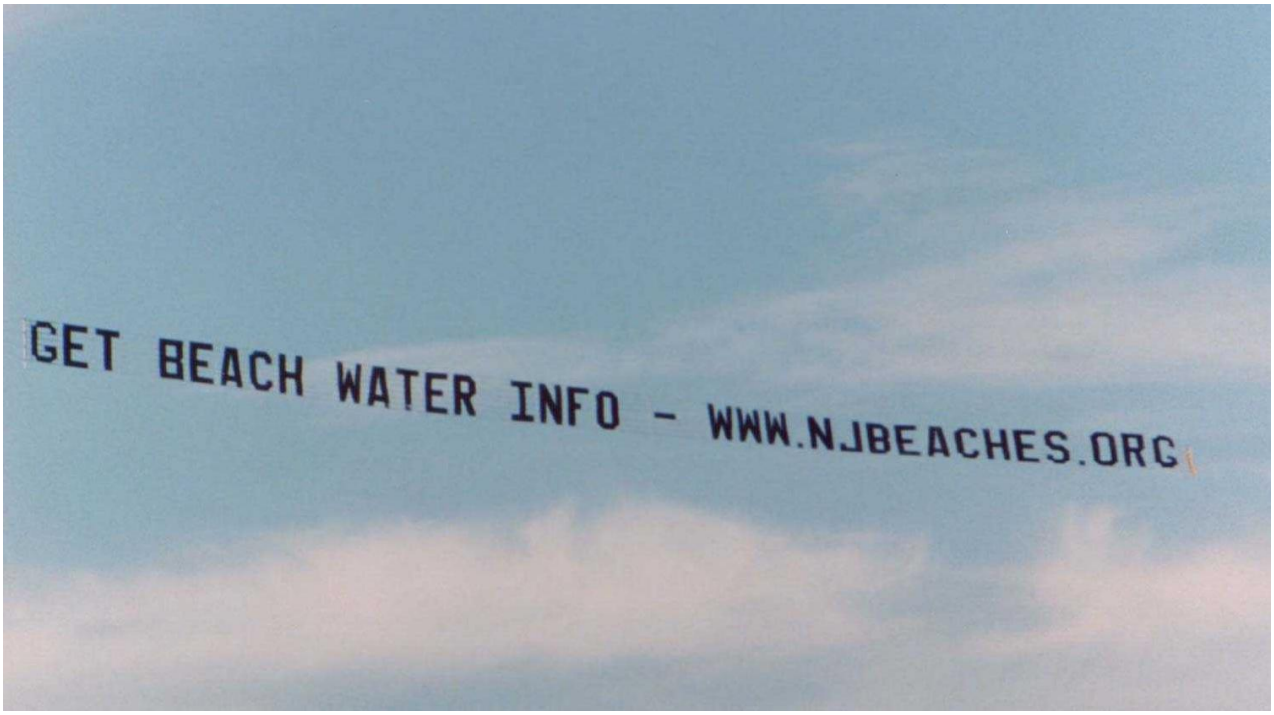


Figure 10: Total amount of debris removed by Clean Shores Program since start of program.

Additional Information

For additional information about the CCMP, the Clean Shores Program or New Jersey's beach monitoring in general, contact Virginia Loftin at 609-984-5599 or Virginia.Loftin@dep.state.nj.us or visit the Program's website at www.njbeaches.org.


GET BEACH WATER INFO - WWW.NJBEACHES.ORG

Appendix 1

Wastewater Treatment Facilities Discharging to the Nearshore Coastal Waters

1 Monmouth County Bayshore Regional Sewage Authority
2 Township of Middletown Sewage Authority
3 Northeast Monmouth Regional Sewerage Authority
4 Long Branch Sewerage Authority
5 Township of Ocean Sewerage Authority
6 Asbury Park Sewerage Authority
7 Township of Neptune Sewerage Authority
8 South Monmouth Regional Sewerage Authority
9 Ocean County Utilities Authority, Northern
10 Ocean County Utilities Authority, Central
11 Ocean County Utilities Authority, Southern
12 Atlantic County Utilities Authority
13 Cape May County Municipal Utilities Authority, Ocean City
14 Cape May County Municipal Utilities Authority, Seven Mile Middle
15 Cape May County Municipal Utilities Authority, Wildwood
16 Cape May County Municipal Utilities Authority, Cape May Point
17 Lower Township Municipal Utilities Authority