

# Implementing the BEACH Act of 2000: *2018 Report to Congress*



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This report summarizes and provides links to more information on the implementation of the Beaches Environmental Assessment and Coastal Health (BEACH) Act of 2000. Section 7 of the BEACH Act (33 U.S.C § 1375(a)) directs the Environmental Protection Agency (EPA) to include the following information in this report:

- Recommendations concerning the need for additional water quality criteria for pathogens and pathogen indicators and other actions that should be taken to improve the quality of coastal recreation waters;
- An evaluation of federal, state, and local efforts to implement the Act; and
- Recommendations on improvements to methodologies and techniques for monitoring of coastal recreation waters<sup>1</sup>.

Section 7 of the BEACH Act allows coordination of this report with other reporting requirements under the Clean Water Act; therefore, where appropriate, the Agency provides citations and links to existing Clean Water Act related documents and information pertaining to the three areas described above.

### **Recommendations Concerning the Need for Additional Water Quality Criteria for Pathogens and Pathogen Indicators and Other Actions That Should Be Taken to Improve the Quality of Coastal Recreation Waters; Recommendations on Improvements for Coastal Recreation Waters Monitoring Methodologies and Techniques**

The EPA developed new recreational water quality criteria (RWQC) in 2012<sup>2</sup>, which includes criteria for coastal recreation waters as required by the BEACH Act. The criteria are designed to protect the public from exposure to harmful levels of pathogens while participating in water-contact activities such as swimming, wading, and surfing in all waters, including coastal waters, designated for such recreation uses in a state's or authorized tribe's<sup>3</sup> water quality standards. The Clean Water Act as amended by the BEACH Act requires a review of the criteria for coastal recreation waters every five years. The EPA released the *2017 Five-Year Review of the 2012 Recreational Water Quality Criteria* in May 2018. The five-year review report describes the state of the science since the release of the 2012 RWQC in these areas:

- Health studies;
- Indicators and performance of molecular monitoring methods;

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<sup>1</sup> Section 502(21)(A) of the Clean Water Act as amended by the BEACH Act defines “coastal recreation waters” as “(i) the Great Lakes; and (ii) marine coastal waters (including coastal estuaries) that are designated under section 303(c) by a State for use for swimming, bathing, surfing, or similar water contact activities.”

<sup>2</sup> The 2012 RWQC updates the EPA's 1986 Ambient Water Quality Criteria for Bacteria (EPA document number 440/5-84-002).

<sup>3</sup> Throughout this document and in the Clean Water Act, the term “states” means the fifty states, the District of Columbia, the Commonwealth of Puerto Rico, the United States Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. The term “authorized tribe” means those federally recognized Indian tribes with authority to administer a Clean Water Act Water Quality Standards program.

- Microbial source tracking;
- Recreational criteria implementation tools; and
- Criteria adoption by states, territories, and authorized tribes.

Please see the *2017 Five-Year Review of the 2012 Recreational Water Quality Criteria* (EPA-823-R-18001) at <https://www.epa.gov/wqc/five-year-review-2012-recreational-water-quality-criteria> for a discussion of recommendations concerning the need for additional water quality criteria for pathogens and pathogen indicators, other actions that should be taken to improve the quality of coastal recreation waters, and improvements to methodologies and techniques for monitoring coastal recreation waters. The review describes the EPA’s decision not to revise the 2012 recreational water quality criteria for pathogens and pathogen indicators and improvements to methodologies and techniques for monitoring coastal recreation waters during this review cycle, and it identifies and discusses ten areas for further research and analysis:

- Re-analysis of epidemiological data and use of quantitative microbial risk assessment (QMRA) to assess potential differences in risk to children.
- Re-analysis of *Enterococcus* spp. quantitative polymerase chain reaction (qPCR) data for consideration in criteria development, especially to address effluent sources.
- Completion and publication of coliphage methods and development of coliphage-based RWQC for inclusion in the recreation waters “tool box.”
- Completion of method validation and publication for the *E. coli* qPCR method (Draft Method C).
- Completion and publication of standardized methods for the EPA’s human-associated microbial source tracking methods (HF183/BacR287 and HumM2) and completion of a DNA reference material development with the National Institute of Standards and Technology. Development and validation of virus-based human fecal source identification procedures.
- Conversion of current marine sanitary survey tablet-based application to a web-based application.
- Development of predictive models in marine environments as well as models paired with newer indicators such as qPCR-based indicators.
- Development of additional training and tools to make process models and integrated environmental modeling more accessible to stakeholders.
- Development of additional training and tools to make QMRA models more accessible.
- Completion and publication of recreational criteria for cyanotoxins (microcystin and cylindrospermopsin).

### **Federal, State, and Local Efforts to Implement the BEACH Act**

The BEACH Act authorizes the EPA to award grants to coastal and Great Lakes states, territories, tribes, and local governments to develop and implement programs for monitoring and notification for coastal waters. The EPA has awarded grants to eligible entities every year, starting in 2001. There were 38 grantees in 2017. For specific information on BEACH grants over the entire timeframe of the BEACH Act, grant guidance, and contact information for state and local beach programs, see <https://www.epa.gov/beach-tech/beach-grants>.

During each swimming season, state and local agencies for health or environmental protection monitor the quality of water at the nation’s beaches. The grants help local authorities monitor beach water quality and notify the public of conditions that may be unsafe for swimming or similar water contact

activities. When fecal pathogen indicator levels in the water are too high, these agencies notify the public by posting beach warnings or closing the beach.

The Clean Water Act directs recipients of BEACH Act grants to provide certain data and information to the EPA. Of primary importance is the Clean Water Act §406(b)(3) requirement to report monitoring and notification data. The EPA created the Beach Advisory and Closing Online Notification (BEACON) system to meet the BEACH Act requirement in Clean Water Act §406(e) that the EPA establish and make available to the public a national pollution occurrence database for coastal recreation water. BEACON provides data and other information that the grantees report. Anyone can visit BEACON to see all the data provided to the EPA and view reports containing both notification and water quality monitoring data. The public can determine if the water at a specific beach is monitored, who conducts the monitoring, which pollutants are monitored, possible sources of pollution, and whether advisories or closures have been issued in the past. To access BEACON, go to <https://watersgeo.epa.gov/BEACON2/about.html>. The public can view data from the beginning of the BEACH Act grants through 2017. Additionally, the *BEACON 2.0 User's Guide* helps the public produce pre-formatted and customized reports.

In addition to the data and information in BEACON, the EPA assesses the adoption and implementation of the current RWQC and the use of beach notification thresholds in the *2017 Five-Year Review of the 2012 Recreational Water Quality Criteria* (EPA-823-R-18001) found at <https://www.epa.gov/wqc/five-year-review-2012-recreational-water-quality-criteria>.

The EPA's website, <https://www.epa.gov/beaches>, provides more information on beaches and ongoing efforts to develop additional tools to help beach managers.