

Chapter 1

Introduction

1.1 What is the nature of the problem?

Over the past 50 years, epidemiological studies and “outbreak investigations” have linked swimming in polluted water with adverse human health effects. Epidemiological studies determine the relationship between water quality and health effects in swimmers. Swimming-related diseases can range from less severe gastrointestinal diseases (e.g., sore throats and diarrhea) and non-gastrointestinal diseases (e.g., respiratory, ear,

eye, and skin infections) to more serious illnesses, such as meningitis or hepatitis (Rose et al. 1999).

Fecal contamination of our nation’s recreation waters originates from many sources, including coastal and shoreline development, wastewater collection and treatment facilities, septic tanks, urban runoff, disposal of human waste from boats, bathers themselves, animal feeding operations, and natural animal sources like wildlife. People who swim and recreate in water contaminated with fecal pollution are at an increased risk of becoming ill because of pathogens from the fecal matter (Craun et al. 2005).

1.2 What is the BEACH Act?

On October 10, 2000, the Beaches Environmental Assessment and Coastal Health Act (BEACH Act) was signed into law, amending the Clean Water Act (CWA). The BEACH Act addressed pathogens and pathogen indicators in coastal recreation waters, and it contains three significant provisions, summarized as follows:

- The BEACH Act amended the CWA by adding section 303(i), which requires states and tribes that have coastal recreation waters to adopt new or revised water quality standards by April 10, 2004, for pathogens and pathogen indicators for which EPA has published criteria under CWA section 304(a). Section 303(i) also directs EPA to promulgate standards for states that fail to establish standards as protective of human health as EPA’s published criteria.
- The Act amended the CWA by adding section 104(v) and 304(a), which together require EPA to conduct studies associated with pathogens and human health



and to publish new or revised CWA section 304(a) criteria for pathogens and pathogen indicators based on those studies. Under section 303(i)(1)(B), states that have coastal recreation waters are directed to adopt new or revised water quality standards for all pathogens and pathogen indicators to which EPA's new or revised section 304(a) criteria are applicable by not later than three years after EPA's publication of the new or revised section 304(a) criteria.

- The Act amended the CWA to add section 406, which authorizes EPA to award grants to states or local governments to develop and implement beach monitoring and assessment programs.

The Beach Act also amended part 502 of the CWA to define *coastal recreation waters* as the Great Lakes and marine coastal waters (including coastal estuaries) designated under CWA section 303(c) for swimming, bathing, surfing, or similar water contact activities. The term *coastal recreation waters* does not include inland waters or waters upstream of the mouth of a river or stream that has an unimpaired connection with the open sea.

A copy of the BEACH Act is in **Appendix A.**

The BEACH Act is also available online at: www.epa.gov/waterscience/beaches/act.html



1.3 Organization of the Report to Congress

Section 7 of the BEACH Act required EPA to publish a report to Congress four years after enactment and every four years thereafter. Specifically, the act required that the report include

- 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 (Chapter 3)





- An evaluation of federal, state, and local efforts to implement the act (Chapter 4)
- Recommendations on improvements to methodologies and techniques for monitoring coastal recreation waters (Chapter 5)

This report to Congress fulfills EPA's obligation for the first report. It provides a synopsis of the health concerns related to pathogens, followed by chapters that address the three requirements of Section 7 of the BEACH Act. This report documents the significant progress that EPA and its partners have made in implementing the BEACH Act. The Agency's collaborative work with other federal agencies, states, and territories, as well as local environmental and public health agencies, has resulted in better beach monitoring and notification and, consequently, better public health protection at America's beaches.

1.4 References

- Craun, G.F., R.L. Calderon, and M.F. Craun. 2005. Outbreaks associated with recreational water in the United States. *International Journal of Environmental Health Research*. 15(4): 243.
- Rose, B., R.M. Atlas, C.P. Gerba, M.R. Gilchrist, M.W. LeChevallier, M.D. Sobsey, M.V. Yates, G.H. Cassell, and J.M. Tiedje. 1999. *Microbial Pollutants in Our Nation's Water: Environmental and Public Health Issues*. American Society for Microbiology, Washington, DC.
- U.S. Commission on Ocean Policy. 2004. *An Ocean Blueprint for the 21st Century*. Final report. U.S. Commission on Ocean Policy, Washington, DC.
- USEPA (U.S. Environmental Protection Agency). 2000. *Liquid Assets 2000: America's Water Resources at a Turning Point*. EPA-840-B-00-001. Office of Water, U.S. Environmental Protection Agency, Washington, DC.

