

Ten Years of Iowa's Beach Monitoring Program

2009 marked the 10th anniversary of the inception of the Iowa Department of Natural Resources (DNR) Beach Monitoring Program. Although the program has experienced many modifications over the years, its ultimate goal remains unchanged in safeguarding public health while striving to improve public understanding of watershed processes and the ways in which bacteria impact recreational waters.

Program Background

In order to ensure public health at beaches around the nation, the Beaches Environmental Assessment and Coastal Health (BEACH) Act was signed into law on October 10, 2000. The overall goal of the BEACH Act was to standardize beach water quality monitoring programs throughout the United States while making beach status information readily available to the public. It set national beach water quality standards and required states to generate a list of all beaches within their borders.

The BEACH Act requires states with coastal or Great Lakes beaches to monitor these waters according to Environmental Protection Agency (EPA) guidelines. Although Iowa is one of twenty states not required through the BEACH Act to monitor its swimming areas, the Iowa DNR understands the need for a comprehensive program to monitor water quality at beaches throughout the state.

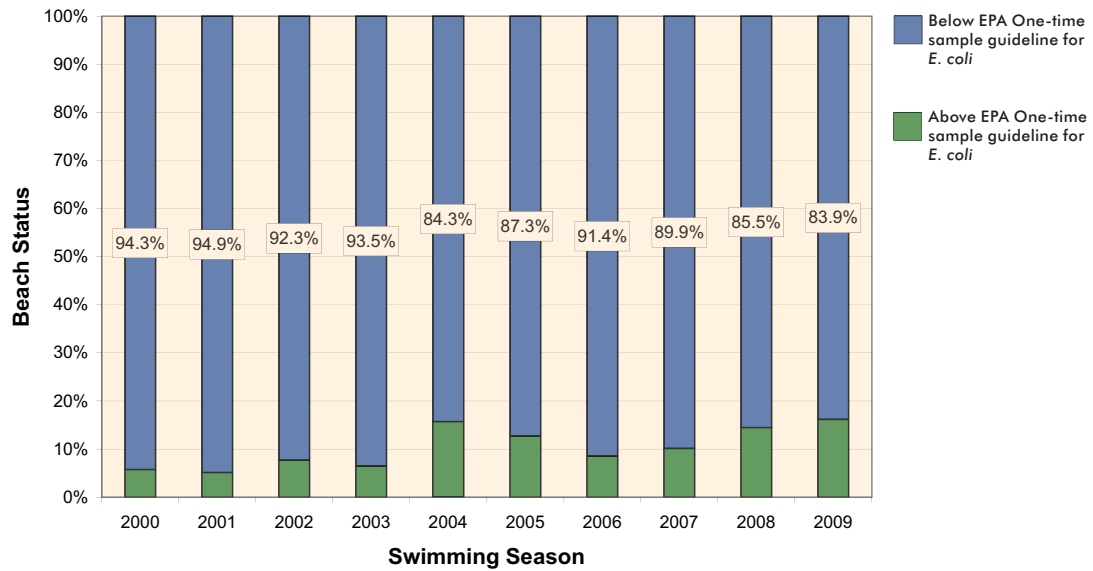
Following training by beach monitoring program staff, Iowa DNR parks personnel monitored state beaches from 2000-2001. In 2002, the University of Iowa Hygienic Laboratory was contracted to complete sample collection and analysis and remained in this role through the 2006 monitoring season. Upon completion of the newly expanded and renovated Iowa DNR Water Lab in 2007, sampling was conducted by Watershed Monitoring and Assessment Section staff, including a team of summer field technicians. Bringing sample collection and analysis in-house expedited sample turnaround, thereby allowing beaches to be re-sampled in the event of high bacteria results early in the week with re-sample results available before the weekend. The advantages of in-house sample collection and analysis eventually permitted increased monitoring frequency at most beaches, which provided better, more timely information to make public health and management decisions.

Bacteria Results – 2000-2009

Iowa's state-owned beaches have experienced weekly fluctuations in *E. coli* concentrations throughout the ten years that samples have been collected, but overall bacterial water quality has been generally good. When all samples collected from Memorial Day to Labor Day between the years 2000 and 2009 are taken into account, beaches met or were below the one-time standard (235 organisms per 100 ml) for *E. coli* 89.7% of the time while beaches met or were below the geometric mean standard (126 organisms per 100 ml) for *E. coli* 92.0% of the time. (See graphs on reverse side.)

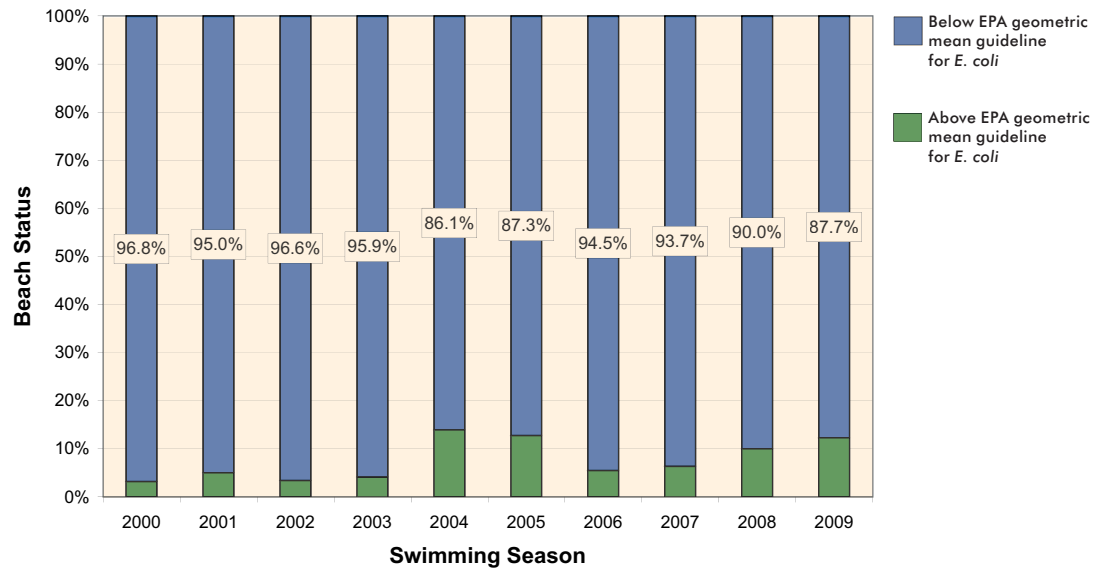
With improvements to monitoring and analysis techniques in the coming years, in conjunction with continued research and community outreach, the Iowa DNR Beach Monitoring Program will continue its mission to safeguard public health at beaches throughout the state into the next decade.

Beach Status - One Time Standard (Memorial Day - Labor Day)



Percentage of weeks where samples exceeded the state one-time standard (235 organisms per 100 ml) vs. weeks where samples were below the state one-time standard by year (2000-2009).

Beach Status - Geomean Standard (Memorial Day - Labor Day)



Percentage of weeks where samples exceeded the state geometric mean standard (126 organisms per 100 ml) vs. weeks where samples were below the state geometric mean standard by year (2000-2009).

