Protecting Massachusetts Bay
MWRA has permanently moved the effluent discharge from Boston Harbor to Massachusetts Bay through a 9.5-mile undersea outfall tunnel. Bacteria remain at safe levels for recreation and shellfishing at monitoring stations near the outfall and closer to the coast.

Swimmable Beaches After MWRA Improvements
Overall bacterial water quality is better today in Boston Harbor’s beaches, due in part to MWRA activities including the Boston Harbor Project, Combined Sewer Overflow (CSO) Long-Term Control Plan, and CSO Storage Tunnel in South Boston.

Cleaner Rivers After Improvements
Percent of samples meeting freshwater swimming standard for Enterococcus bacteria in tributary rivers:

For more information on MWRA activities, go to www.MWRA.com.
Enterococcus Bacteria In Wet Weather After Improvements

The Nut Island Treatment Plant has been replaced by a headworks, which screens sewage before sending it to Deer Island. Once treated, Deer Island effluent is discharged to Massachusetts Bay.

MWRA measures Enterococcus, a bacteria associated with human and animal waste, at more than 60 sampling locations. The data are used to estimate values for areas not sampled.

**Enterococcus Bacteria In Wet Weather After Improvements**

- Sewage effluent and solids were discharged daily into Boston Harbor through outfalls near Deer Island and Nut Island treatment plants.

**LEGEND**

- Geometric mean number of bacteria, colonies per 100 ml sample.
- Lighter blue shading indicates lower bacteria counts.
- 0-5
- 6-10
- 11-35
- 36-104
- >275
- 105-158
- Treatment Plant Outfall

**The Boston Harbor Cleanup Improved Treatment**

MWRA’s sewage treatment system has been transformed under the federally mandated 20-year, $5 billion Boston Harbor Project. This work included rebuilding the Deer Island Treatment Plant; constructing a 9.5-mile outfall tunnel to discharge treated wastewater away from the Harbor into Massachusetts Bay; transforming sewage solids from a pollutant to a marketable fertilizer; and controlling combined sewer overflows.

**BOSTON HARBOR BACTERIA: THE LIGHTER THE BLUE, THE BETTER**

Before 1991, water quality in Boston Harbor frequently violated water quality standards for bacteria. Pollution from untreated combined sewer overflows and poorly treated sewage resulted in widespread beach closures, especially in wet weather. These problems led to the creation of MWRA and the court-ordered Boston Harbor Project.

**Boston Harbor Water Quality Was Poor Before MWRA Improvements**

MWRA was established by an act of the Legislature in 1984 to provide wholesale water and sewer services to the metropolitan Boston area; today, that is 2.5 million people in 61 communities.

**The Boston Harbor Cleanup Improved Treatment**

**AFTER IMPROVEMENTS 2012-2016**

**BEFORE IMPROVEMENTS 1989-1991**

MWRA measures Enterococcus, a bacteria associated with human and animal waste, at more than 60 sampling locations. The data are used to estimate values for areas not sampled.