

# APPENDIX B

## State of Maine Water Quality Standards

All of the state's fresh and marine waters are classified by the Maine Legislature based on the types of uses that citizens can enjoy on or in these waters. If a discharge would violate state water quality standards by lowering the existing quality of any water body, a license may not be issued by the U.S. Environmental Protection Agency or the Maine Department of Environmental Protection.

Standards are waived only if the Maine Department of Environmental Protection finds that a discharge is necessary to achieve important economic or social benefits, and that no reasonable alternative exists. Discharges into the waters also must comply with the state's anti-degradation policy, adopted under the Clean Water Act, which requires that discharges have no significant adverse impacts on wildlife or on their habitat, and recreational and commercial water uses.

### Marine Water Quality Standards

Marine waters are classified as SA, SB, or SC; SA being the highest in quality and SC being the lowest. Each class is defined by specific water quality standards that help determine whether the water is suitable for desired uses such as swimming or fishing. This assessment is made by testing water quality indicators, including levels of dissolved oxygen and bacteria.

### Dissolved Oxygen

Dissolved oxygen is one of the best indicators of overall water quality. Because plants and animals require oxygen for respiration, low levels of dissolved oxygen in water bodies can severely stress or kill marine and aquatic life. When the dissolved oxygen level falls below a certain threshold (which varies for each plant and animal species), the marine or organic life must move or perish.

### Bacteria

Bacteria are a natural component of marine and aquatic food webs, but human activities can add excess or pathogenic (disease-causing) bacteria and viruses. Certain types of bacteria pose a risk to public health from swimming or other water contact or consumption of shellfish. Fecal coliform, bacteria

found in the intestines of humans and other warm-blooded animals, is used as an “indicator” to assess water quality. While the bacteria themselves are not pathogenic, they indicate the presence of fecal material that may contain disease-causing bacteria or viruses.

Fecal coliform bacteria are the indicator species used to determine water quality in shellfish areas, while *Enterococci* bacteria are measured in swimming areas.

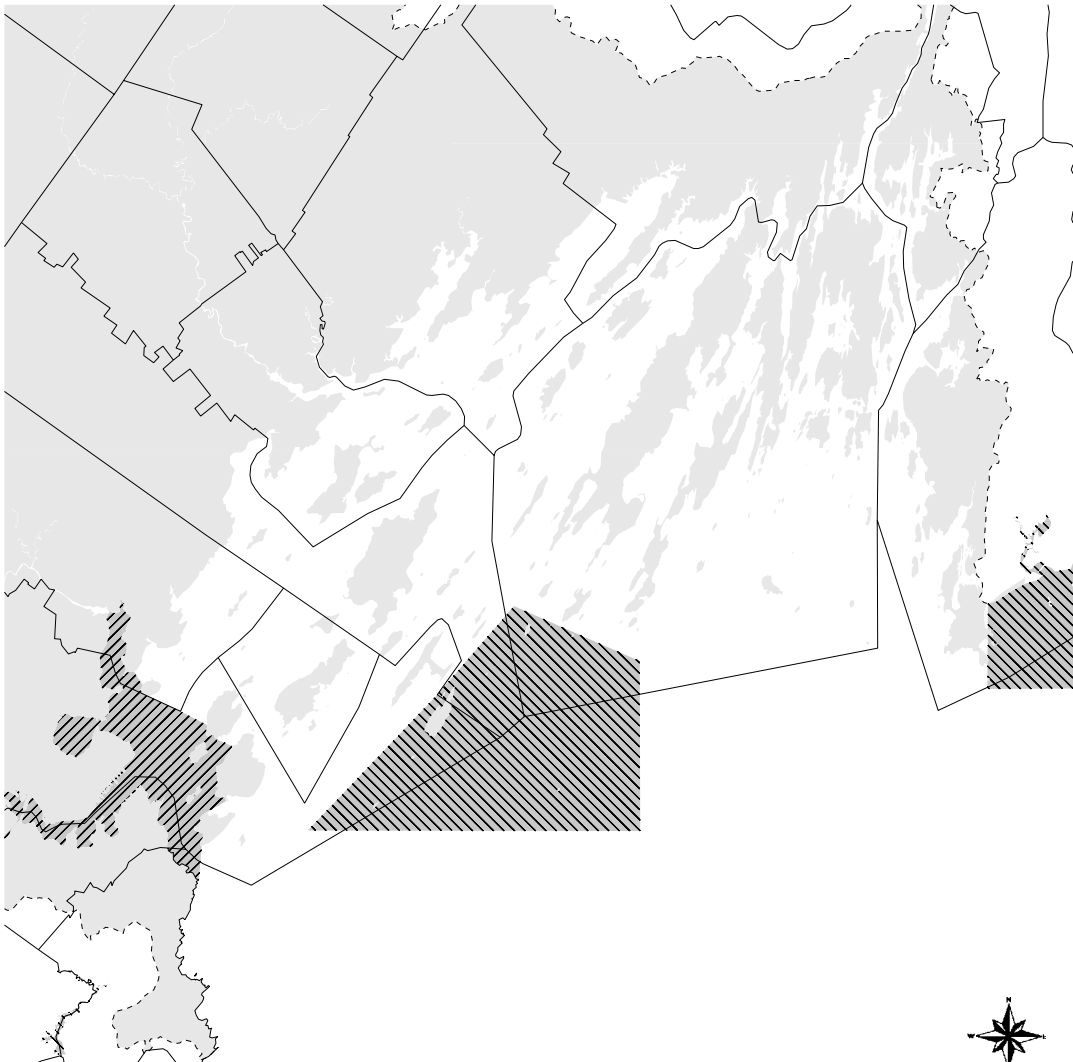
The following table outlines the uses appropriate to each marine water class

<b>Designated Uses and Standards within Maine’s Water Quality Classifications of Estuarine and Marine Waters</b>	
<b>Class SA:</b> Recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, navigation, and a natural and free-flowing habitat for fish and other estuarine and marine life.	
<b>Dissolved Oxygen:</b> As naturally occurs	
<b>Bacteria (fecal coliform — shellfish areas):</b> As naturally occurs	
<b>Bacteria (<i>Enterococci</i> — swimming areas):</b> As naturally occurs	
<b>Class SB:</b> Recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, navigation, and an unimpaired habitat for fish and other estuarine and marine life.	
<b>Dissolved Oxygen:</b> 85 percent of saturation	
<b>Bacteria (fecal coliform — shellfish areas):</b> No levels that would cause closure of shellfish areas	
<b>Bacteria (<i>Enterococci</i> —swimming areas):</b> 8/100 milliliters (5/15 - 9/30)	
<b>Class SC:</b> Recreation in and on the water, fishing, aquaculture, propagation and harvesting of shellfish, navigation, and a habitat for fish and other estuarine and marine life.	
<b>Dissolved Oxygen:</b> 70 percent of saturation	
<b>Bacteria (fecal coliform —shellfish areas):</b> No levels that would prevent shellfish propagation	
<b>Bacteria (<i>Enterococci</i> —swimming areas):</b> 14/100 milliliters (5/15 - 9/30)	

A map of the classification for water quality in Casco Bay follows. (A similar classification system applies to Maine’s lakes, rivers, and streams.) Additional information on the state’s marine and estuarine water classification system can be obtained from:

Bureau of Water Quality  
Maine Department  
of Environmental Protection  
State House Station 17  
Augusta, ME 04333-0017

### Estuarine and Marine Waters Water Quality Classifications



- SA DISTRICT
- ▨ SB DISTRICT
- ▩ SC DISTRICT

Maine's rivers have a separate classification from marine waters. They are classified as A, B, or C, as described below:

and the levels of dissolved oxygen and bacteria specified for each class.

**Designated Uses and Standards within Maine's  
Water Quality Classifications of Riverine Waters**

**Class AA:** Drinking water supply, recreation in and on the water, fishing, navigation, and a natural and free-flowing habitat for fish and other aquatic life.

**Aquatic Life:** As naturally occurs

**Dissolved Oxygen:** As naturally occurs

**Bacteria (*Esterichia coli*):** As naturally occurs

**Class A:** Drinking water supply, recreation in and on the water, fishing, industrial process and cooling water supply, hydroelectric power generation, navigation, and a natural habitat for fish and other aquatic life.

**Aquatic Life:** As naturally occurs

**Dissolved Oxygen:** As naturally occurs

**Bacteria (*Esterichia coli*):** As naturally occurs

**Class B:** Drinking water supply, recreation in and on the water, fishing, industrial process and cooling water supply, hydroelectric power generation, navigation, and an unimpaired habitat for fish and other aquatic life.

**Aquatic Life:** Habitat shall be unimpaired

**Dissolved Oxygen:** Not less than 7 parts per million or 75 percent of saturation, whichever is higher, except 10/1 - 5/14 when 7-day mean must be at least 9.5 parts per million and the 1-day mean must be at least 8 parts per million.

**Bacteria (*Esterichia coli*):** May not exceed a geometric mean of 64/100 milliliters or an instantaneous level of 427/100 milliliters (5/15 - 9/30)

**Class C:** Drinking water supply, recreation in and on the water, fishing, industrial process and cooling water supply, hydroelectric power generation, navigation, and habitat for fish and other aquatic life.

**Aquatic Life:** Habitat shall be suitable

**Dissolved Oxygen:** Not less than 6 parts per million or 60 percent saturation, whichever is higher

**Bacteria (*Esterichia coli*):** May not exceed a geometric mean of 142/100 milliliters or an instantaneous level of 949/100 milliliters (5/15 - 9/30)