

## Do the Rivers, Streams and Estuaries in the Casco Bay Watershed Meet State Water Quality Standards?

**Answer: Overall, yes, waters in the Casco Bay watershed meet State water quality standards. There are some areas that do not meet State water quality standards.**



### Why Are State Water Quality Standards Important?

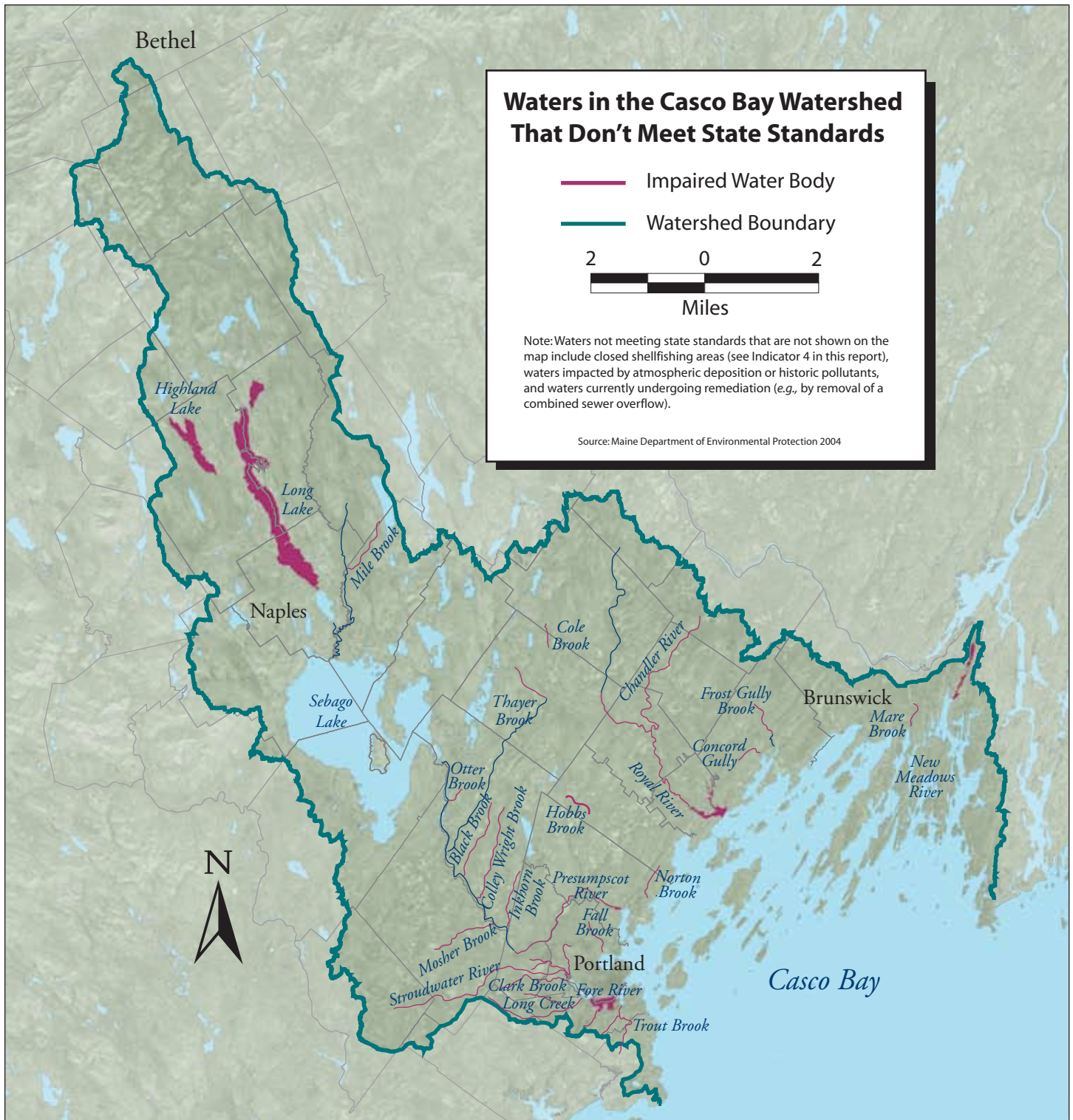
Water quality standards help the State manage its waters. The State of Maine enacted laws to comply with the Federal Clean Water Act of 1972 to manage its waters for specified “designated uses” such as swimming, fishing, boating, habitat for aquatic life, drinking water supply, navigation, agriculture, hydropower, industrial process and cooling water. Different classes of water allow different uses ranging from no discharges to permitted discharges. There are three classes for marine waters (SA, SB and SC), four for rivers and streams (AA, A, B, and C) and one for lakes (GPA). Standards are specified for each of these classes with A having the highest level of protection, B considered general purpose high quality water and C having a lower level of protection but still fishable and swimmable. The classes are management goals, not attainment levels. Every two years the Maine Department of Environmental Protection (DEP) assesses the status of its waters and produces an *Integrated Water Quality Monitoring and Assessment Report* (“305b”) report that provides attainment levels. The latest report was produced in 2004 and is available on the Maine DEP website (see references on page 44).

### Which Waters Do Not Meet Water Quality Standards?

The table on page 42 lists the waters in the Casco Bay watershed that do not meet water quality standards and are required to have an improvement plan produced (known as a Total Maximum Daily Load or TMDL) by the Maine DEP. The Presumpscot River and Highland Lake (Duck Pond) in Windham, Falmouth and Westbrook also do not reach water quality standards but have completed TMDL plans. The New Meadows Lake and the Upper New Meadows estuary do not meet water quality standards. Studies are being conducted with the coordination of the CBEP to determine if the source of the problem is from flow restrictions or nonpoint pollution sources. The map on the opposite page illustrates the waters that do not meet state standards, including the Presumpscot, Highland Lake (Duck Pond) and the New Meadows.

### What Are the Trends?

Overall the water quality in the watershed is good and has remained so over time. More urbanization in the lower watershed may change that trend in the future unless care is taken. The greatest improvement in water quality is in the Presumpscot River (see sidebar on page 42). DEP expects that when it samples the river again it will meet water quality standards. While a few streams have been removed from the nonattainment list in the past ten years others have been added. Most of the streams that were added are small urban streams. DEP has recently emphasized the monitoring of these streams because of concerns about the impacts from urban land use. Many lakes have changed categories because of changes in assessment methodologies, so trends are not available.



While water quality in Casco Bay watershed is good overall, some lakes, rivers and streams, particularly in urbanized areas, have impaired water quality.

## References

- Maine DEP. 2004. *Integrated Water Quality Monitoring and Assessment Report ("305b")*. (<http://www.maine.gov/dep/blwq/docmonitoring/305b/index.htm#2004>) (June 1, 2005)
- Presumpscot River Management Plan Steering Committee. 2003. *A Plan for the Future of the Presumpscot River* (<http://www.cascobay.usm.maine.edu/Presumpscot.html>) (June 1, 2005)



## Waters That Don't Meet Water Quality Standards

(Maine Department of Environmental Protection is required to develop an Improvement Plan for these waters.)

Location	Impaired Use	Causes	Potential Source(s)
Mile Brook (Casco)	Aquatic life	Aquatic life criteria	Aquaculture Point Source
Royal River below Collyer Brook	Drinking water	Ambient Water Quality Criteria	Hazardous waste
Chandler River incl. East Branch	Aquatic life	Dissolved oxygen	NPS (nonpoint source) (unspecified)
Cole Brook (Gray)	Aquatic life	Aquatic life criteria	Agricultural NPS
Black Brook (Windham)	Aquatic life	Dissolved oxygen	General Development NPS
Colley Wright Brook (Windham)	Aquatic life, Recreation	Dissolved oxygen, Bacteria	General Development NPS
Hobbs Brook (Cumberland)	Aquatic life, Recreation	Dissolved oxygen, Bacteria	General Development NPS
Inkhorn Brook (Westbrook)	Aquatic life, Recreation	Dissolved oxygen, Bacteria	General Development NPS
Mosher Brook (Gorham)	Aquatic life, Recreation	Dissolved oxygen,	General Development NPS
Otter Brook (Windham)	Aquatic life, Recreation	Dissolved oxygen, Bacteria	General Development NPS
Thayer Brook (Gray)	Aquatic life	Dissolved oxygen	Agricultural NPS
Nasons Brook (Portland)	Aquatic life	Aquatic life criteria	Urban NPS
Norton Brook (Falmouth)	Aquatic life	Aquatic life criteria	General Development NPS
Capisic Brook (Portland)	Aquatic life	Aquatic life criteria	Urban NPS, Habitat, CSO
Clark Brook (Westbrook)	Aquatic life	Dissolved oxygen	General Development NPS, Habitat
Long Creek (South Portland)	Aquatic life	Aquatic life criteria	Urban NPS, Habitat
Stroudwater River (S. Portland, Westbrook)	Aquatic life	Dissolved oxygen	General Development NPS
Trout Brook (South Portland)	Aquatic life	Aquatic life criteria	Urban NPS
Kimball Brook (South Portland)	Aquatic life	Aquatic life criteria	Urban NPS
Red Brook (Scarborough, S. Portland)	Aquatic life, Fish consumption	Aquatic life criteria , PCBs	Urban NPS, Waste disposal
Fall Brook (Portland)	Aquatic life	Aquatic life criteria	Urban NPS, Habitat
Barberry Creek (South Portland)	Aquatic life	Aquatic life criteria	Urban NPS
Frost Gully Brook (Freeport)	Aquatic life	Dissolved oxygen, Bacteria	Urban NPS
Mare Brook (Brunswick)	Aquatic life	Aquatic life criteria	Indus (military) NPS, Urban NPS
Concord Gully (Freeport)	Aquatic life	Aquatic life criteria	Urban NPS
Highland Lake (Bridgton)	Aquatic life	Dissolved oxygen	General development NPS
Long Lake (Naples)	Aquatic life	Dissolved oxygen	General development NPS
Fore River Estuary	Aquatic life	Toxics, Elevated Fecals	Municipal point source, NPS, Historic sources
Royal & Cousins River Estuaries	Aquatic life	Dissolved oxygen, Elevated Fecals	Municipal point source, Nonpoint source, Sediment Oxygen Demand

### Presumpscot River Watershed

The Presumpscot River, the largest freshwater source to Casco Bay, flows for 27 miles from Sebago Lake to the Casco Bay estuary, draining a 205 square mile watershed that includes 12 municipalities in Cumberland and York Counties. The Presumpscot River is a river in recovery. In 1999, pulp mill discharges to the Presumpscot ceased and water quality has dramatically improved on the river, prompting a movement to upgrade State water body classification. In 2002, the Smelt Hill Dam, the lowest of nine dams on the river, was removed so that the lower seven miles of the Presumpscot and its tributaries now flow freely to the estuary allowing unrestricted access for anadromous fish. Seven of the other dams are undergoing relicensing that will lead to opportunities to restore anadromous fish passage further upstream.

Despite recent improvements, water quality in the Presumpscot River remains degraded. As the river is cleaned up, development pressure along the relatively undeveloped shore-

lands continues to increase and the river is facing growing non-point source pollution loads. Nine Presumpscot River tributaries are on Maine's 303(d) list for non-attainment of class B water quality standards. Presumpscot River Watch monitoring data indicate that, since 1999, nearly all of the monitored tributaries do not meet class B standards for dissolved oxygen during the summer months. Sedimentation via runoff and erosion has altered stream channels and degraded fisheries habitat. Additionally, inputs from nutrients and toxics and the thermal impacts of lost riparian vegetation further degrade water quality for the sensitive cold water fisheries targeted for restoration. According to extensive assessment work initiated by the Presumpscot River Watershed Coalition (PRWC) partners, these impairments result from non-point source pollution loading, lack of riparian buffers, and poor land management practices. CBEP participates in the PRWC and has provided significant funding and technical assistance toward the development of *A Plan for the Future of the Presumpscot River*, completed in 2003.