

# EPA report card on Charles, Mystic, and Neponset rivers shows some good grades, but trouble spots earn C's and D's

By [Anjali Huynh](#) Globe Correspondent, Updated July 20, 2022, 11:09 a.m.



An old refrigerator is caught in the Tileston & Hollingsworth Dam in Hyde Park on Sept. 22, 2021.

The area is part of the Lower Neponset River, which earned a C-plus grade on the annual report card from the EPA. ERIN CLARK/GLOBE STAFF/FILE

The Environmental Protection Agency doled out its annual report cards for the Charles, Mystic, and Neponset rivers last week, and for the most part, the waterways scored moderately well, earning lots of B's and even some A's. But despite largely decent grades, several stretches scored poorly, earning C's, D's, and even F's, as pollution continues to threaten watersheds and local ecosystems.

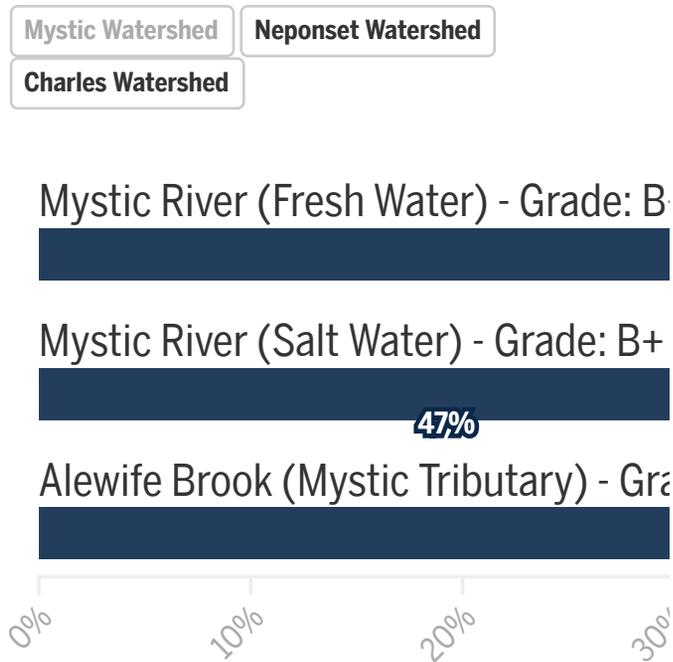
Among the lower grades: a C-minus for the Muddy River tributary in Boston and Brookline; a D for Alewife Brook, which borders Cambridge and Arlington; and an F for Unquity Brook in Milton.

The EPA on Friday released the Three Rivers Report Card — which analyzes the three major rivers that flow into Boston Harbor — in collaboration with the rivers' watershed organizations. This year's report involves data collection from the rivers from 2019 to 2021 and was published 50 years after the passage of the 1972 Clean Water Act, which called for US waterways to be “fishable and swimmable” by 1983.

Report card grades range from A to F and reflect what percentage of the time a waterway is safe for activities like boating and swimming, according to the report. These percentages are based on

swimming, according to the report. Those percentages are based on the amount of E. coli bacteria found in the rivers, weather data, and three-year water quality averages.

## Water quality grades for the Mystic River, Neponset River, and Charles



Source: Charles River, Mystic River, and Neponset River Watershed Associations  
• Rvan Huddle / Globe staff

 A Flourish chart

The report underscored the need for action to combat climate change, pointing to heavier rainfall events and extreme weather as contributors to more storm water runoff and combined-sewer overflows, which occur when combined sewer systems that contain waste, toxic materials, and storm water overflow and discharge into nearby bodies of water.

Throughout 2021, the watersheds experienced effects of climate change in the forms of heavier downpours, extreme heat, severe

storms, and more frequent drought, the Mystic River Watershed Organization [noted in their press release](#). The three watersheds

experienced 52 inches of rainfall, 24 days above 90 degrees Fahrenheit, and several flash flooding events — all of which impacted the water quality of the rivers, the report said.

Hundreds of volunteers working with the Charles, Mystic, and Neponset watershed associations to obtain water samples from dozens of sites on a monthly basis, though volunteers only collect data from the Neponset from May through October. Data in each year's reports is determined by averaging numbers across three years during both wet and dry weather.

The watersheds span hundreds of square miles, meaning different parts of the rivers vary widely in the grades they received. Here's a closer look at each report card.

## **The Charles River Watershed**

In line with grades from recent years, five of the Charles River Watershed's six segments fell in the A to B range. The Muddy River, a Boston tributary, received a C-minus, an improvement from its D-minus rating in 2020.

Lisa Kumpf, the river science program manager for the Charles River Watershed Association, said the river has improved significantly since they first began testing in 1995.

The biggest issue in the Charles River at large right now is excess phosphorus, which occurs when there are too many nutrients that “throw the whole river ecosystem off balance,” Kumpf said.

Phosphorus levels are impacted by events like sewage and stormwater discharges and are less balanced in urban areas.

The Charles River experienced numerous combined-sewer overflows last summer, which decreased the water quality in the river’s lower basin from last year. During summer 2021, a record 35 inches of precipitation helped discharge over 126 million gallons of sewage and storm water into the river — the volume of 36 Olympic-sized swimming pools, according to the report.

Kumpf said that the lower basin region of the Charles received a B-minus but would have been a B without the discharged sewage and stormwater in 2021.

Water quality in the middle sections of the watershed — which received “A” ratings — is generally better than the upper and lower areas due to land use differences, Kumpf explained. The middle watershed has more conserved areas with plants that filter out pollutants. The EPA report helps the organization know where to

pollutants. The EPA report helps the organization know where to focus conservation and restoration efforts, she said.

“This report card is really based on the safety of water quality of the river for recreation. So if people are going into the river, they should be aware that overall, the river has improved a lot since 1995, but there’s still work to be done,” Kumpf said.

## **The Neponset River Watershed**

Most bodies of water in the Neponset River Watershed received A’s and B’s, with the recreation-heavy main stem of the Neponset River receiving results in the B range and all of the rivers’ monitored ponds receiving A grades.

However, three areas face continued contamination with grades in the D to F range: Germany Brook, Unquity Brook, and Meadow Brook.

Sean McCanty, the river restoration director for the Neponset River Watershed, said past information indicates that the brooks’ particularly low ratings are likely caused by broken sewer pipes and pet waste.

### **2021 Neponset River Grades**

In the Neponset River watershed, most streams and

In the Neponset River watershed, most streams and river segments earned grades of A or B, and all monitored ponds earned A's. Only Unquity Brook in Milton and Germany Brook and Meadow Brook in Norwood received grades of D or F. The mainstem of the Neponset River, where most recreation occurs, received grades in the B range.

Scores based on data collected from 2019-2021 by the Community Water Monitoring Network

<b>Waterbody</b>	<b>Percent Compliance</b>	<b>Grade</b>
Crackrock Pond	100%	A+
Ganawatte Farm Pond	97.3%	A+
Turner's Pond	96.7%	A+
Willett Pond	93.0%	A
Massapoag Brook	89.6%	A-
East Branch	86.3%	A-
Steep Hill Brook	86.2%	A-
Mother Brook	73.4%	B+
Mine Brook	73.4%	B+
Beaver Brook	80.2%	B+
Middle Neponset River	79.3%	B
Spring Brook	77.9%	B
Mill Brook	77.8%	B
Upper Neponset River	75.8%	B
Ponkapoag Brook	75.2%	B
Pecunit Brook	75.1%	B
Beaver Meadow Brook	74.1%	B-
Lower Neponset River	72.0%	B-
Hawes Brook	67.8%	C+
Traphole Brook	61.2%	C
Purgatory Brook	60.2%	C
Pequit Brook	59.1%	C-
Pine Tree Brook	55.7%	C-
Germany Brook	50.0%	D+
Unquity Brook	33.6%	F

 A Flourish data visualization

The Neponset River’s biggest threat is polluted storm water runoff from streets, parking lots, and yards that can cause invasive species growth and harmful algal blooms when it rains, the report found. On average, water quality grades dropped 22 percent during wet weather.

While the Neponset River Watershed Association has only participated in the report for two years, McCanty said they plan to follow up on areas of concern with “hot spot monitoring,” which he said involves taking more rigorous samples in particular locations to identify what’s impacting the water.

The group can then plan targeted approaches, such as education campaigns on pet waste, to address areas with especially poor water quality.

“We do caution the people who use this data that just because something is an A grade doesn’t mean it’s always swimmable at every time of the year, it’s just a representative average. So we always tell people to trust their own judgment about whether something is safe,” McCanty said.

## **The Mystic River Watershed**

Though the Mystic River itself and Mystic Lakes received B-plus to A-plus ratings, respectively, several smaller bodies of water in the watershed got failing grades on the report card.

The report said that Winn’s Brook in Belmont, Alewife Brook in Cambridge and Arlington, and Mill Creek in Chelsea showed “clear evidence of frequent contamination by waste water” and earned the lowest grades, similar to prior years.

Mystic River Watershed Association scientist Andy Hrycyna said that the main channels of the river are relatively clean for urban rivers as a result of “a lot of work” over the past several decades.

Small streams, however, tend to be “disproportionately negatively affected by continued sources of pollution,” he said, which include waste water contamination and excess nutrient pollution.

## 2021 Mystic River Grades

The Mystic River and the Mystic Lakes received grades from A+ to B+, indicating that they meet boating standards almost all the time in dry weather. Some tributaries, including Winn's Brook in Belmont, Alewife Brook in Cambridge and Arlington, and Mill Creek in Chelsea continue to show evidence of frequent contamination by wastewater, earning the lowest grades.

Scores based on data collected from 2019-2021 by the Community Water Monitoring Network

<b>Waterbody</b>	<b>Percent Compliance</b>	<b>Grade</b>
Upper Mystic Lake	98.56%	A+
Island End River	91.67%	A
Chelsea River	83.28%	B+
Mystic River (Salt)	81.43%	B+
Mystic River (Fresh)	80.39%	B+
Meetinghouse Brook	72.50%	B-
Belle Isle Inlet	70.29%	B-
Aberjona River	64.37%	C
Malden River	59.44%	C-
Mill Brook	54.71%	D+
Little River	52.56%	D+
Alewife Brook	46.69%	D
Winns Brook	45.29%	D
Mill Creek	30.20%	F

“A lot of investment has been put in to improve water quality, but it’s still not enough — the promise of the Clean Water Act has not been fully realized,” Hrycyna said.

Hrycyna said that the group has also worked to mitigate toxins not studied in the report, namely certain types of algae that cause excess nutrient pollution and increase water toxicity. The group has launched efforts to reduce phosphorus inputs to combat that toxic algae spread, in addition to trash and waste removal.

Hrycyna called for further infrastructure investment to protect Massachusetts waterways, particularly in the face of climate change threats. Those funds are needed to maintain water quality safety, including efforts like sewage removal, he said.

“We have usually clean urban rivers but pollution sources still remain and the solutions are infrastructure spending,” Hrycyna said. “And so over the next year, five years, when we’re having this huge public investment in infrastructure ... these conversations become even more salient and more urgent.”

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