

Open Water Grades: Signs of Improvement

The defining impression of water quality in Long Island Sound's open waters in 2025 wasn't captured by data nor by the scientists in Save the Sound's Healthy Waters Institute. It was spotted by fundraising staff on a field trip.

They were traveling by water into the westernmost Sound to see combined sewer outfalls, seeking an up-close-and-personal perspective on the unique challenges threatening water quality in the most developed and populated segment of the Great Urban Sea. Somewhere between New Rochelle and City Island, their plans changed when they spotted a pod of 50+ dolphins.



Dolphin off Greenwich, CT in 2025
(Courtesy Patty Doyle)

These once-in-a-lifetime experiences are being enjoyed more often by more people in more places across Long Island Sound in recent years. These inspiring encounters are a reminder why so much work has been done and so much money invested to improve the open waters of the Sound.

But videos of dolphin pods splashed all over social media don't mean that the ecological health of the Sound is secured. Neither does the good news in this report. One of the Sound's five segments—the Eastern Narrows—maintained the same grade (B) it received in our 2024 Report Card. The other four saw theirs tick up: the Western Basin (from an A- to an A), Central Basin (A to A+), even the Eastern Basin, which saw its grade improve from a 99 to a perfect 100 for 2025.

Then there's the Western Narrows, which had received an F every year since 2008, as far back as our grading goes. This smallest segment of the Sound earned a D in 2025, thanks to its scores across all parameters going up from our previous Report Card. But year-to-year results are just a snapshot in time. To see the full picture of water quality in the Sound, you need to evaluate these grades over several years. We look at trends over 18 years for the open waters, which show the Western and Eastern Narrows are indeed improving, the Eastern and Central Basins are stable, and the Western Basin remains variable.

Long term improvement can only happen if we continue to prioritize clean water protections in our policy, our infrastructural improvements, and our everyday practices. We must reduce the stormwater runoff and wastewater pollution that deliver excess nitrogen, making the Sound less hospitable for the dolphins, fish, and all aquatic life that depend on clean water.

Open water data are from water monitoring programs conducted by Connecticut Department of Energy and Environmental Protection (which monitors the Eastern, Central, and Western Basins, and parts of the Eastern Narrows), Interstate Environmental Commission (Eastern Narrows, part of the Western Narrows), and New York City Department of Environmental Protection (Western Narrows).



Native plantings in
a healthy yard,
Weston, CT

Take Action

What we do and buy can help—or hurt—the health of Long Island Sound, the wildlife that call it home, and even ourselves. Small changes in our everyday actions can go a long way.



Use Water Wisely

Conserving water lightens the load at overburdened water treatment plants and reduces wear and tear on pipes.



Maintain Your Sewers

Homeowners are responsible for the lateral lines that run from your house to the public sewer system, so have them inspected regularly. Replace outdated septic systems with new technology designed to remove more nitrogen.



Shrink Your Carbon Footprint

Use public transportation, walk, or ride a bicycle when you can. Shop local. Switch to energy-efficient home appliances.



Get Involved

Visit [savethesound.org/get-involved/](https://www.savethesound.org/get-involved/) to find advocacy and volunteer opportunities near you!



Adopt Healthy Yard Practices

Choose native plants that need less watering and help filter pollutants. And don't overfeed your lawn—use organic slow-release fertilizers once or twice a year. Leave grass clippings on the lawn as natural fertilizer.



Install Green Infrastructure

Rain gardens, rain barrels, green roofs, and permeable pavement absorb, capture, and filter stormwater to remove pollutants.

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LONG ISLAND SOUND

REPORT CARD

2026

BASED ON 2025 DATA

Better Understanding Our Bays and Harbors

We launched the Unified Water Study (UWS) in 2017 to better understand the ecological health of the bays and harbors around Long Island Sound, partnering with a dozen groups that were monitoring water quality in Connecticut and New York embayments. UWS standardized the procedures, protocols, and equipment used to collect data on a range of parameters: dissolved oxygen, chlorophyll *a*, water clarity, macrophytes, temperature, salinity, and oxygen saturation. Collecting comparable data around the Sound creates a clearer picture of how well our bays and harbors can support aquatic life and marine habitats. A thriving ecosystem benefits more than just the animals living in the Sound. Healthy bays and harbors provide opportunities for all of us, whether we enjoy sailing out of local marinas or swimming in local bays, rely on strong fisheries to make a living or simply prefer our local waters to be unspoiled by unpleasant and dangerous algae blooms.



UWS data collection in Norwalk Harbor
(Courtesy Harbor Watch)

In 2026, the UWS is celebrating its 10th season. Today, 31 participants (including Save the Sound and 10 other original partners) monitor 52 bays and harbors Sound-wide. Several of these groups are from established scientific and environmental organizations; others represent municipalities. Some came aboard as concerned individuals or community science groups to help us learn about the embayments at the heart of their communities. All are on the water up to three times a month, gathering their data within three hours of sunrise under the full range of conditions you'd expect between May and October.

With the guidance of science advisors Jamie Vaudrey, Ph.D., and Jason Krumholz, Ph.D., our water quality team uses UWS data to calculate our Bay Grades.

These grades can show us that water quality in our bays and harbors doesn't always align with nearby open waters. They face challenges from local sources—excess nitrogen resulting from aging and failing septic systems, deteriorating sewer infrastructure, fertilizer application, and stormwater runoff (a growing problem as extreme storms become more frequent and severe). For example, the open water of the Eastern Basin has never earned less than an A+ grade, but Wequetequock Cove—the easternmost embayment in the UWS—has gotten only Ds and Fs since it received its first grade in 2018.

Data to Understanding to Action

Good decisions to improve and protect our water quality begin with reliable data.

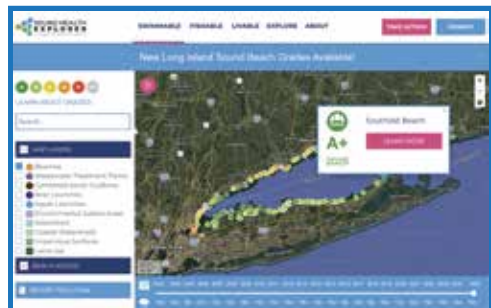
The better we understand the source of a problem, the easier it is to find the right solution.

We make free water quality data available to decision-makers, educators, residents—and everyone else—on two interactive platforms:

SoundHealthExplorer.org shares the data behind the grading history of your local bay, beach, and open Sound segment.



QuickDrops.org contains a growing collection of water quality data points for locations around the Long Island Sound region.



How's the Water?

The Long Island Sound Report Card measures how well water can support aquatic life and marine habitats. Good water quality is characterized by a combination of high dissolved oxygen and water clarity, low chlorophyll *a* and dissolved organic carbon (DOC), and balanced communities of seaweeds.

Common symptoms of poor water quality are low dissolved oxygen levels (hypoxia), which is detrimental to aquatic life that needs oxygen in the water to breathe, and algal blooms (evidenced by high chlorophyll *a* and/or seaweed). While some algae are essential to support the base of the food web, too much nitrogen from human sources stimulates excessive growth. As algae and the animals that feed on them respire, die, and decompose, oxygen in the water is depleted.

The Long Island Sound Partnership announced that 2025 saw the lowest area of hypoxia (18.34 square miles) since the organization began tracking levels in 1987. Still, warming waters—which hold less oxygen than cool water—pose a threat to water quality. According to the 2025 Connecticut State Council on Environmental Quality Annual Report, “the longer-term trends for average annual surface and bottom temperatures of the Sound from 1995 through 2025 have been rising.”

Water Quality in the Open Sound

What a difference billions of dollars of scientifically informed and coordinated bi-state infrastructure investment has made for the open waters of Long Island Sound. Not to mention lengthy recovery time after nitrogen inputs from wastewater treatment plants were reduced to levels that have brought significant positive change.

The Eastern and Central Basins continue to receive high marks for water quality. The Western Basin is variable over the 18-year trend, but overall, the grade is encouraging. The most challenged sections of the Sound are the Eastern and Western Narrows, but they are on the right track with improvement in the overall 18-year trend. For the first time, the Western Narrows has received an overall grade above an F, which could be a beacon of more good things to come in addition to the improving DOC trend.

Water Quality in Our Bays

When many of the region's millions of residents and additional millions of visitors think of Long Island Sound, they think of one of its 100+ bays, harbors, inlets, creeks, or tidal rivers, and other indented areas of the coast. These embayments are directly impacted by local pollution sources in their respective watersheds. Human inputs of pollution such as stormwater runoff, aging sanitary sewer infrastructure, combined sewer overflows, fertilizer application, and onsite septic systems can all put stress on our coastal waters.

Of the 62 bay segments monitored across 46 bays, 56% received an A or B grade during the 2025 monitoring season. Leading challenges to water quality are dissolved oxygen (50% of all bay segments received a C or lower), chlorophyll *a* (48%), and water clarity (47%). Protecting and restoring the water quality in our bays is crucial for a healthy Long Island Sound. These areas provide nurseries for juvenile fish and other aquatic life, and coastal wetlands that filter water and buffer communities from storms.

Open Water Indicators

DOC Dissolved Organic Carbon

Dissolved organic carbon is relatively stable, making it a good indicator of human impacts. Most human sources of nutrients are high in DOC.

Dissolved Oxygen

Low levels of dissolved oxygen impact marine life, reducing growth and reproduction, and, at low enough levels, causing death.

Chlorophyll *a*

Chlorophyll *a* measures the amount of phytoplankton in the water column. These microalgae use nutrients entering Long Island Sound to grow.

Water Clarity

Water clarity is a measure of how far light penetrates through the water. Clear water allows fish to find prey and helps underwater plants thrive.

Seaweeds

Seaweeds are common in healthy salt water systems. However, excessive accumulation can harm environmental health and indicate excess nitrogen pollution.

Oxygen Saturation

Healthy water should have oxygen levels in equilibrium with the air, termed 100% saturation. Water quality problems are indicated when oxygen is consistently higher or lower than 100% saturation.

Bay Indicators

These water quality indicators are selected to measure the environmental health of Long Island Sound waters and assess their ability to support aquatic life and marine habitats.

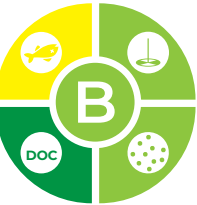
Western Narrows

Received a D (65%), which is a higher score than 2023 (49%), with improvement in the 18-year trend. The break from F grades in previous years is encouraging. Water quality restoration efforts must continue to stay on this course. Water clarity, chlorophyll *a*, and dissolved oxygen are variable. Dissolved organic carbon is improving.



Eastern Narrows

Received a B (84%), which is the same as 2023 (84%). The Eastern Narrows moves to improvement in the 18-year trend. Dissolved oxygen received a C (76%), which is a notable score increase from 2023 (62%). Dissolved oxygen remains variable as does water clarity over the long-term trend. Dissolved organic carbon and chlorophyll *a* continue an improving trend.



Western Basin

Received an A (94%), which is a slight increase from 2023 (90%), with a variable 18-year trend. The lowest grade was a B (85%) for dissolved oxygen. This area is less developed than the Narrows but is still densely populated. Continued water protection and restoration efforts will be part of bringing this segment to an improving trend in future years.



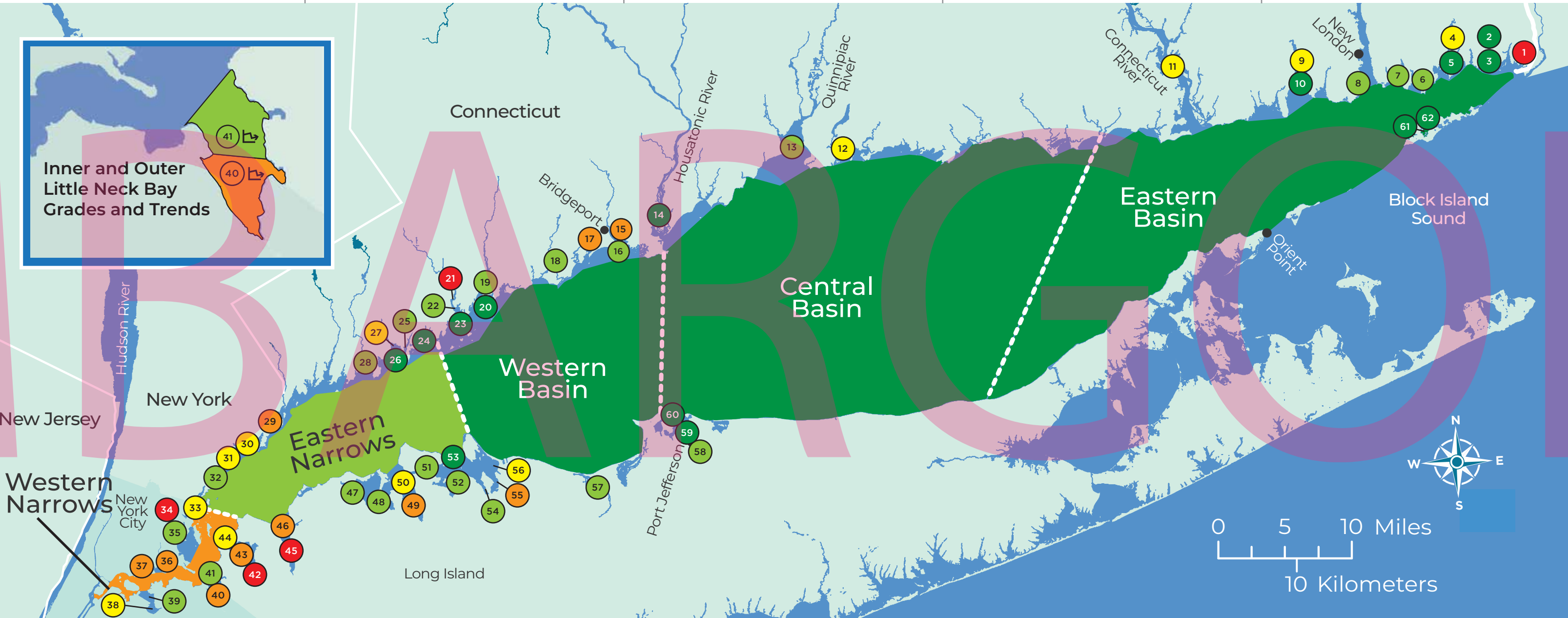
Central Basin

Received an A+ (98%), which is a slight increase from 2023 (95%). Water quality has been stable over the past 18 years, consistently supporting aquatic life. It is the largest area of open water contained in the Report Card and is well-flushed with water from the Atlantic Ocean.



Eastern Basin

Received an A+ (100%), which is similar to 2023 (99%). Water quality has been stable over the past 18 years, never dropping below an A. This region has a much lower coastal population with large tracts of undeveloped land. It receives strong tidal exchange, being so close to the Atlantic Ocean.



Bay Grade Trends: A First Look

For the first time, we have enough years of data gathered for the original Unified Water Study locations to calculate trends. For example, both the outer and inner segments of Little Neck Bay are “variable” over the eight-year trend, as are all water quality indicators measured for both segments. Water quality in Little Neck Bay is directly impacted by challenges such as combined sewer overflows, outdated cesspools, excessive fertilizer application, and a high percentage of impervious surface coverage that exacerbates stormwater runoff pollution. Restoration efforts, with an emphasis on large-scale green infrastructure projects where appropriate, will be critical to help improve water quality in Little Neck Bay.

KEY

2025 Season Grades	18-Year Trend
A (90-100%)	Improving
B (80-90%)	Stable
C (70-80%)	Variable
D (60-70%)	Declining
F (0-60%)	

How Are the Scores Calculated?

Save the Sound and its science advisors grade water quality indicators using scientifically derived scales developed with a Technical Advisory Committee of scientists and water managers from agencies around the Sound. Some indicators are used for both the Sound's open waters and the bays, while others are unique to the deeper Sound or the shallower bays, reflecting the differences in these types of systems.

For more information on the scoring methods, visit: www.soundhealthexplorer.org/fishable

Bay Grades

Bay data provided courtesy of the organizations listed above each location.

Clean Up Sound & Harbors

1 Wequetequock Cove	F
4 Mystic River	C-
5 Mystic Harbor	A-

New England Science & Sailing Foundation

2 Inner Stonington Hbr	A-
3 Outer Stonington Hbr	A+
8 Alewife Cove	B+

Project Oceanology

6 Mumford Cove	B+
7 Poquonnock River	B

Save the River — Save the Hills

9 Inner Niantic River	C+
10 Outer Niantic River	A

Connecticut River Conservancy

11 Connecticut River	C
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Friends of the Farm River Estuary

12 Farm River	C+
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River Advocates of South Central Connecticut

13 New Haven Harbor	B
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Town of Stratford Conservation Department

14 Outer Housatonic River	A-
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Ash Creek Conservation Association

15 Inner Bridgeport Harbor	D+
16 Outer Bridgeport Harbor	B+

Bridgeport Regional Aquaculture Science and Technology Education Center

17 Black Rock Harbor	D+
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Town of Fairfield Conservation Department

18 Mill Rvr (Southport Hbr)	B-
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Harbor Watch

19 Inner Saugatuck River	B
20 Outer Saugatuck River	A-
21 Inner Norwalk Harbor	F
22 Middle Norwalk Harbor	B-

The Maritime Aquarium at Norwalk

23 Outer Norwalk Harbor	A
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Town of Darien

24 Scott Cove	A
25 Darien Harbor	B+
26 Cove Harbor	A-

SoundWaters

27 Holly Pond	C+
28 Stamford Harbor	B

East Basin Enterprises, LLC

29 Milton Harbor	D+
30 Mamaroneck Harbor	C+
31 Larchmont Harbor	C

Save the Sound

32 New Rochelle Harbor	B-
33 Hunter Island Bay	C
34 Inner Eastchester Bay	F
35 Outer Eastchester Bay	B-

SUNY Maritime

36 Westchester Creek	D-
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Bronx River Alliance

37 Bronx River	D
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Guardians of Flushing Bay

38 Inner Flushing Bay	C-
39 Outer Flushing Bay	B

Interstate Environmental Commission

40 Inner Little Neck Bay	D-
41 Outer Little Neck Bay	B-
42 Inner Manhasset Bay	F
43 Middle Manhasset Bay	D-
44 Outer Manhasset Bay	C-

Coalition to Save Hempstead Harbor

45 Middle Hempstead Hbr	F
46 Outer Hempstead Hbr	D+

Friends of the Bay

47 Mill Neck Creek	B
48 Oyster Bay	B+
49 Inner Cold Spring Hbr	D
50 Outer Cold Spring Hbr	C+

Cornell Cooperative Extension of Suffolk County Marine Program

51 Lloyd Harbor	B-
52 Huntington Harbor	B-
53 Huntington Bay	A-
54 Centerport Harbor	B
55 Northport Harbor	D
56 Northport Bay	C+

Salonga Wetland Advocates Network

57 Nissequogue River	B
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Setauket Harbor Task Force

58 Inner Port Jefferson Hbr	B+
59 Middle Port Jefferson Hbr	A-
60 Outer Port Jefferson Hbr	A

Fishers Island Seagrass Management Coalition

61 Inner West Harbor	A+
62 Outer West Harbor	A+