



Save the Sound®

Oakland Beach

BASED ON DATA FROM 2020-2022

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2023 LONG ISLAND SOUND BEACH REPORT BASED ON DATA FROM 2020-2022

Save the Sound is a member-supported environmental action organization. Our mission is to protect and improve the water and air quality and preserve the lands of the Long Island Sound region in New York and Connecticut. We use scientific and legal expertise and advocacy to bring people and communities together to achieve results that benefit our environment for current and future generations.

www.SavetheSound.org

1385 Boston Post Road, 2nd FL Larchmont, NY 10538 (914) 381-3140

127 Church Street, 2nd FL New Haven, CT 06510 (203) 787-0646



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THE REPORT

Many readers of our biennial Beach Report like to jump ahead to the colorful pages in the back where they can find the grades for their favorite Long Island Sound beaches. But just like plunging headlong into the water at your favorite swimming spot, we think it's important to know what you're getting into first.

The primary purpose of the Beach Report is to provide as many people as possible with a science- and data-driven analysis of water quality when evaluated against state criteria for safe swimming – which measure fecal indicator bacteria levels on a weekly basis during the swimming season. Testing is mandated by the recreational swimming beach permits required of beach operators, as well as for private beaches that participate in the federally funded monitoring and reporting program. The data are collected by health departments for each beach community and ultimately uploaded to the Environmental Protection Agency Water Quality Portal database. Our Beach Grades are assigned to these data using methodology developed by staff scientists and advisors.

We combine beach water quality data with rainfall data that provide valuable information on how wet or dry weather influence conditions at individual beaches. Tracking fluctuations in water quality connected to rainfall provides insights into possible pollution sources that can then be investigated, confirmed, and addressed.

In addition to our traditional lists of the Highest Scoring Beaches in Connecticut and New York, this year we are introducing a list of the 10 Lowest Scoring Beaches in the Long Island Sound Region. It may be uncomfortable to see your favorite beach on that list, but identifying beaches in need of increased pollution reduction is one of the reasons we publish this report. It is not enough to simply identify problem areas; we use the beach grades to catalyze conversations between residents, interested organizations, and local officials about potential solutions.



WET WEATHER IMPACTS ON WATER QUALITY

You know what they say ... when it rains, it's poor. Water quality, that is.

Not everywhere, and not all the time. But it's standard for many Long Island Sound beaches to experience a temporary decline in water quality after a rain event. Stormwater, picking up fecal contamination in addition to other pollutants, flows into local streams and rivers and eventually into the Sound, or it runs directly into our coastal waters.

That's why you frequently see beaches preemptively closed the day following a rainstorm, maybe longer. The recovery time for a given beach to be clean enough for swimming depends on a number of variables. Sometimes, location is the dominant factor; beaches on the coastline where the water flushes with the open Sound tend to rebound more quickly than beaches located inside a bay, where the tidal flushing is moderate. Beaches in more developed areas tend to also be more impacted by storm events.

Interestingly, the amount of rainfall might not have the impact you would expect. In some instances, a larger storm with more rain will result in less concentrated pollution, while a slightly smaller rainstorm may result in the delivery of pollution in a more concentrated form. This is because the first flush of rain empties out waste built up on surfaces and in storm drains, washes wildlife waste off the nearby landscape, and delivers the pollution on the beach and riverbanks into the water. Once that initial slug of pollution is in the water, additional rain may dilute the contamination and help to push it out in the open Sound.



The fact that smaller rain events can be more polluting seems counterintuitive and can lead to poor beach management decisions, especially since results from beach water quality monitoring take up to 24 hours to obtain after a sample is processed in the laboratory. Methods for obtaining more real-time sample results are promising but not yet approved by permitting authorities in our region.

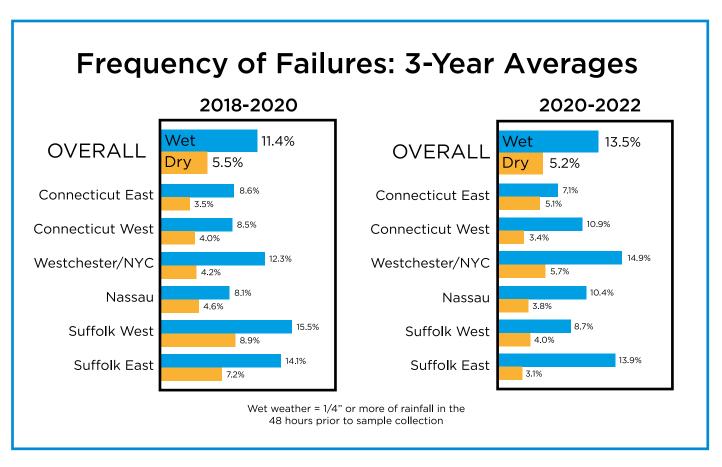


FIGURE 1. THIS FIGURE SHOWS THE PERCENTAGE OF SAMPLES THAT FAILED TO MEET STATE SWIMMING CRITERIA, DIVIDED BY WET WEATHER SAMPLES AND DRY WEATHER SAMPLES. ON THE LEFT ARE THE TRENDS FROM OUR LAST BEACH REPORT (2018-2020). ON THE RIGHT ARE THE TRENDS FROM THE BEACH DATA IN THIS REPORT (2020-2022).

As you can see in Figure 1, the overall failure rate of beach samples is more than two-and-a-half times as high in wet weather than in dry weather – 13.5% to 5.2%. This is a greater disparity than we found in our 2021 Beach Report, as the frequency of wet weather fails increased (11.4%) while dry weather fails remained consistent (5.5%). Between 2020 and 2022, the Sound Shore of Westchester County and New York City averaged the highest rates of failure in both wet (14.9%) and dry (5.7%) conditions. The other regions in the western half of Long Island Sound, Connecticut West (10.9%) and Nassau County (10.4%), also saw a greater frequency of wet weather failures. Regions in the eastern half all saw declines in their wet weather failure rates.

Our entire region is coming off the most rain during a three-year run we've experienced in a decade. We have received an average of 17 inches of rain per swimming season around Long Island Sound over the past three years – a number exacerbated by the 23 inches of rain that fell in 2021, the highest total since we began tracking the data in 2009. The only three-year period that saw more rainfall was 2011-2013, when we averaged 18.3 inches per year (a stretch that included Hurricane Irene one year and Superstorm Sandy the next.) As a result of climate change, we can expect steadily increasing rainfall totals and intensity of storms across the region in the coming decades.

PRIVATIZATION OF THE COASTLINE

Spending a day at the beach is no day at the beach. Although approximately two-thirds of the 207 beaches around Long Island Sound are technically open to the public, it has become increasingly difficult for the public to actually access public beaches.

Much of our coastline has been privatized by homeowners and beach clubs, and too many of these natural resources are inaccessible to too many of our neighbors around the region. There are 23 beaches located along the 36 miles of Westchester County coastline; all but five are private. To be sure, there are great public options available – Glen Island Park in New Rochelle has the 5th-highest grade among all Sound beaches in New York. But the choices are limited, and not always convenient or affordable.

Even the definition of "public" seems to vary by location and can cause confusion for beachgoers. One stretch in Nassau County features five beaches all listed as "public" on the interactive beach access layer at www.SoundHealthExplorer.org, but there are a couple of different interpretations of public access: four are town-operated beaches, only open to town residents (or non-residents accompanied by a town resident); two are town-operated beach with a fee for non-residents. We'd guess there have been more than a few families surprised to arrive and find "public" doesn't mean them.

It's the same in Connecticut. There are town beaches in Fairfield County open to non-residents, but the parking fees for out-of-towners can be pricey – more expensive than parking at Citi Field for a postseason Mets game. Farther east along the coast, there's a run of five public beaches with three different sets of public access rules: three are open to the general public, though seasonal fees apply; one is free for residents but charges a daily parking fee for non-residents; one blessed beach appears to be entirely free for one and all (though it offers no amenities and space is limited).

Long Island Sound is surrounded by beautiful beaches. Millions of people visit them every year, an economic boost to our region.

Still, there are obstacles - from resident-only access to required parking stickers that can only be purchased during business hours or at specific municipal locations - that can make a spontaneous beach outing more challenging than it should be. Even impossible for some.

The beach water quality monitoring and beach replenishment that coastal communities rely on are funded by state and federal dollars. Federal regulations provide public access to the water below the high tide line, but most people aren't aware this is their "Public Trust Right" and privatization of lands above the tide line make the water hard to access.

Everyone has the right to access Long Island Sound; it's time to make sure everyone has the opportunity to really enjoy it.



HIGHEST SCORING PUBLIC SWIMMING BEACHES

They are about as far apart as two Sound beaches could be, separated by about 114 miles (maybe a little closer as the seagull flies), a bridge, some tolls, and an unknowable amount of potential traffic. You need a full-length map of Long Island Sound to see both Quigley Beach on Cove Island in Stamford and Southold Town Beach, three-quarters of the way out on the North Fork of Long Island.

Still, those beaches are closest where it might matter most: They are the Sound beaches with the longest string of A+ grades in their respective states. Quigley Beach is riding the region's longest run of A+ grades – 11 straight years, dating back to 2012. It had been tied for the longest-active streak with McCook Point Beach until the latter landed a B in 2022.

Southold stands alone in New York, with its uninterrupted stretch of A+ grades that started in 2017. Technically, New Rochelle Rowing Club's streak was longer (2014-2021), but that beach no longer exists; it is now the site of the New Rochelle Municipal Marina.

Quigley and Southold are both public beaches, and once again made our lists of the 10 highest scoring public beaches in Connecticut and New York, as determined by data-driven grades averaged over the last three years.

HIGHEST SCORING BEACHES IN CONNECTICUT: 2020-2022

| Beach Name | Town | County | 3YR GRADE |
|-----------------------------|-----------|------------|-----------|
| Hole-in-the-Wall Beach | East Lyme | New London | A+ |
| Esker Point Beach | Groton | New London | A+ |
| Surf Club Beach | Madison | New Haven | Α+ |
| Great Captain Island Beach | Greenwich | Fairfield | A+ |
| Noank Dock | Groton | New London | A+ |
| East Wharf Beach | Madison | New Haven | Α+ |
| Quigley Beach | Stamford | Fairfield | A+ |
| Anchor Beach (Merwin Pt) #2 | Milford | New Haven | Α+ |
| Burying Hill Beach | Westport | Fairfield | A+ |
| White Sands Beach | Old Lyme | New London | A+ |

HIGHEST SCORING BEACHES IN NEW YORK: 2020-2022

| Beach Name | Town | County | 3YR GRADE |
|-----------------------------|--------------|-------------|-----------|
| McCabe's Beach | Southold | Suffolk | Α+ |
| Southold Beach | Southold | Suffolk | Α+ |
| Orient Beach State Park | Southold | Suffolk | Α+ |
| Kenney's Beach | Southold | Suffolk | Α+ |
| Glen Island Park | New Rochelle | Westchester | Α+ |
| Port Jefferson Beach - West | Brookhaven | Suffolk | Α+ |
| Ransom Beach | Oyster Bay | Nassau | Α+ |
| Centre Island - Sound Beach | Oyster Bay | Nassau | Α+ |
| Soundside Beach | Oyster Bay | Nassau | Α+ |
| Sunken Meadow State Park | Smithtown | Suffolk | Α+ |

HYPER LOCALITY: EVERY BEACH IS UNIQUE

If you were to continue straight where Beach Avenue turns 90 degrees to the left, you would wind up on Signal Rock, a postcard-worthy spot along Milford's 14 miles of Connecticut coastline. A 40-foot fiberglass flagpole stands there now; on March 2, 2020, it replaced the deteriorated cedar pole that had stood sentry for more than a century. The original pole, reportedly a repurposed sailboat mast, served as a landmark, a "signal," planted into a rock outcropping, marking the boundary of an active oyster bed.

Today, the new flagpole is largely symbolic, having long since surrendered its utility to the shellfishing community to GPS. Yet it remains a signal of a different sort. The path leading out to the point divides two neighboring beaches – what the locals refer to as Crescent Beach to the west and Anchor Beach to the east. As far as official water quality data collection goes, those beaches are designated Anchor Beach #1 and #2, respectively. And as close as they are in terms of physical proximity, they couldn't be further apart when it comes to water quality.

Anchor Beach #2 is one of the 10 best beaches in Connecticut, with A+ grades over the last three years and nine of the last 11. It hasn't had a single water quality sample fail in more than three years.

Anchor Beach #1, however, landed on the other list. It received an A+ in 2022, but when averaged with a D+ (2021) and a D (2020), its three-year grade is a C+, earning Anchor Beach #1 a spot among the region's most challenged public beaches. In 2021, one-third of its wet weather samples failed. And not insignificantly. A failing sample contains more than 104 colony forming units of the fecal indicator bacteria Enterococci in 100 milliliters; Anchor Beach #1 maxed out at 1,300 for one wet weather sample, and 2,000 for a dry sample.

There is no clearer example around Long Island Sound of the hyper locality of water quality. Pollution, like politics, is local. While there are causes of contamination common throughout the region – we will examine the biggest challenges over the next six pages – the actual source of an individual beach's problem has to be identified at the local level. Or in the case of the Anchor Beaches, hyperlocal.

Fortunately, the potential source of pollution impacting swimming at Anchor Beach #1 is pretty easy to spot. There is a sizeable concrete platform jutting out from the stone walkway that leads to Signal Point, maybe big enough to park a car on. Extending from the end of that platform, plainly evident at low tide, is the business end of a PVC pipe, close to two feet in diameter.

The end of that pipe is a stormwater outfall, the output for a network of underground stormwater pipes draining an entire section of the neighborhood. During a heavy rain event, high volumes of stormwater could be entering the Sound through that pipe.



Literally around the bend, Anchor Beach #2 has no such problem. There are a few catch basins on Beach Avenue, which drain directly through much smaller outfall pipes at the base of the concrete retaining wall. But the capacity for any stormwater to pick up pollutants is pretty limited. Maybe there's some pet waste or seagull poop, perhaps low quantities of fertilizer from the small front lawns of the houses that look out on the water. Chances are, the rain hits the ground, runs into the catch basin and out to the water before it can collect pollutants.

Not every hyperlocal issue is as easily identifiable as the one at Anchor Beach #1. Consider the span of four contiguous beaches in West Haven. Except for the alternating jetties and piers poking out from stretches of sand, there isn't much to distinguish where one beach ends and the next begins. It would make perfect sense for that quartet of beaches to have identical grades . . . but they do not.

In 2022, Oak Street Beach A received a B. It's sandwiched between Rock Street Beach and Oak Street Beach B, both of which received a B+. And Altschuler Beach scored the best in the bunch (A-). Over the last eight years, though, there have been years like 2018, when three of the beaches earned an A+ and one (Rock Street) inexplicably earned a B, and years like 2017, when the grades for beaches right next to each other were all over the map (C+, A-, A+, B).

It's the same on Long Island. In 2022, Scotts Beach, Sound Beach POA West, and Sound Beach POA East received grades of A-, B-, and C+, respectively . . . and they essentially share the same strip of uninterrupted beach, with approximately 1,500 feet of sand separating the easternmost edge of Scotts Beach from the westernmost edge of Sound Beach POA East.

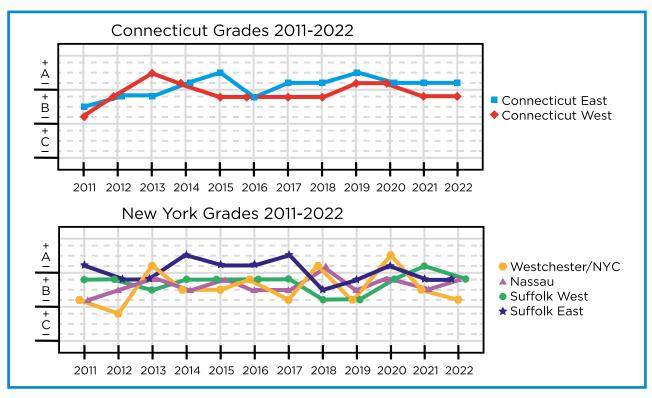


FIGURE 2. ANNUAL REGIONAL BEACH GRADES CALCULATED BY AVERAGING ALL THE BEACH GRADES IN EACH REGION THAT YEAR. ALL DATA USED WERE COLLECTED BY LOCAL DEPARTMENTS OF HEALTH AND UPLOADED TO THE EPA WATER QUALITY PORTAL.

You'll see in Figure 2 that water quality within a region is consistent over time. Beach quality from region to region varies from year to year, just as it does from individual beach to beach. Often without an obvious reason for the variability.

If you see a grade that concerns you, talk to your local officials and reach out to Save the Sound or one of the other groups fighting for cleaner Long Island Sound waters. Chances are the source of the pollution is hyperlocal – which means the solution may be, too.

WHAT A BAD GRADE MEANS

We all love our local beaches. Our feelings, however, don't alter the fact that the water quality at some beaches is more challenged than at others.

COMMON REASONS FOR BEACH CLOSURES

EXCEEDANCE: FECAL INDICATOR BACTERIA LEVELS EXCEED STATE CRITERIA

PREDICTED EXCEEDANCE MODEL: A MODEL BASED ON
ENVIRONMENTAL CONDITIONS
PREDICTS THAT WATER QUALITY IS
POOR

PREDICTED EXCEEDANCE RAINFALL: WATER QUALITY IS
PREDICTED TO BE POOR BECAUSE
OF RECENT HEAVY RAIN

HIGH WAVES: ROUGH CONDITIONS

TURBIDITY: CLOUDY WATER THAT COULD PREVENT LIFEGUARDS FROM BEING ABLE TO SEE SWIMMERS

NO LIFEGUARD: LIFEGUARDS ARE UNAVAILABLE

COLD WATER: WATER
TEMPERATURES ARE BELOW 50
DEGREES FAHRENHEIT

There's nothing subjective in determining which public beaches are listed here. It's driven entirely by the data gathered by the local beach operators, who are required by state law and the federal Beaches Environmental Assessment and Coastal Health (BEACH) Act to monitor for Enterococci, the fecal indicator bacteria primary used to determine whether beaches are safe for swimming. Of the many reasons beaches are forced to close, the most frequent occurs when Enterococci levels in water samples exceed the state criteria. Exposure to pathogencontaminated water can cause a variety of symptoms, including nausea, vomiting, diarrhea, headaches, and fever, and could result in illnesses of the upper respiratory tract and minor skin, eye, ear, nose, and throat irritations. In many ways, our Beach Report is a public health document.

But why are Enterococci levels high at some beaches, or at different times and under different conditions at certain beaches? Over the next several pages, we detail the most common challenges to water quality, as it relates to swimming, across the Long Island Sound region. If your beach is on this list or receives grades lower than you would prefer, we encourage you to open a dialogue with your local public officials to determine what might be affecting the water quality grade and what can be done about it.

LOWEST SCORING BEACHES IN THE REGION: 2020-2022

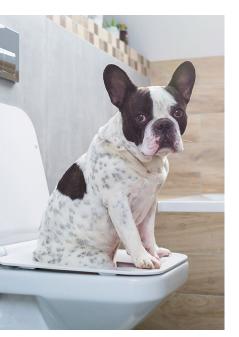
| Beach Name | Town | County | 3YR GRADE |
|-----------------------------|---------------------|-------------|-----------|
| Harbor Island Beach | Mamaroneck, NY | Westchester | D |
| Green Harbor Beach | New London, CT | New London | C- |
| Byram Park Beach | Greenwich, CT | Fairfield | C- |
| Manorhaven Beach | North Hempstead, NY | Nassau | С |
| Rocky Neck State Park Beach | East Lyme, CT | New London | С |
| Pleasure Beach - Bridgeport | Bridgeport, CT | Fairfield | С |
| Beekman Beach | Oyster Bay, NY | Nassau | C+ |
| Seabluff Beach | West Haven, CT | New Haven | C+ |
| Hudson Park | New Rochelle, NY | Westchester | C+ |
| Anchor Beach (Merwin Pt) #1 | Milford, CT | New Haven | C+ |

COMMON CHALLENGES: ANIMAL WASTE

It's been 30 years since a particularly popular potty-training book was first published in English. Since 1993, we have known that *Everybody Poops*. Starting this summer, we're going to find out exactly whose poop may be causing the problems at two Connecticut beaches in New London County.

Unhealthy levels of animal waste in the water is a challenge for many beaches around Long Island, perhaps more in eastern Connecticut and along the North Fork of Suffolk County than further west. In some cases, the culprits are deer or other wild mammals. In other cases, it's the birds – flocks of gulls and geese who make their home on and around these beaches, providing a 24/7 supply of fecal matter.

Runoff from farms is another threat of contamination. Connecticut has concentrated animal feeding operations (CAFOs) near the Sound, where huge quantities of animal waste can pose significant water quality challenges. (New York has CAFOs, too, but none in the Sound region). Small farms can be polluters if they're not following the best animal waste management practices. And then there's manure spread as fertilizer on farms and other properties, which can wash into waterways and storm drains and wind up spoiling beaches in the same manner as street runoff.



We don't know the sources of the fecal indicator bacteria creating problems at Rocky Neck State Park in East Lyme or at Green Harbor Beach, a small sandy stretch on the western shore of the Thames River, two of the five most-challenged beaches in the region. But we're hoping to find some answers as we launch a source DNA tracking study with Dr. Michael Whitney, associate professor of marine sciences at the University of Connecticut's Avery Point campus, at both of these beaches.

We will be collecting bacteria samples as Dr. Whitney's team collects DNA samples to get a more complete understanding of the issue and source(s). The goal is to identify the source of the bacteria causing these beaches' consistently poor grades.

At Rocky Neck, 708 acres of heavily wooded state park surround the beach. Perhaps we'll learn that the park's deer population is the problem. Or maybe it's flocks of geese who spend their summers at the beach. Either way, once we identify the source of the problem, we can begin to consider potential solutions.

Or we could learn that the primary source is human. If our samples show high presence of human DNA, we will start looking for on-site septic systems – maybe one connected to the bathrooms at the beach that isn't working properly. Maybe we'll find sewer lines in the area that are leaking.

We'll conduct similar testing at Green Harbor Beach, though it is separated from Harkness Memorial State Park and its wildlife residents by several blocks of a developed neighborhood. There we might find the problem has less to do with the source of fecal indicator bacteria than the physical layout of the beach. Deep in a harbor often isn't the best location for a beach. Byram Beach in Greenwich and Harbor Island in Mamaroneck are two other examples of struggling beaches that might be unfavorably situated in addition to other challenges. There could be tidal restrictions, where the water doesn't have enough flushing with the waters of the open Sound. At Green Harbor, we may well find that animal waste is the source of the contamination, but the bigger problem is really a lack of sufficient flow to keep the water clean and safe.

We won't know until the project is underway. Until then, as the book establishes, we're all suspects - elephants, whales, camels, and us.

COMMON CHALLENGES: SEWAGE

It's the last thing you want to think about when you're headed to the beach. Actually, it's probably the last thing you want to think about. Period.

Sewage.

Of the many types of pollution that spoil our beaches, none evoke quite the same visceral reaction as the notion of sewage interacting with the same water that you do. But fecal contamination is the primary reason that a beach is closed, its presence at individual beaches under various conditions shapes our Beach Grades, and it's a problem at different levels at many beaches around Long Island Sound.

When people learn that sewage is getting into their beach water, they tend to assume something isn't working properly at a nearby wastewater treatment plant. This is sometimes the case, but more often the problem is the pipes and pumps that deliver our sewage to treatment plants. These exposures to sewage can occur in a few ways.

The first involves discharges from broken sanitary sewer lines. When underground pipes crack or collapse, untreated sewage can leak out and reach beaches. This can happen under any weather conditions.

When it rains, the risk of sanitary sewer overflows (SSOs) emerges. These occur when sanitary sewer lines are filled with more volume than they can transport. Remember, it's not just what goes down our toilet that is carried by these systems: water from our showers, sinks, and dishwashers drains into those same pipes. Stormwater can infiltrate cracked or broken sewer lines or be illegally plumbed directly into these lines, creating more volume in the pipes than they are designed to handle. That can result in a nasty mix of raw sewage and rainwater erupting out of manholes and flowing into the nearest stormwater catch basin, river, or Sound shoreline then possibly ending up at a beach near you.

It's important for residents to make sure that your village, town, or city invests appropriately in your municipal sewage collection infrastructure. They should treat it as an asset not a burden, something to be kept in good functioning condition. Proactive maintenance and timely repair of these critical infrastructure components not only reward you with clean water and help keep your beaches open – they save you money in local taxes by avoiding major breaks that are expensive to repair.

Some of the larger cities on the Sound -New York City, Bridgeport, New Haven, Norwalk - face an additional challenge: combined sewer systems. In combined systems, stormwater runoff and wastewater flow into the same pipes and are treated together at the wastewater treatment plant. During storms, when the combined volume of rain and wastewater is greater than the capacity of the system's pipes or too great for the plant to treat, the excess untreated wastewater and stormwater get discharged directly into nearby waterways with no, or limited, treatment.





These Combined Sewage Overflow (CSOs) create an immediate public health concern for anyone interacting with that polluted water. The influx of raw sewage, household and commercial wastewater, and street runoff can cause sudden and dramatic spikes in fecal bacteria and other pollutants in the water, which is why swimming near a CSO outfall is not recommended following a rain event (often up to 48 hours after rain). That's also why state law in New York and Connecticut requires each outfall be marked with a sign.

Roughly 60% of New York City uses combined sewer systems, and there are about 700 combined sewer outfalls across the five boroughs. You can look at the data on Sound Health Explorer and see that city beaches near combined sewer outfalls have really high wet weather failure rates after intense rains.

You can also tell which ones aren't impacted as much.

Take Orchard Beach, the only public beach in the Bronx. Between 2013 and 2021, Orchard Beach never received a Beach Grade lower than A- (it did get a C in 2022, ending a decade of stellar scores). There are no large combined sewer outfalls discharging into the waters near Orchard Beach, a critical factor in the beach's water quality track record. It helps that it doesn't get a lot of stormwater running to the beach, either. It is bordered by the 3,000-acre Pelham Park, which acts as a buffer against potential pollutants – ecosystem services at their finest! Its large parking lot might contribute an initial flush of pollution after a rain event, but in terms of water quality, Orchard Beach has historically been a really good place for swimming.

The City of New York recently released a plan that aims to reduce combined sewer overflows by more than four million gallons per year by 2045. Such a commitment would be a difference-maker for the water quality for communities across the city.

For our part, we are working to eliminate all remaining CSOs around Long Island Sound, through our water quality and fecal indicator bacteria monitoring programs, our legal expertise in enforcing needed improvements in traditional infrastructure, and our green infrastructure initiatives.



COMMON CHALLENGES: STORMWATER

The signs of climate change are all around us, from storms increasing in frequency and severity to rising sea levels. But there's one sign that we don't immediately associate with climate change that we probably should: Beach Closed.

The No. 1 reason beaches are forced to close, even on some sunny summer days, is stormwater pollution.

The warmer things get in our region, the wetter they'll get. During a storm, the rain doesn't just get absorbed into the ground; there's abundant impervious surface covering extensive areas in our region that precipitation cannot penetrate. Instead, it runs off our roofs and driveways, the streets, parking lots, and sidewalks of our neighborhoods. It has to go somewhere, so torrents of stormwater make their way into storm drains that discharge into nearby waterways or run directly into Long Island Sound or the rivers and streams that feed it.

Along the way, the rushing water picks up fertilizer and pesticides from our lawns. Fuel, oil, grease, and tire debris from our cars and many other chemicals are also picked up by stormwater as it runs over developed areas. It also collects the most common indicator of water quality measured by beach operators, the one most responsible for beach closures: fecal indicator bacteria. It comes from pet waste not disposed of properly and from catch basins and stormwater pipes, courtesy of raccoons, rodents, and other wildlife who make their homes in and near the pipes. All too often, rain infiltrates cracked sewer pipes and failing septic systems, adding human waste to the potpourri of pollutants the runoff delivers to our beaches.

Save the Sound strives to mitigate stormwater impacts in every facet of our work. We design and build nature-based solutions like rain gardens that capture stormwater and percolate it into the ground – keeping rain where it falls and reducing the volume entering stormwater drainage systems or our waterways. Back in 2019, we completed a restoration project at Sunken Meadow State Park in Kings Park, NY, which included retrofitting a 16.6-acre parking lot with green infrastructure such as bioswales and constructed wetlands. We created an opportunity for the four million gallons of stormwater that fall on Parking Field #2 every year to naturally filter through the soil, keeping it from polluting Sunken Meadow Creek, which flows into the Sound. Has it worked? In the three years prior to that project, Sunken Meadow received borderline Beach Grades (B-, C+, B+). In the last three years, it has averaged an A+ – enough to earn the 10th spot on our list of the highest-scoring public beaches in New York.

Municipalities have the wherewithal to undertake large-scale projects that cut off significant quantities of polluted stormwater from getting to the Sound. On a smaller scale, individuals still play an important part in pollution reduction: installing rain barrels to catch rainwater from your gutters and using that water for your local plantings; planting more native plants and reducing the asphalt on your property; picking up after your dog. We know more stormwater is coming. If we each take the time to consider how we're contributing pollutants to the increasing volume of runoff, we can help minimize the contaminants and protect our beaches.

COMMON CHALLENGES: SEPTIC SYSTEMS

Suffolk County does not have a cesspool and septic problem. It has 380,000 cesspool and septic problems.

They're not alone. There are plenty of septic systems throughout other portions of New York and Connecticut. You tend to find them in areas zoned for larger residential plots or more removed from urbanized areas. In more spread-out communities, there tend to be fewer sanitary sewers to move waste to a centralized treatment plant that could be quite a distance away. And where there are onsite sewage facilities such as septic tanks and cesspools, there is a distinct threat to water quality.

Septic systems and cesspools are a common source of fecal pollution. When improperly maintained, they can leach pollutants into groundwater and flood in rain, delivering untreated sewage to our coastlines – and even into our drinking water.

Improper maintenance is a critical part of the problem. The responsibility for upkeep of privately owned wastewater infrastructure falls to the homeowner, many of whom are not trained in how to maintain their systems. Or even identify whether there's a problem.

A failing septic system is pretty easy to spot. When sewage is bubbling out of the ground, you need to do something about it. But even if it hasn't reached that stage, it doesn't mean there isn't a problem that needs to be addressed.

As with most home repairs, it's best to be proactive rather than reactive when dealing with the health risks of sewage. Try to mitigate a future problem by caring for a system before those obvious signs of trouble emerge. Get your system pumped out as often as suggested by the manufacturer. Of course, there are financial implications for proactive care, let alone replacing an old system that has outlived its ability to function properly.

Fortunately, there are grants available to Suffolk County homeowners looking to upgrade or replace their septic systems. Visit www.reclaimourwater.info to learn about the Suffolk County Septic Improvement Program (SIP) and the New York Septic System Replacement Program (SSRP). Nassau residents can find a similar program by going to www.nassaucountyny.gov/5191/Nassau-Septic.

And let your county legislators know that you want to see the Suffolk County Water Quality Restoration Act on the election ballot in November 2023. If the referendum is introduced and then passes, it would create a 1/8 of a cent increase in the county sales tax; that funding would go toward connecting homes and businesses to sewers where possible and financing clean water septic system replacements.

That would be a gamechanger in minimizing nitrogen pollution, which harms our bays and harbors, and fecal indicator bacteria, which undermines water quality and forces our beaches to close.





THE GRADE

The grading system used in the Long Island Sound Beach Report captures two scenarios for each beach:

- 1) How often water was identified as unsafe for swimming (frequency).
- 2) How high the level of contamination was (magnitude) on the worst sampling day of the season.

Because sources and concentration of contamination can vary with rainfall amounts, frequency and magnitude grades are provided for both dry and wet weather conditions. Wet weather conditions are characterized as occurring when $\frac{1}{4}$ inch of rain or more fell in the 48 hours prior to sampling.

NY & CT State Criteria for Marine Swimming Water Quality

Passing Sample = Enterococci counts 0-104 CFU/100 ml Failing Sample = Enterococci counts greater than 104 CFU/100 ml

> Enterococci = fecal indicating bacteria Enterococci CFU = Colony Forming Unit; the number of viable bacteria in a sample 100 ml = 1/10th of a liter

READ THE BEACH GRADES

All four sub-categories (FD, FW, MD, MW) are assigned a score, represented by green, yellow, orange, and red, with green representing excellent water quality and red representing very poor water quality.



THE COLOR OF THE CIRCLES INDICATES THE GRADE FOR THAT PARTICULAR LOCATION DURING THE YEAR 2022. THE NUMBER CORRESPONDS WITH THE LOCATION AS INDICATED ON THE MAP.

FREQUENCY DRY (FD):

THE PERCENTAGE OF SAMPLES COLLECTED DURING PERIODS OF PROLONGED DRY WEATHER THAT FAIL TO MEET THE STATE WATER QUALITY CRITERIA FOR SAFE SWIMMING. A HIGH PERCENTAGE OF FD FAILURE WOULD INDICATE A CONSISTENT SOURCE OF POLLUTION THAT IS UNRELATED TO WET WEATHER (E.G. POLLUTED GROUNDWATER DISCHARGE).

MAGNITUDE DRY (MD):

THE HIGHEST CONCENTRATION OF FECAL INDICATOR BACTERIA MEASURED IN ANY SAMPLE COLLECTED DURING PERIODS OF PROLONGED DRY WEATHER. HIGHER BACTERIAL LEVELS ARE ASSOCIATED WITH MORE RISK OF ILLNESS TO SWIMMERS, AND THEREFORE MD REPRESENTS A MEASURE OF WATER QUALITY ON THE WORST DRY WEATHER SAMPLING DAY OF THE SEASON.



FREQUENCY WET (FW):

THE PERCENTAGE OF SAMPLES
COLLECTED AFTER RAIN THAT
FAIL TO MEET THE STATE WATER
QUALITY CRITERIA FOR SAFE
SWIMMING. A HIGHER PERCENTAGE
OF FW FAILURE THAN FD FAILURE
WOULD INDICATE THE PRESENCE OF
POLLUTION SOURCES TRIGGERED
BY PRECIPITATION (E.G. CSO OR
POLLUTED STORMWATER).

MAGNITUDE WET (MW):

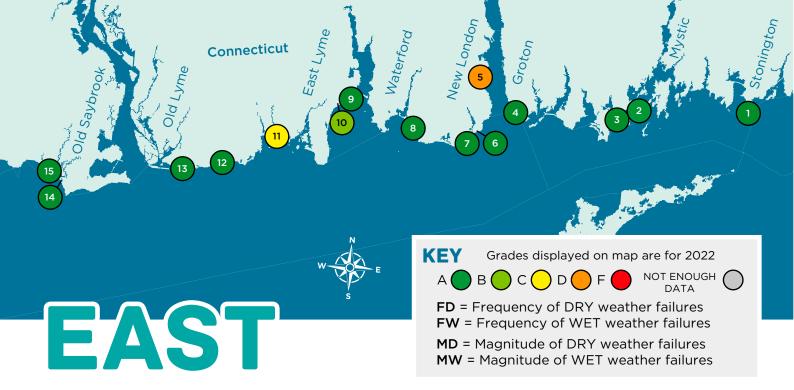
THE HIGHEST CONCENTRATION
OF FECAL INDICATOR BACTERIA
MEASURED IN ANY SAMPLE
COLLECTED AFTER RAIN.
HIGHER BACTERIAL LEVELS ARE
ASSOCIATED WITH MORE RISK
OF ILLNESS TO SWIMMERS, AND
THEREFORE MW REPRESENTS A
MEASURE OF WATER QUALITY
ON THE WORST WET WEATHER
SAMPLING DAY OF THE SEASON.

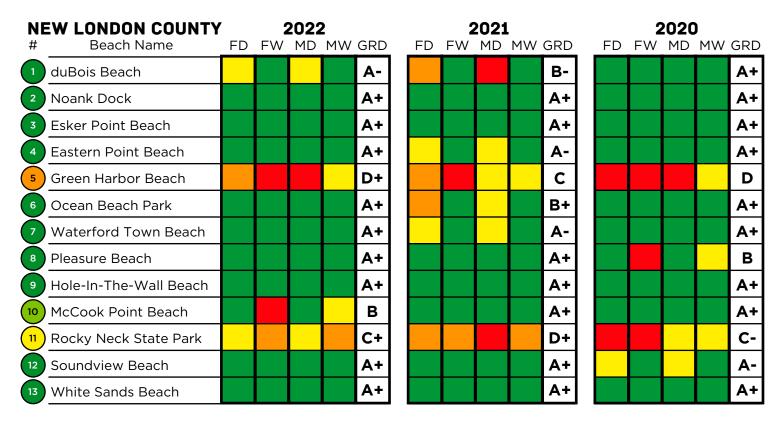
Additional information on the grading procedures can be found at www.SoundHealthExplorer.org.

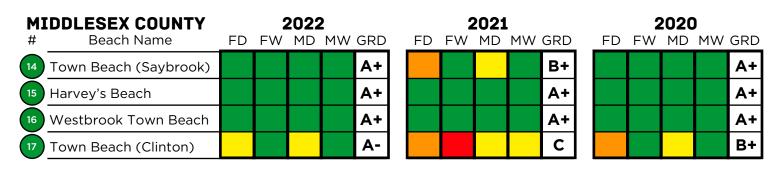


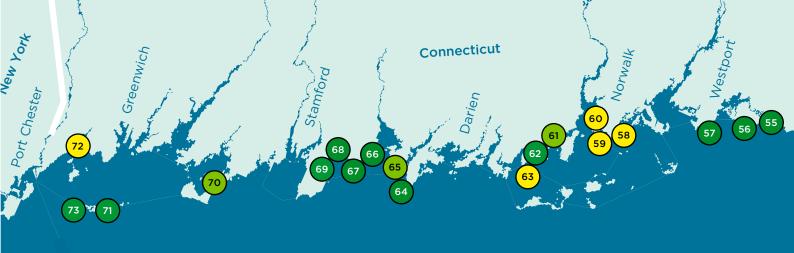
CONNECTICUT

| NEW HAVEN COUNTY | | 2 | 2022 | 2 | | | 2021 | | | | | | 2020 | | | | | | |
|-------------------------|----|----|------|----|------------|----|------|----|----|-----|----|----|------|----|------------|--|--|--|--|
| # Beach Name | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | | | | |
| Hammonasset Beach SP | | | | | Α | | | | | Α | | | | | A+ | | | | |
| Pent Road Beach | | | | | A- | | | | | A+ | | | | | A+ | | | | |
| East Wharf Beach | | | | | A+ | | | | | A+ | | | | | A+ | | | | |
| West Wharf Beach | | | | | A+ | | | | | A+ | | | | | A- | | | | |
| Surf Club Beach | | | | | A+ | | | | | A+ | | | | | A + | | | | |
| Jacob's Beach | | | | | Α | | | | | C+ | | | | | A+ | | | | |
| Stony Creek Beach | | | | | A+ | | | | | A+ | | | | | C+ | | | | |
| Branford Point Beach | | | | | B+ | | | | | C+ | | | | | A+ | | | | |
| Johnson's Beach | | | | | С | | | | | A- | | | | | C+ | | | | |
| East Haven Town Beach | | | | | A + | | | | | B+ | | | | | Α | | | | |
| Lighthouse Point Beach | | | | | В | | | | | B- | | | | | В | | | | |
| Morse Beach | | | | | A + | | | | | A+ | | | | | C+ | | | | |
| Altschuler Beach | | | | | A- | | | | | A+ | | | | | A+ | | | | |
| Oak Street Beach B | | | | | B+ | | | | | B+ | | | | | C+ | | | | |
| Oak Street Beach A | | | | | В | | | | | A+ | | | | | A+ | | | | |
| Rock Street Beach | | | | | B+ | | | | | A- | | | | | В | | | | |
| Seabluff Beach | | | | | C- | | | | | C+ | | | | | C+ | | | | |
| Dawson Beach | | | | | Α- | | | | | В | | | | | A- | | | | |
| Seaview Beach | | | | | B- | | | | | A+ | | | | | C+ | | | | |
| South Street Beach | | | | | B- | | | | | A- | | | | | C+ | | | | |



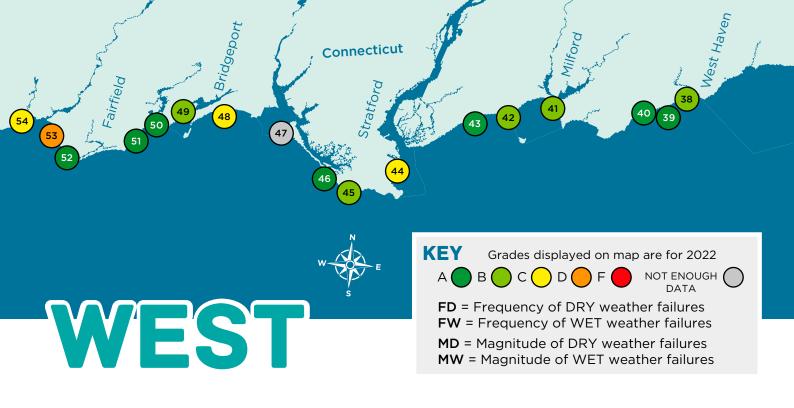


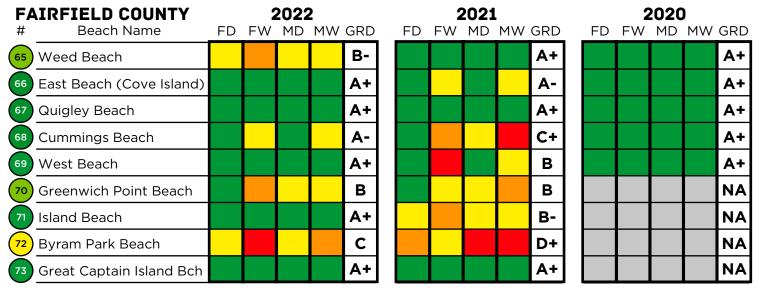


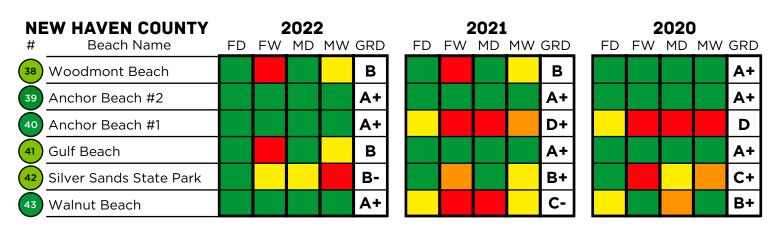


CONNECTICUT

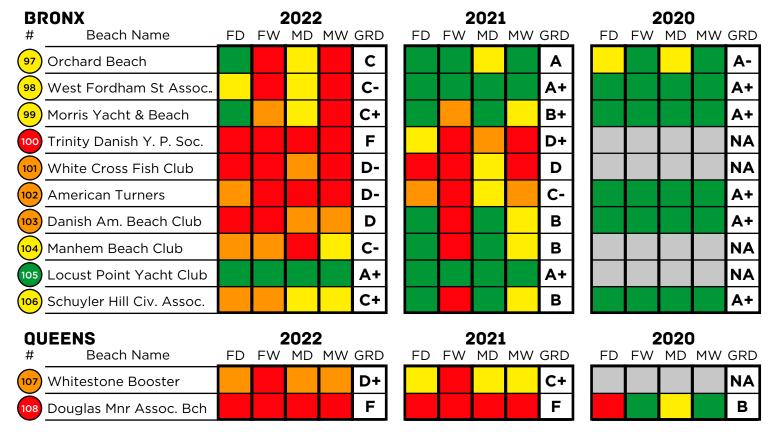
| FAIRFIELD COUNTY | 2022 | | | | | | 2 | 2021 | ı | | 2020 | | | | | | |
|---------------------------|------|----|----|----|-----|----|----|------|----|-----|------|----|----|----|------------|--|--|
| # Beach Name | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | | |
| Short Beach | | | | | С | | | | | В | | | | | Α+ | | |
| Marnick's Beach | | | | | В | | | | | A+ | | | | | A + | | |
| Long Beach | | | | | Α | | | | | A- | | | | | A + | | |
| Pleasure Beach | | | | | NA | | | | | С | | | | | NA | | |
| Seaside Park Beach | | | | | С | | | | | B+ | | | | | В | | |
| Seabright Beach | | | | | B+ | | | | | В | | | | | В | | |
| Jennings Beach | | | | | Α | | | | | A- | | | | | Α | | |
| Penfield Beach | | | | | A- | | | | | A+ | | | | | A + | | |
| 52 South Pine Creek Beach | | | | | A+ | | | | | A+ | | | | | A- | | |
| Sasco Beach | | | | | D | | | | | A+ | | | | | Α | | |
| Southport Beach | | | | | C+ | | | | | A+ | | | | | Α | | |
| 55 Burying Hill Beach | | | | | A+ | | | | | A+ | | | | | A + | | |
| 56 Sherwood Island S P | | | | | A+ | | | | | Α | | | | | A + | | |
| 57 Compo Beach | | | | | Α | | | | | B+ | | | | | A + | | |
| 58 Shady Beach | | | | | C+ | | | | | B+ | | | | | В | | |
| Calf Pasture Beach | | | | | С | | | | | В | | | | | B- | | |
| Marvin Beach | | | | | C+ | | | | | A+ | | | | | B+ | | |
| Hickory Bluff Beach | | | | | B- | | | | | В | | | | | C+ | | |
| Rowayton Beach | | | | | A+ | | | | | В | | | | | В | | |
| Bell Island Beach | | | | | C+ | | | | | B+ | | | | | A- | | |
| Pear Tree Point Beach | | | | | A+ | | | | | A- | | | | | A+ | | |







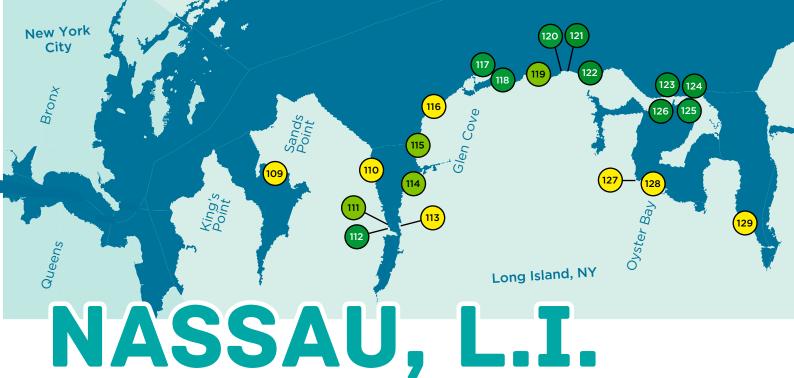




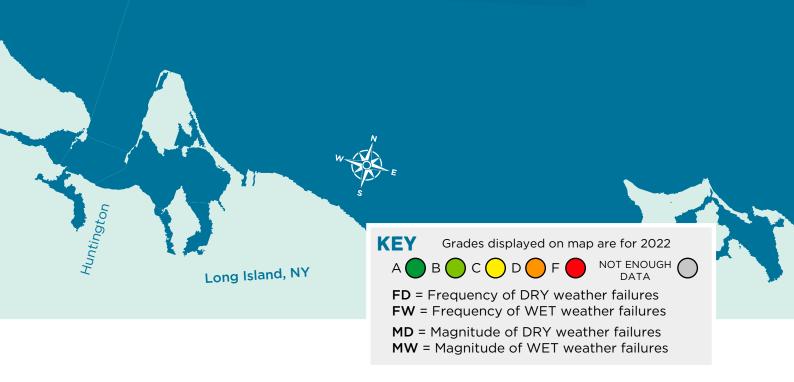


WESTCHESTER

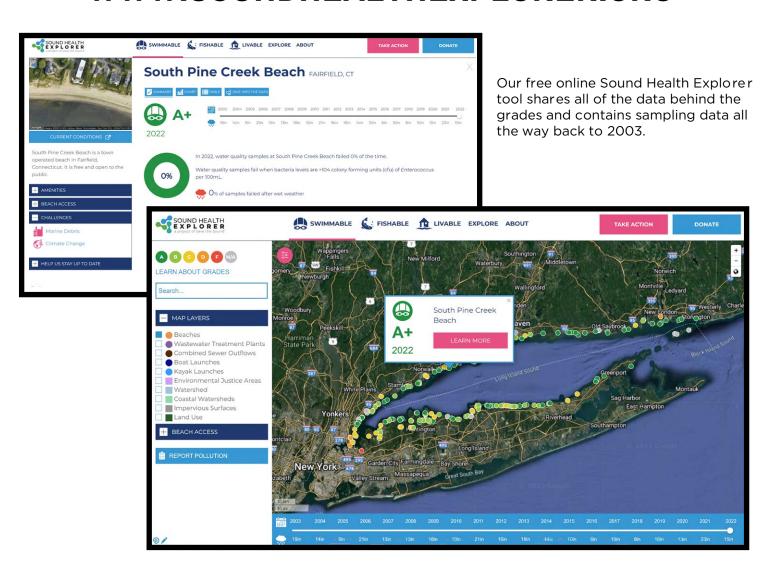
| WESTCHESTER | | | 2022 | | | 2021 | | | | | | 2020 | | | | | | |
|--------------------------|----|----|------|----|------------|------|---|----|----|----|-----|------|---|----|----|----|------------|--|
| # Beach Name | FD | FW | MD | MW | GRD | F | D | FW | MD | MW | GRD | _ | D | FW | MD | MW | GRD | |
| WC Country Club Beach | | | | | B+ | | | | | | A+ | | | | | | A+ | |
| 75 Manursing Island Club | | | | | A+ | | | | | | B+ | | | | | | A+ | |
| Rye Playland Beach | | | | | C+ | | | | | | B- | | | | | | A+ | |
| Rye Town/Oakland Bch | | | | | B+ | | | | | | Α+ | | | | | | A + | |
| Coveleigh Beach Club | | | | | A+ | | | | | | A- | | | | | | B- | |
| 79 Shenorock Shore Club | | | | | В | | | | | | Α+ | | | | | | A+ | |
| 80 American Yacht Club | | | | | A+ | | | | | | В | | | | | | A+ | |
| MMK Beach & Yacht Clb | | | | | C+ | | | | | | В | | | | | | A- | |
| Shore Acres Club | | | | | NA | | | | | | В | | | | | | C+ | |
| Harbor Island Beach | | | | | F | | | | | | D | | | | | | D+ | |
| Beach Point Club | | | | | A + | | | | | | В | | | | | | В | |
| Orienta Beach Club | | | | | B- | | | | | | B- | | | | | | B+ | |
| Larchmont Manor Park | | | | | В | | | | | | B+ | | | | | | B+ | |
| 87 Larchmont Shore Club | | | | | A + | | | | | | B- | | | | | | A- | |
| Echo Bay Yacht Club | | | | | NA | | | | | | Α+ | | | | | | В | |
| Hudson Park | | | | | D+ | | | | | | D+ | | | | | | Α | |
| 90 New Roch. Rowing Club | | | | | NA | | | | | | A+ | | | | | | A+ | |
| 91 Surf Club | | | | | A+ | | | | | | C+ | | | | | | A- | |
| 92 Davenport Club | | | | | B- | | | | | | В | | | | | | A + | |
| 93 Greentree Club | | | | | B+ | | | | | | A+ | | | | | | A + | |
| 94 VIP Club | | | | | A+ | | | | | | B- | | | | | | A + | |
| 95 Beckwithe Pointe | | | | | A+ | | | | | | A+ | | | | | | A + | |
| Glen Island Park | | | | | A+ | | | | | | A+ | | | | | | A + | |

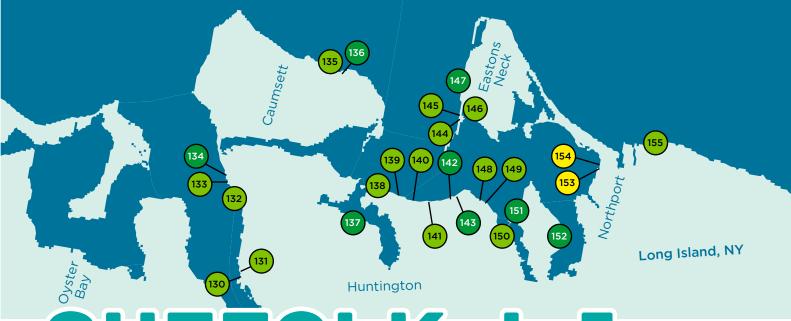


| NASSAU | | _ | 2022 | _ | | | _ | 2021 | | | 2020 FD FW MD MW GRD | | | | | | |
|--------------------------|----|----|------|----|-----|----|----|------|----|-----|--------------------------------|----|----|----|----|------------|--|
| # Beach Name | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | | FD | FW | MD | MW | GRD | |
| Manorhaven Beach | | | | | C+ | | | | | D- | | | | | | C+ | |
| Village Club @ Sands Pt | | | | | С | | | | | C- | | | | | | B+ | |
| N Hempstead Bar Beach | | | | | В | | | | | В | | | | | | В | |
| N Hempstead Beach Pk | | | | | A- | | | | | B- | | | | | | B+ | |
| Tappen Beach | | | | | C+ | | | | | С | | | | | | A+ | |
| Sea Cliff Beach | | | | | B+ | | | | | C+ | | | | | | Α | |
| Morgan Memorial Beach | | | | | В | | | | | С | | | | | | A+ | |
| Crescent Beach | | | | | C- | | | | | D | | | | | | C- | |
| Pryibil Beach | | | | | A+ | | | | | В | | | | | | В | |
| Lattingtown Beach | | | | | A+ | | | | | A- | | | | | | B+ | |
| The Creek Beach | | | | | B+ | | | | | A+ | | | | | | A + | |
| Piping Rock Beach | | | | | A+ | | | | | B- | | | | | | B+ | |
| Stehli Beach | | | | | Α | | | | | A+ | | | | | | Α | |
| Ransom Beach | | | | | A+ | | | | | A+ | | | | | | A + | |
| Soundside Beach | | | | | A+ | | | | | A+ | | | | | | Α- | |
| Centre Is. (Sound Beach) | | | | | A+ | | | | | Α | | | | | | A + | |
| Centre Is. (Bay Beach) | | | | | A+ | | | | | A- | | | | | | B- | |
| W. Hbr. Memorial Bch | | | | | A- | | | | | A- | | | | | | Α+ | |
| Beekman Beach | | | | | C+ | | | | | C+ | | | | | | C- | |
| Theo. Roosevelt Beach | | | | | С | | | | | С | | | | | | C+ | |
| Laurel Hollow Beach | | | | | С | | | | | C+ | | | | | | C+ | |



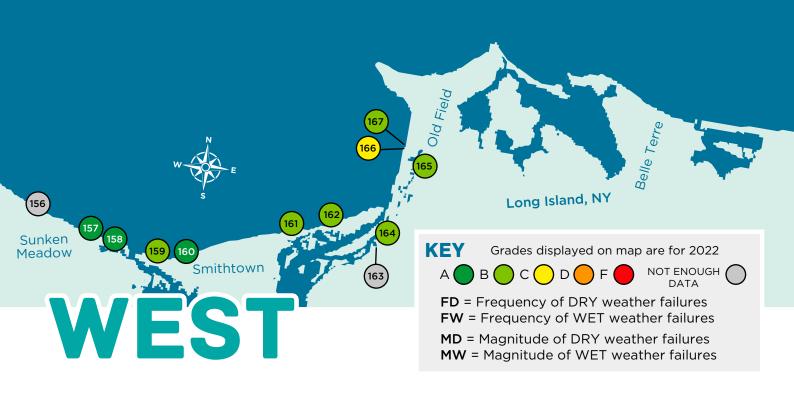
DIVE INTO THE DATA AT WWW.SOUNDHEALTHEXPLORER.ORG

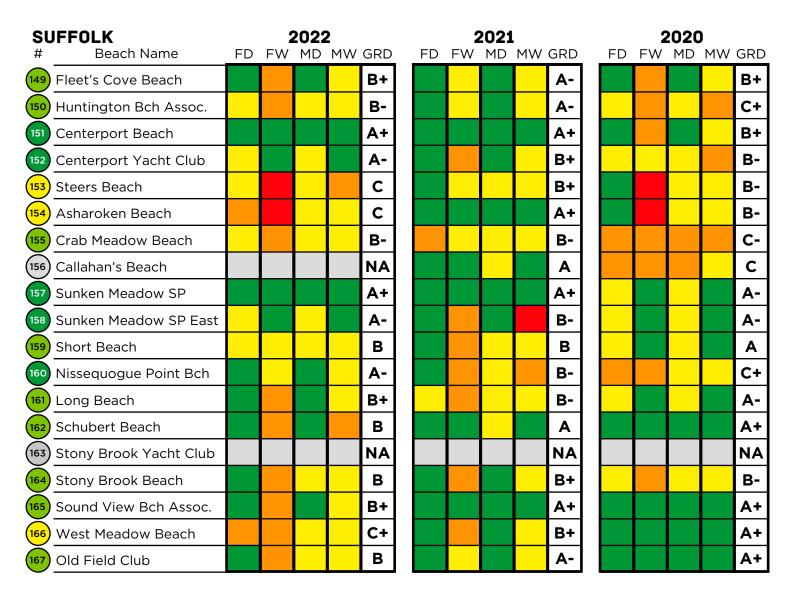




SUFFOLK, L.I.

| SUFFOLK | 2022 2021 | | | | | | | | <u>.</u> | 2020 | | | | | | | |
|--------------------------|-----------|----|----|----|-----|----|----|----|----------|------------|----|----|----|----|-----|--|--|
| # Beach Name | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | FD | FW | MD | MW | GRD | | |
| Eagle Dock Comm. Bch | | | | | B+ | | | | | A- | | | | | В | | |
| Cold Spring Hbr Bch Clb | | | | | В | | | | | B+ | | | | | A- | | |
| Lloyd Harbor Village Pk | | | | | B+ | | | | | A- | | | | | A+ | | |
| West Neck Beach | | | | | B+ | | | | | A- | | | | | Α | | |
| Lloyd Neck Bath Club | | | | | A+ | | | | | A- | | | | | A+ | | |
| Fiddlers Green Assoc. | | | | | B- | | | | | B+ | | | | | A+ | | |
| Lloyd Harbor Estates | | | | | Α | | | | | A- | | | | | A+ | | |
| Gold Star Battallion Bch | | | | | A- | | | | | В | | | | | B+ | | |
| Wincoma Beach | | | | | В | | | | | В | | | | | A+ | | |
| Baycrest Assoc. Beach | | | | | B+ | | | | | B+ | | | | | В | | |
| Nathan Hale Beach Club | | | | | B- | | | | | Α | | | | | A- | | |
| Head of the Bay Club | | | | | B+ | | | | | A- | | | | | В | | |
| Bay Hills POA | | | | | A- | | | | | В | | | | | Α | | |
| Crescent Bch (Suffolk) | | | | | A- | | | | | В | | | | | A+ | | |
| Hobart Beach (Bay) | | | | | B+ | | | | | A + | | | | | Α+ | | |
| Hobart Beach (Inlet) | | | | | В | | | | | A + | | | | | Α+ | | |
| Prices Bend Beach | | | | | B+ | | | | | В | | | | | С | | |
| Valley Grove Beach | | | | | A- | | | | | B+ | | | | | D | | |
| Knollwood Beach | | | | | B+ | | | | | B+ | | | | | C+ | | |

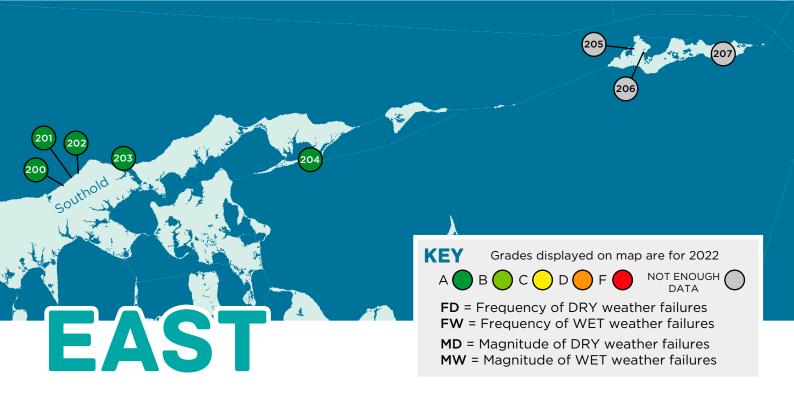


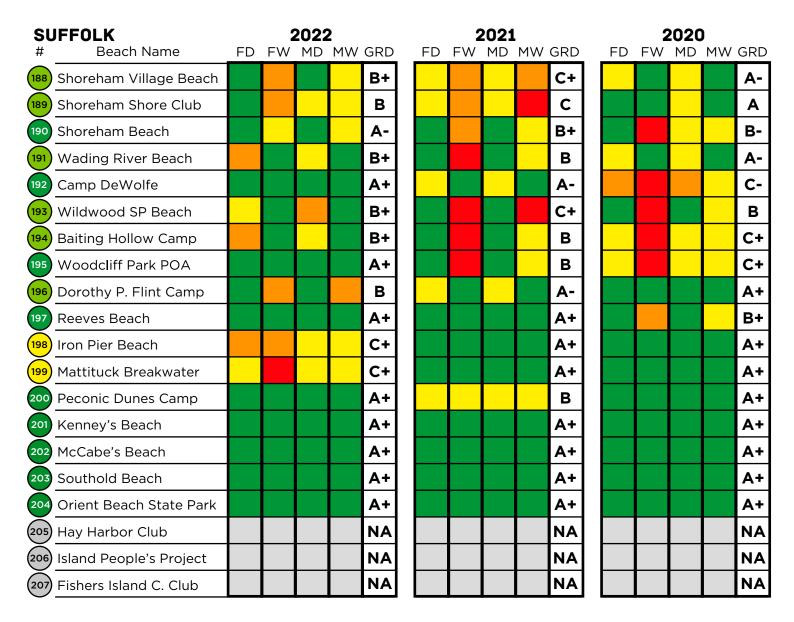




SUFFOLK, L

| SUFFOLK | | 2 | 2022 | 2 | | 2021 2020 | | | | | | 0 | | | | | |
|-------------------------|----|----|------|----|-----|-----------|---|----|----|----|------------|----|----|------|----|-----|--|
| # Beach Name | FD | FW | MD | MW | GRD | F | D | FW | MD | MW | GRD | FD | FW | / MD | MW | GRD | |
| Grantland Beach | | | | | С | | | | | | В | | | | | B+ | |
| Bayview Beach | | | | | В | | | | | | A + | | | | | B+ | |
| Indian Field Beach | | | | | B- | | | | | | A + | | | | | B+ | |
| Bayberry Cove Beach | | | | | В | | | | | | A + | | | | | A+ | |
| Little Bay Beach | | | | | B+ | | | | | | В | | | | | B- | |
| Belle Terre Beach | | | | | A- | | | | | | B+ | | | | | A+ | |
| Port Jefferson Beach W | | | | | Α+ | | | | | | A + | | | | | A+ | |
| Port Jefferson Beach E | | | | | A- | | | | | | A+ | | | | | A+ | |
| Cedar Beach West | | | | | A- | | | | | | В | | | | | Α | |
| Cedar Beach East | | | | | A- | | | | | | В | | | | | С | |
| Miller Place Park Beach | | | | | B+ | | | | | | В | | | | | A- | |
| Woodhull Landing | | | | | В | | | | | | В | | | | | B+ | |
| Scotts Beach | | | | | A- | | | | | | В | | | | | Α | |
| Sound Beach POA West | | | | | B- | | | | | | C+ | | | | | В | |
| Sound Beach POA East | | | | | C+ | | | | | | B- | | | | | Α | |
| Tides POA | | | | | С | | | | | | B- | | | | | B- | |
| Terraces on the Sound | | | | | В | | | | | | C+ | | | | | С | |
| Beech Road Beach | | | | | B- | | | | | | B- | | | | | Α | |
| Broadway Beach | | | | | B+ | | | | | | С | | | | | C- | |
| Friendship Beach | | | | | В | | | | | | В | | | | | B- | |





SWIMMING SAFELY IN NYC WATERS ...SOMEDAY

The grades for the 12 Long Island Sound beaches in New York City – 10 in the Bronx, two in Queens – tell the story of compromised conditions and water quality struggling to meet the state's criteria for safe swimming. Of the seven City beaches that received grades in our 2021 Beach Report (five did not report enough data to earn a grade in 2020), all saw their scores plummet. Two of the three F grades assigned around the entire Sound went to New York City beaches, as did four of the seven Ds. Locust Point Yacht Club, a private club on a Bronx peninsula poking out into Eastchester Bay, recorded an A+ for 2022 – the only one of the 12 to earn a grade higher than C+.

Not only do we envision a different ending to this story, we continue to work to ensure it will happen.

In late March 2023, the New York State Department of Environmental Conservation proposed a series of updated regulations for saline waters statewide. It was the latest step in a process that began in 2017 when we, along with our partners Riverkeeper and NRDC, filed a lawsuit through the Pace Environmental Litigation Clinic asking to compel the EPA to adopt public health-based criteria that would override DEC's inadequate existing criteria. Our suit was rooted in the Clean Water Act's mandate for the nation's waters to be fishable and swimmable, and it sought to address the massive problem of New York City's combined sewer overflows, which result in 20 billion gallons of raw sewage entering coastal waters across all five boroughs every year.

Prompted by our pending case, the DEC opened a comment period last fall, seeking public feedback for its proposed new water quality standards. We submitted joint comments with our partners, shaped by input and expertise from our respective water quality and legal teams, then did so again in June after those proposed changes were published and we identified aspects we considered incomplete and needing more clarification. We believe the proposed amendments failed to apply the swimmable criteria to all waterbodies classifying some into categories that would set criteria below that level which would render those waterways unswimmable for several more decades without appropriate documentation and protections. Those affected waterways, unsurprisingly, were located primarily around New York City - Alley Creek and Flushing Bay, for example, as well as the Bronx River and the East River.

As fantastical and far-off as it may sound right now, we expect the waters of New York City to be swimmable. The Clean Water Act demands it. Setting appropriate water quality criteria is not a panacea, but it is a necessary first step in the long road ahead toward achieving consistently swimmable waters at our City beaches.

ACKNOWLEDGEMENTS

Prepared by Save the Sound

David Seigerman, Save the Sound, *author*, Martin Hain, Save the Sound, *designer*, Laura McMillan, Save the Sound, *editor*, Peter Linderoth, Save the Sound, *science advisor*, Sam Marquand, Save the Sound, *science advisor*, Gregory O'Mullan, PhD, CUNY Queens, *science advisor* All photos by David Seigerman, Martin Hain, Mark Liflander, and Burns Patterson.

Data Sources

This report was created using the water quality monitoring data posted to the federal EPA Water Quality Portal database. The beach data in Water Quality Portal are collected and posted by departments of health that conduct the beach monitoring.

Precipitation data are from The Weather Company, an IBM Business, History on Demand dataset.

Created with generous support of our donors.

More information on Save the Sound and our activities related to improving water quality in Long Island Sound can be found at www.saveTheSound.org

WHAT YOU CAN DO

Before it was nationally associated with political polls and a champion men's hockey program, the word "Quinnipiac" meant something else. In the Quiripy language, it refers to the "people of the long water land."

While we are not all Quinnipiac, all of us live in and work with and enjoy the land around the long water estuary that is Long Island Sound. Because we benefit from the natural beauty and the many resources the Sound provides, we are responsible for its health, custodians for its care. Especially since we, collectively, contribute to so many of the challenges it endures.

Save the Sound's efforts to protect, restore, and transform Long Island Sound and its surrounding lands – including its beaches – have entered a second half-century. But the important work ahead is not ours alone. Just like a summer afternoon spent splashing in the Sound, we are all in it together.

There are so many things each of us can do to help maintain healthy water quality around the Sound, so that our beaches can remain open. Think about which of these opportunities are available to you, and help us help Long Island Sound.

SUPPORT any investment your village, town, city, or county makes in maintaining, repairing, and upgrading your municipal sewage collection and treatment system. Make sure they are aware of grant monies available from state and federal sources that fund essential infrastructure work. Make any repairs needed in the sewer lines that run from your home or office (research affordable solutions like "trenchless pipe liners").

INSTALL GREEN INFRASTRUCTURE to keep rain that falls on your property out of overloaded storm drains. Rain gardens, rain barrels, green roofs, and pervious driveways and patios are just a few options homeowners could consider.

UPGRADE your septic system or cesspool to a newer, cleaner technology. If you live in Suffolk County, look into the grants available through the Septic Improvement Program (www.reclaimourwater.info). Nassau County residents can look into the S.E.P.T.I.C. Program (www.nassaucountyny.gov/5191/Nassau-Septic).

DON'T MAKE IT WORSE by throwing garbage or chemicals – including pet waste! – on the side of the road.

STOP USING SINGLE-USE PLASTICS and Styrofoam, limit the use of takeout food containers and cutlery, and never release balloons into the air.

STAY INFORMED AND GET INVOLVED. Encourage your state and federal elected officials to support investments in wastewater and stormwater infrastructure and technologies that will allow same-day water quality monitoring results. Educate yourself on the beach management practices where you swim, and make sure your local and state representatives are following the best practices recommended by the EPA. Register for state notifications through the Sewage Pollution Right to Know alert systems in both New York and Connecticut.

SHARE YOUR BEACH GRADES! If you are concerned about the grade your local beach received in this Report, use it to start a conversation with local officials who are positioned to identify the source of the problem and work toward a solution.

BECOME A MEMBER AT SAVETHESOUND.ORG

JOIN OUR GROWING NETWORK OF MEMBERS WORKING TO FIGHT CLIMATE CHANGE, SAVE ENDANGERED LANDS, PROTECT THE SOUND AND ITS RIVERS, AND WORK WITH NATURE TO RESTORE ECOSYSTEMS.

YOUR SUPPORT MAKES WORK LIKE THIS REPORT POSSIBLE.

ALL DATA FROM THIS REPORT (AND MORE) CAN BE FOUND ONLINE AT WWW.SOUNDHEALTHEXPLORER.ORG

