

2.0 PROBLEM IDENTIFICATION

2.1 Problem Definition

Shellfish harvesting is the designated use for the 25 Peconic Bay water bodies described in this report. Molluscan shellfish, such as oysters and clams, are suspension feeders. They effectively filter the water around them to feed on microscopic organisms and other particulates suspended in the water column. If the waters are polluted, pathogens (e.g., viruses or bacteria) that are harmful to humans can potentially be retained in the shellfish. Because oysters and clams are often eaten raw or partially cooked, if they are harvested from waters that are polluted, they have the potential to cause serious illness or death to shellfish consumers. However, because pathogens in a shellfish area may be present in low numbers and difficult to identify, other, more plentiful yet non-harmful bacteria that are commonly associated with pathogens are monitored instead. The detection of these pathogen indicators is assumed to be a reliable sign that dangerous pathogens themselves may also be present. Bacteria associated with human and animal waste (e.g., total and fecal coliforms) are often monitored as pathogen indicators in shellfish growing areas.

New York State Department of Environmental Conservation (NYSDEC) has listed 25 Peconic estuary water bodies (as described in Table 1-1) in the 2004 303(d) list (NYSDEC, 2004) among the water bodies closed for shellfish harvesting due to pathogen impairment. Table 2-1 further provides a crosswalk between the priority water body list (PWL) name and number, water index number (WIN), shellfish growing area (SGA), and the New York State Codes, Rules and Regulations (NYCRR) references. Throughout this report, the water bodies will be referred to by their PWL name and number, and they will be addressed in the same order as presented in Table 2-1. Below are brief characterizations of shellfish harvesting conditions in each water body. Also included are figures that depict New York state Class SA waters and the certification category (e.g., seasonal, closed) for these waters. Since conditionally open areas change designation based on various factors such as storm events and other conditions, they are included within the ‘closed’ sections. For development of the *Peconic Estuary Stormwater Assessment and Planning Tool* (Horsely and Witten, 2003), the Peconic BayKeeper collected storm drain conveyance and outfall information from village, town, county, and state agencies in 2000. These attributes are included on the figures below. Field verifications by Peconic BayKeeper were conducted and Horsely and Witten digitized the dataset. The storm drain and outfall information is a first-order assessment to help characterize regional stormwater inputs. Storm drain outfalls include various pipes ranging from 4 to 48 inches and constructed of materials such as metal, plastic, PVC, and concrete. Drainage ditches are also defined as storm drain outfalls. The GIS coverages depicted in the following figures are based on the best information available as of the writing of this report. These coverages should not be used as the sole reference for site-specific stormwater initiatives. Local, county, and state agencies should be consulted for the most current information.

Table 2-1. Crosswalk Table of Selected Peconic Bay 303(d) Waters with Shellfish Growing Areas and the NYCRR.

New York State 303(d) list (PWL = Priority Water body List; WIN = Water Index Number)			Shellfish Growing Area (SGA)		New York [State] Codes, Rules, and Regulations (NYCRR)			
PWL Name and Number	WIN	Year	SGA #	SGA Name	Part	Item #	Class	Reference map
Dering Harbor (1701-0050)	(MW6.1b) GB-SIS(- DH)	1998	18	Shelter Island Sound South	924	47	SA*	Q-30se
Budds Pond (1701- 0234)	(MW6.1b) GB-SIS- 80c-P418a	2002			924	75	SA	Q-30sw
Stirling Creek and Basin (1701-0049)	(MW6.1b) GB-SIS- 78	1998	52	Stirling Basin	924	62	SA	Q-30se
Town/Jockey Creeks and tidal tribs (1701- 0235)	(MW6.1b) GB-SIS- 83a,83b	2002	22	Southold Bay	924	79	SA	Q-30sw
Goose Creek (1701- 0236)	(MW6.1b) GB-SIS- 84-P423	2002			924	82	SA	Q-30sw
Hashamomuck Pond (1701-0162)	(MW6.1b) GB-SIS- P420	1998	23	Hashamomuck Pond	924	76	SA	Q-30sw
Richmond Creek and tidal tribs (1701- 0245)	(MW6.1c) GB..LPB- 90	2002	26	Little Peconic Bay	924	121	SA	Q-30sw
Tidal Tribs, Gr Peconic Bay, Downs Ck (1701-0247)	(MW6.1d) GB..GPB- 97 thru 104	2002	28	Great Peconic Bay	924	147	SA	Q-30sw; R-30nw
Tidal Tribs, Gr Peconic Bay, Deep Hole Ck (1701-0247)					924	152	SA	R-29ne
Tidal Tribs, Gr Peconic Bay, Halls Ck (1701-0247)					924	149	SA	R-29ne
Tidal Tribs, Gr Peconic Bay, Unnamed (1701- 0247)					924	153	SA	R-29ne
Tidal Tribs, Gr James Ck (1701- 0247)					924	155	SA	R-29ne

Table 2-1. Crosswalk Table of Selected Peconic Bay 303(d) Waters with Shellfish Growing Areas and the NYCRR, continued.

New York State 303(d) list (PWL = Priority Water body List; WIN = Water Index Number)			Shellfish Growing Area (SGA)		New York [State] Codes, Rules, and Regulations (NYCRR)			
PWL Name and Number	WIN	Year	SGA #	SGA Name	Part	Item #	Class	Reference map
Flanders Bay, east/center, and tribs (1701-0030)	(MW6.1e) FB	1998	29	Flanders Bay	921	1	SA	2
Reeves Bay and tidal tribs (1701-0272)	(MW6.3a) GB..FB- RB	2002	29	Flanders Bay	921	60	SA	2
Sebonac Cr/Bullhead Bay and tidal tribs (1701-0051)	(MW6.3b) GB..GPB-122-P648	1998	62	Sebonac Creek Complex	924	176	SA SA	R-30nw
Scallop Pond (1701- 0354)	(MW6.3b) GB..GPB-122a-P652	2002			924	178	SA	R-30nw
North Sea Harbor and tribs (1701- 0037)	(MW6.3c) GB..LPB- 123-P659	1998	63	North Sea	924	130	SA	R-30nw
Wooley Pond (1701- 0048)	(MW6.3c) GB..LPB- 124-P665	1998	64	Wooley Pond	924	138	SA	R-30nw
Noyac Creek and tidal tribs (1701- 0237)	(MW6.3d) GB-SIS- 126	2002	21	Noyac Bay	924	85	SA	R-30ne; Q- 30se
Sag Harbor and Sag Harbor Cove (1701- 0035)	(MW6.3d) GB-SIS- SHB,SHC	1998	19	Sag Harbor	924	98	SA	Q-30se; R- 30ne
Northwest Creek and tidal tribs (1701- 0046)	(MW6.3e) GB-SIS- NH-136	1998	17	Northwest Harbor	924	32	SA	Q-30se; R- 30ne; Q-31sw
Acabonac Harbor (1701-0047)	(MW6.3f) GB-AH	1998	14	Acabonac Harbor	924	42	SA	Q-31sw
Montauk Lake (1701-0031)	(MW6.3g) BIS..P761	1998	13	Montauk Harbor	924	188	SA	Q-32sw
Oyster Pond/Lake Munchogue (1701- 0169)	(MW6.3g) BIS..P764	1998	70	Oyster Pond	924	192	SA	Q-32sw
Little Sebonac Creek (1701-0253)	(MW6.3b) GB..GPB-122a-P651	2002	62	Sebonac Creek Complex	924	177	SA	R-30nw

* Class SA waters are surface saline waters. The best usages of Class SA waters are shellfishing for market purposes, primary and secondary contact recreation, and fishing. See New York State Codes, Rules, and Regulations (NYCRR) Title 6, Chapter X, §701.

Dering Harbor (1701-0050): Listed as one of the impaired water bodies in NYS's 303(d) list, Dering Harbor is located on the northwest coast of Shelter Island. Dering Harbor is classified as uncertified. From December 28, 2005 through May 14, 2006, the waters of Dering Harbor normally designated as closed were classified as conditionally certified, with the exception of Chase Creek (tributary south of Station 5.2 in Figure 2-1). This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that the Shelter Island Heights STP continues normal operations and treatment activities.

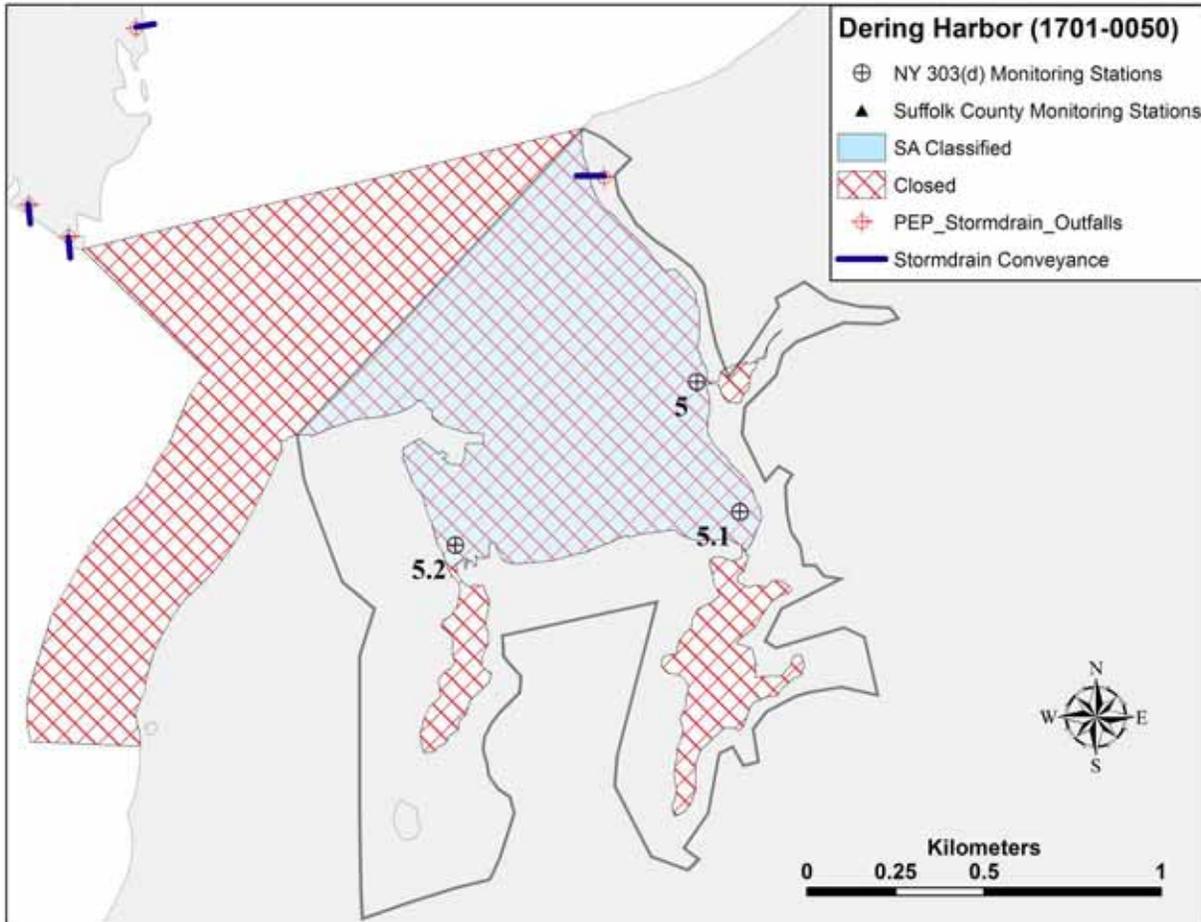


Figure 2-1. Dering Harbor 303(d). Classification indicating uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Budds Pond: Budds Pond is a semi-enclosed water body situated on the North Fork, bordering Shelter Island Sound. The pond is designated as seasonally certified for shellfishing from November 1 until May 14.

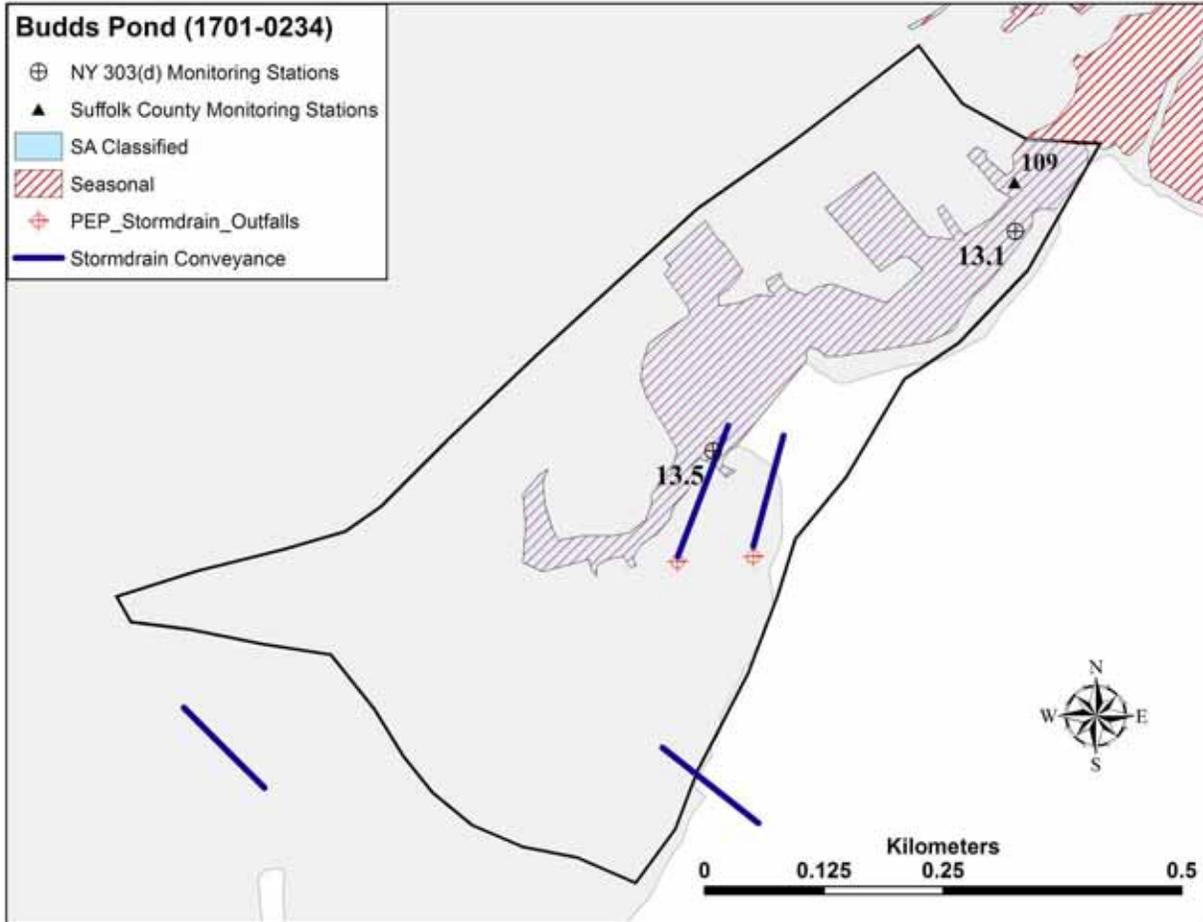


Figure 2-2. Budds Pond 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Stirling Creek and Basin: Stirling Creek is located on the southern edge of the North Fork, facing Shelter Island. The water body is designated as uncertified.

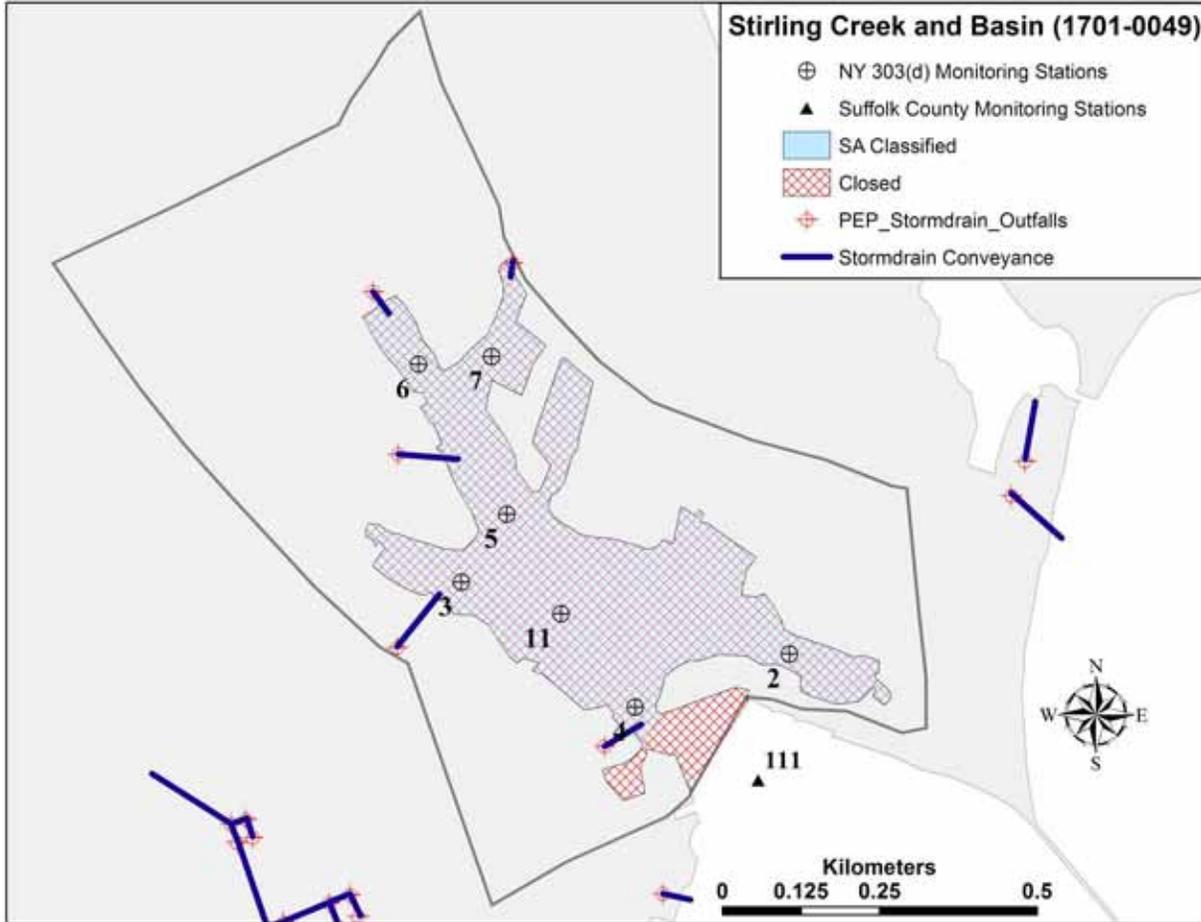


Figure 2-3. Stirling Creek and Basin 303(d). Classification indicating uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Town/Jockey Creeks and tidal tributaries: The Town and Jockey Creeks and their tributaries border Southold Bay within Shelter Island Sound. Town Creek, its tributaries, and parts of Jockey Creek are seasonally certified from January 1 through April 14. Jockey Creek, however, is uncertified from its headwaters easterly to specific manmade landmarks on either side of the creek.

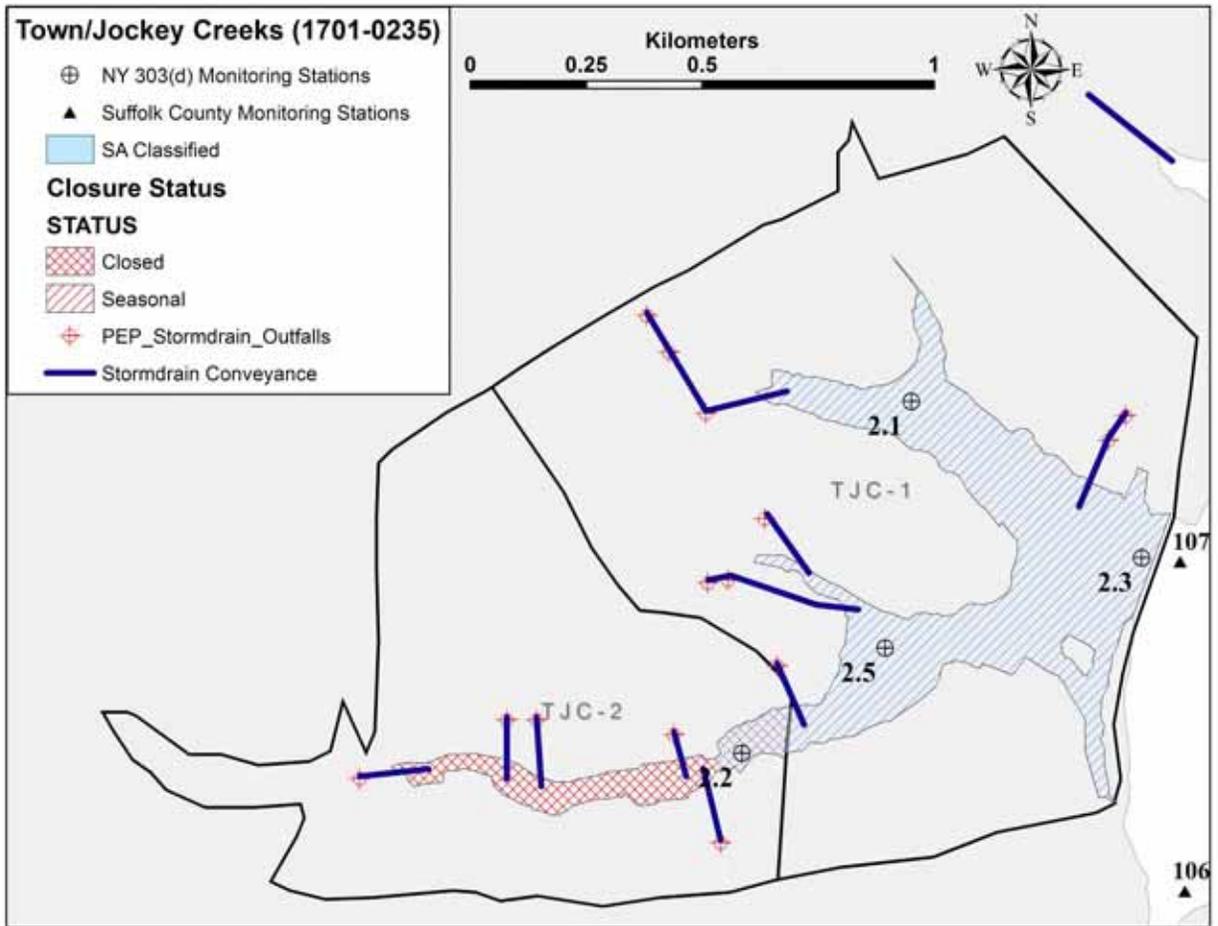


Figure 2-4. Town/Jockey Creeks 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Goose Creek: Goose Creek is located south of Town and Jockey Creeks, also emptying into Southold Bay. Goose Creek is seasonally certified for shellfishing between January 1 and April 14, inclusive.

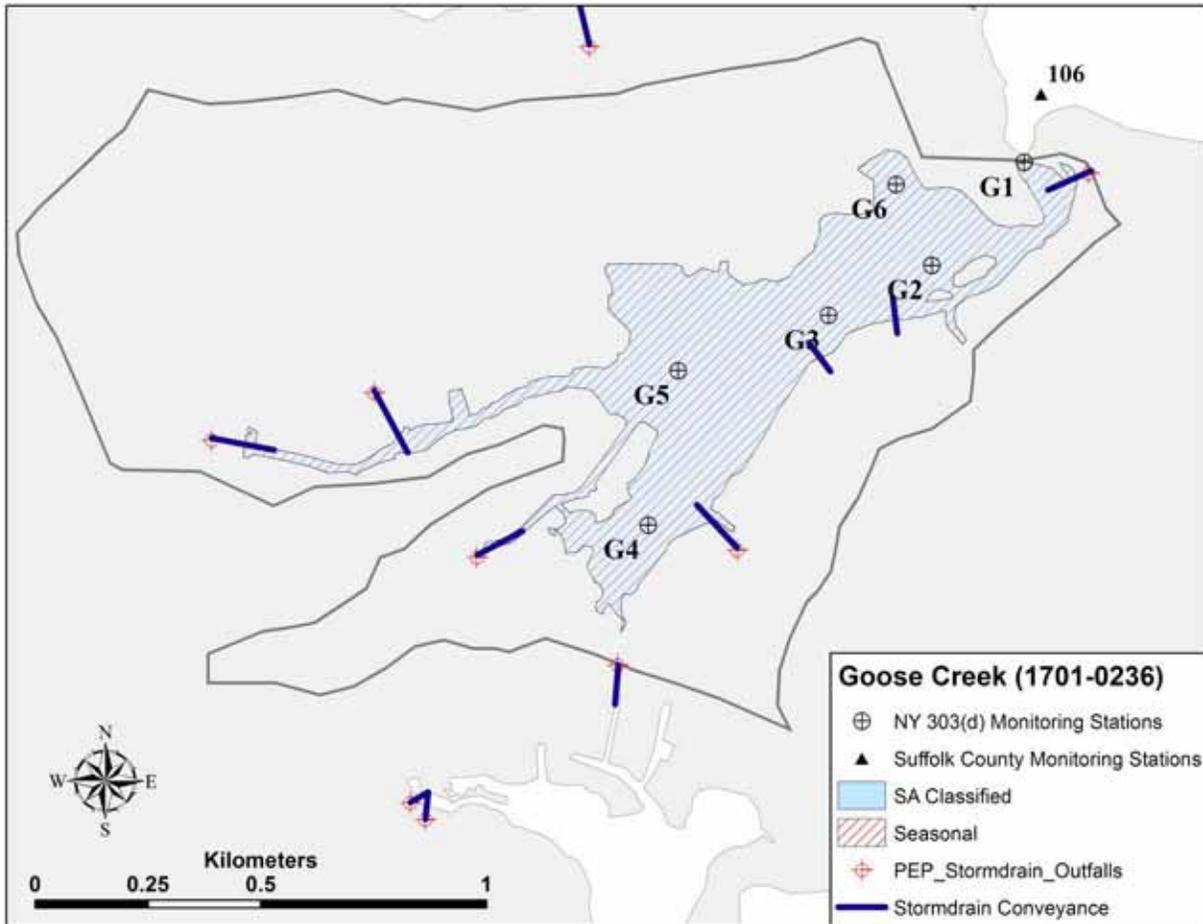


Figure 2-5. Goose Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Hashamomuck Pond: Hashamomuck Pond is a large water body located on the North Fork that empties into a protected basin that includes Budds Pond, among other water bodies, and that borders Shelter Island Sound. Hashamomuck Pond is seasonally certified for shellfishing between December 1 and April 30. The creek that flows into Hashamomuck Pond (Long Creek), however, is uncertified for shellfishing. From December 21, 2005 through April 30, 2006, the waters of Hashamomuck Pond normally designated as closed were classified as conditionally certified, with the exception of the Clay Pit (enclosed pond in Zone HP-2 in Figure 2-6). This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing provided that not more that 0.35 inches of rainfall is recorded in a 24-hour period.

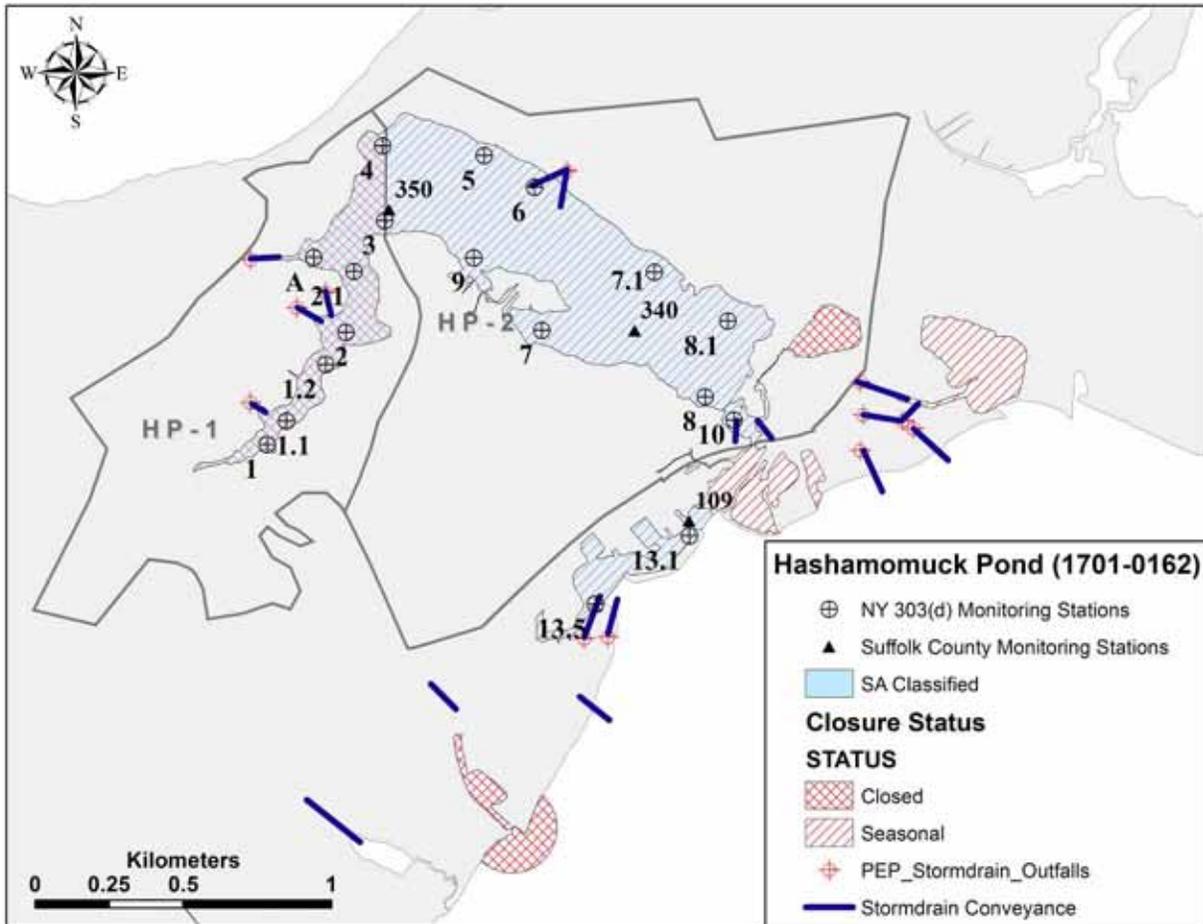


Figure 2-6. Hashamomuck 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Richmond Creek and tidal tributaries: Richmond Creek and its tidal tributaries lie farther west on the North Fork than the previously described water bodies, bordering Little Peconic Bay. All the water bodies are seasonally certified for shellfishing between November 1 and March 31.

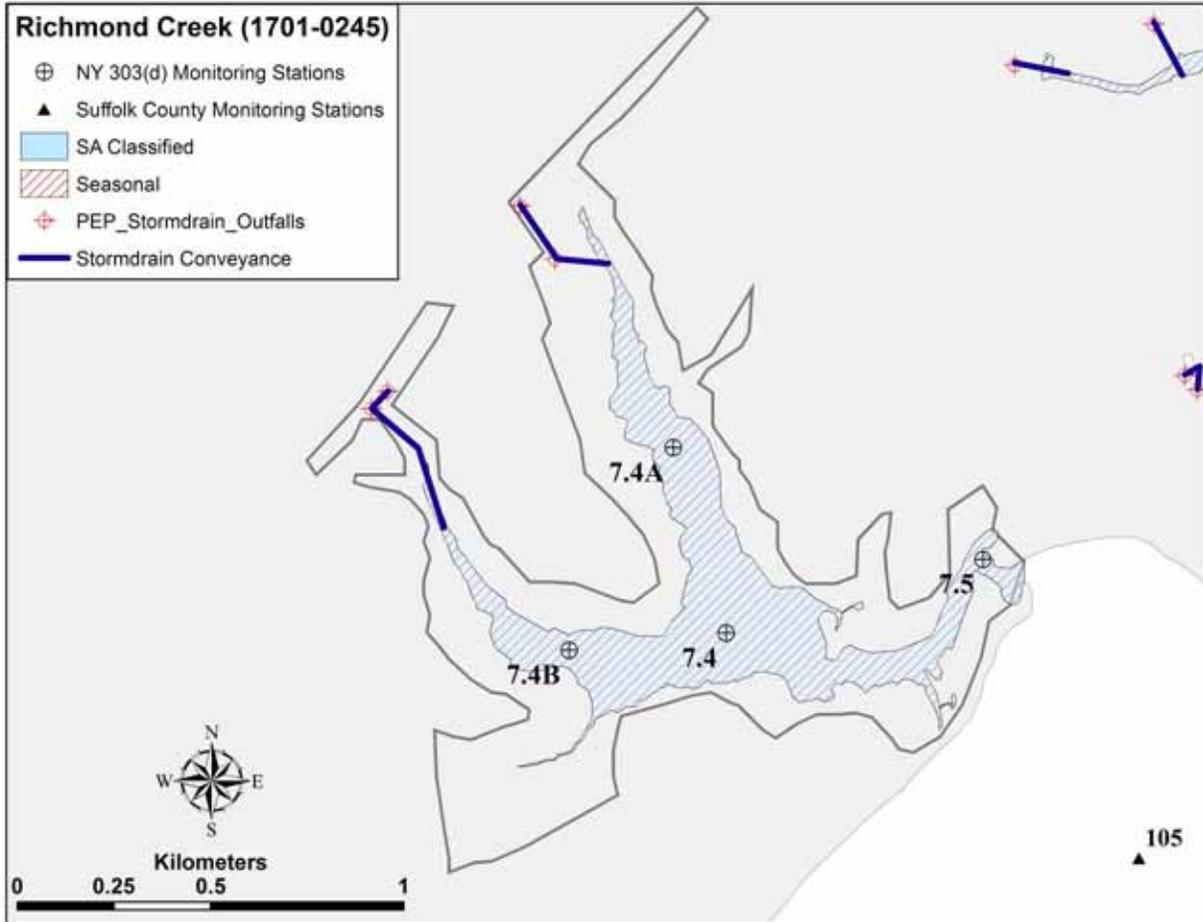


Figure 2-7. Richmond Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Tidal tributaries of Great Peconic Bay—Downs Creek, Deep Hole Creek (and “Unnamed Pond”), Halls Creek, and James Creek: These five water bodies are various small tidal tributaries that empty into Great Peconic Bay on the North Fork. James Creek, Deep Hole Creek, and Halls Creek are all seasonally certified for shellfishing between December 1 and April 30. Unnamed Pond is the lagoon-like water body immediately north of Deep Hole Creek. Downs Creek is currently certified.

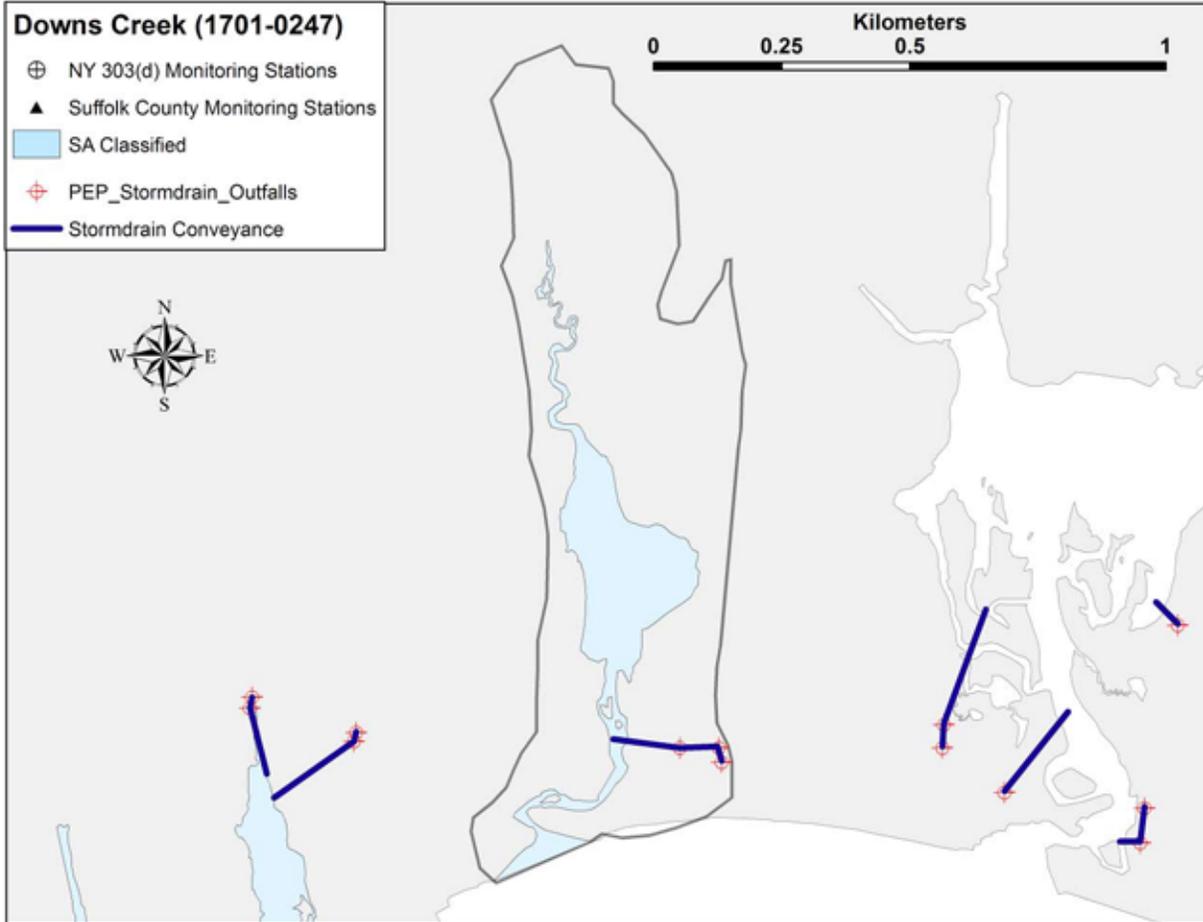


Figure 2-8. Downs Creek 303(d). Classification indicating SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

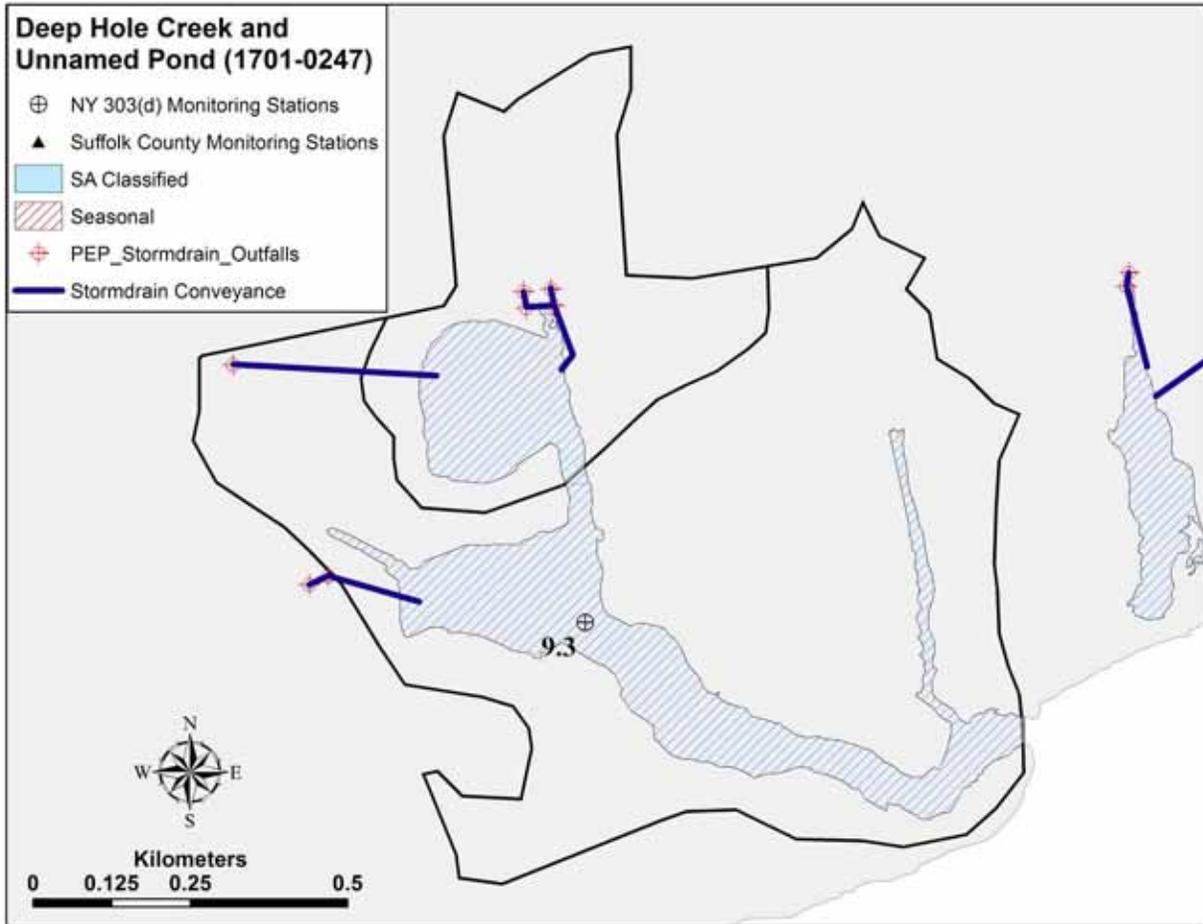


Figure 2-9. Deep Hole Creek (and “Unnamed Pond”) 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

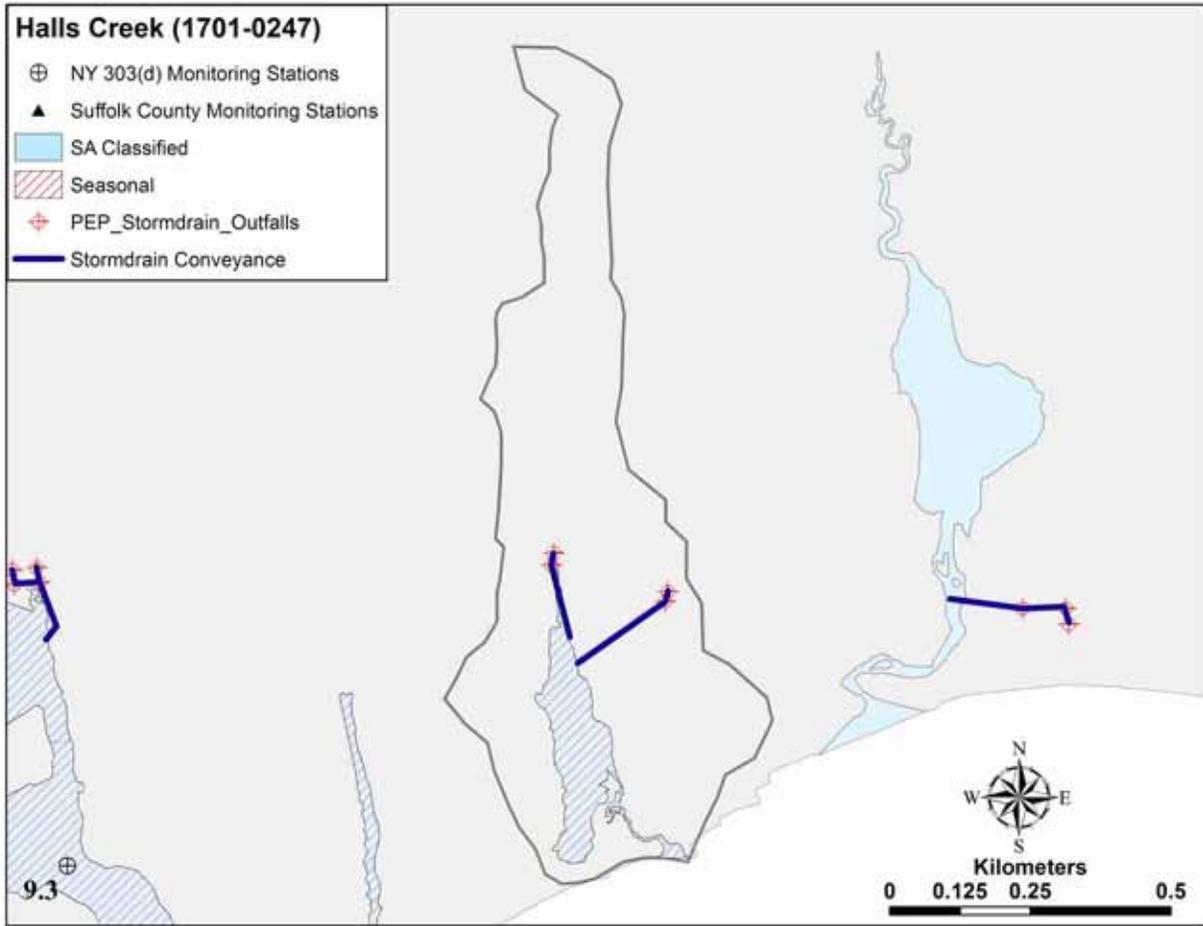


Figure 2-10. Halls Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

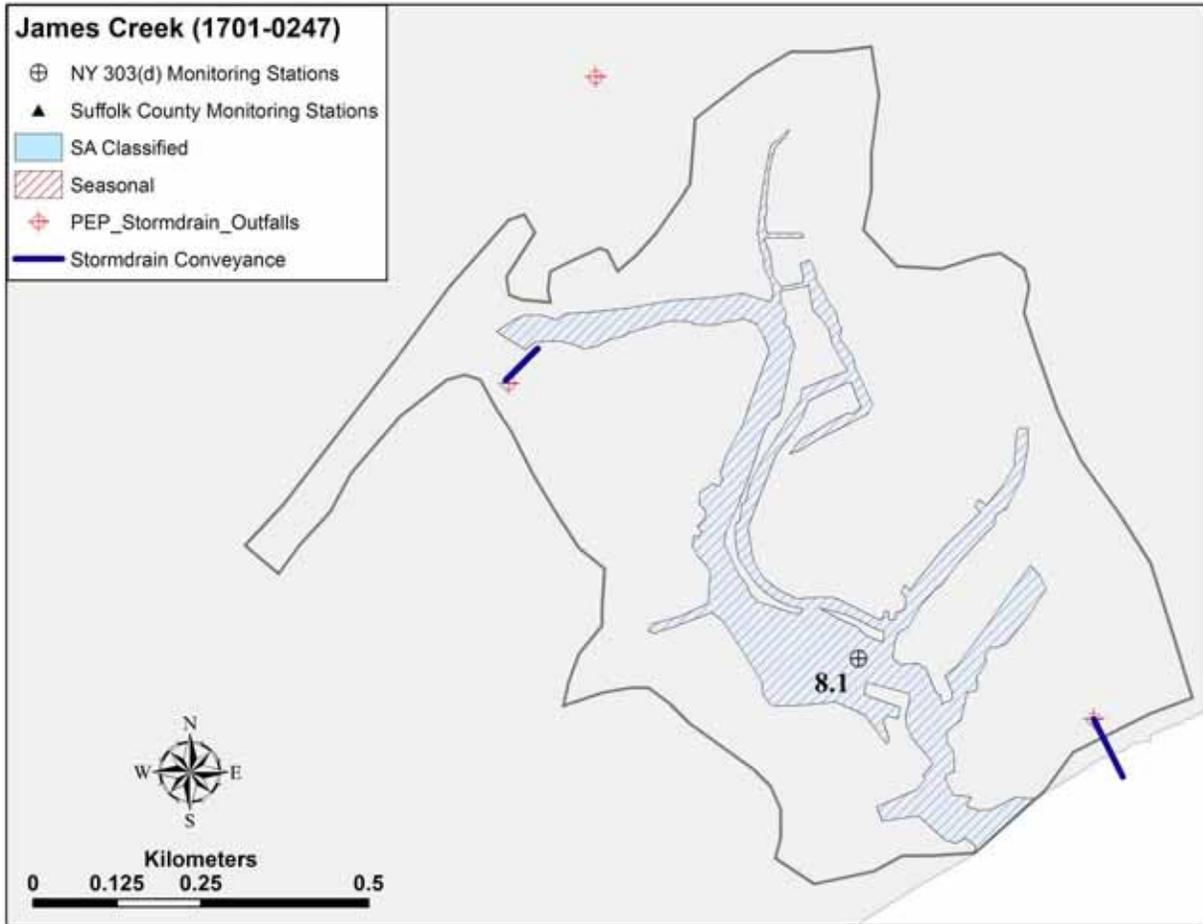


Figure 2-11. James Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Flanders Bay, east/center, and tributaries: Flanders Bay and its tidal tributaries are located around the mouth of the Peconic River at the juncture of the North and South Forks. All of Flanders Bay (stretching from the northernmost tip of Goose Creek Point to the southernmost tip of Simmons Point) and its tributaries are uncertified for shellfishing.

Reeves Bay and tidal tributaries: Reeves Bay is an embayment located immediately south of the mouth of the Peconic River. The shellfishing areas in Reeves Bay and its tributaries are uncertified. From January 16, 2006 through April 15, 2006, the waters of Reeves Bay normally designated as closed were classified as conditionally certified. This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that not more that 0.05 inches of rainfall is recorded in a 24-hour period.

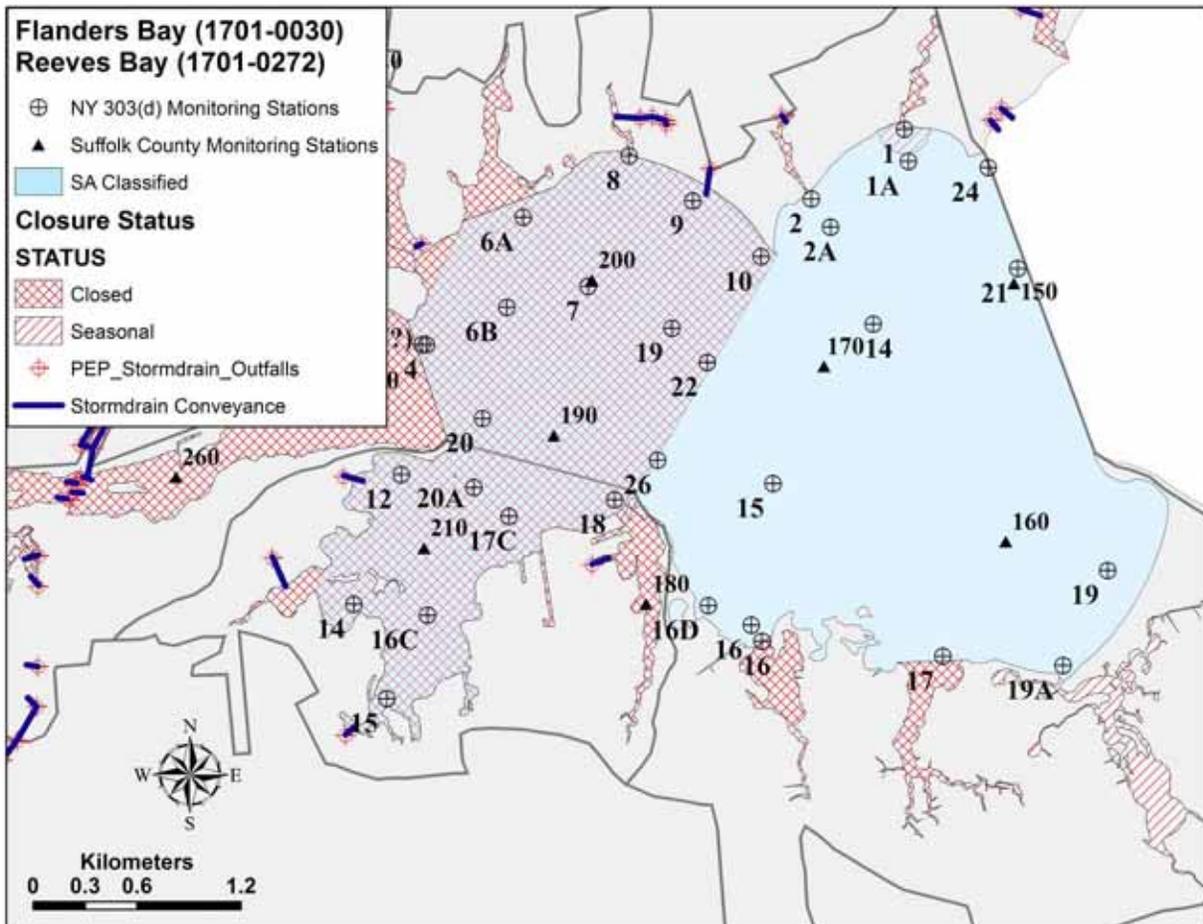


Figure 2-12. Flanders and Reeves Bays 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Sebonac Creek/Bullhead Bay and tidal tributaries: The Sebonac Creek/Bullhead Bay complex lies on the South Fork and borders Great Peconic Bay. The entire complex is seasonally certified for shellfishing between December 1 and April 30.

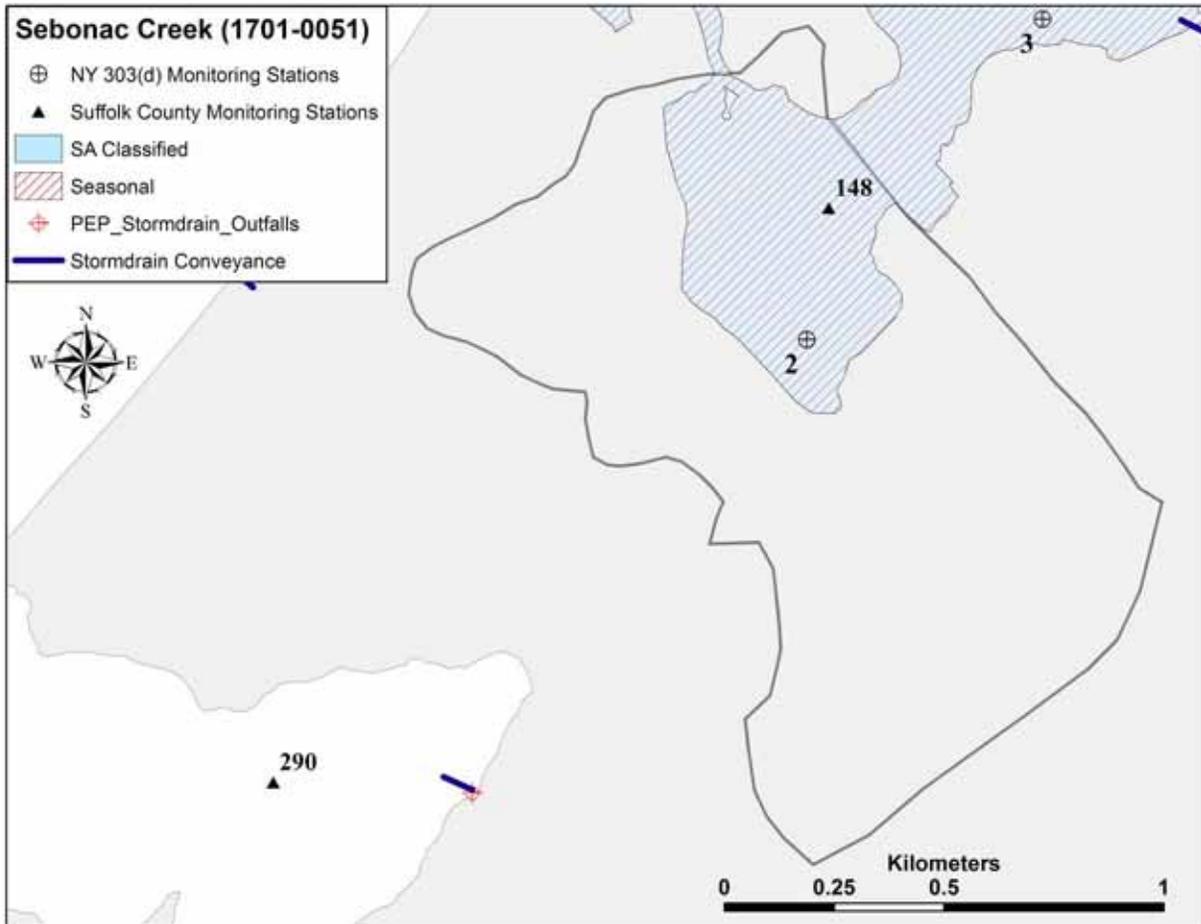


Figure 2-13. Sebonac Creek/Bullhead Bay 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Scallop Pond: Scallop Pond is connected to the Sebonac Creek/Bullhead Bay complex along the South Fork and is also certified for shellfishing between the dates of December 1 and April 30.

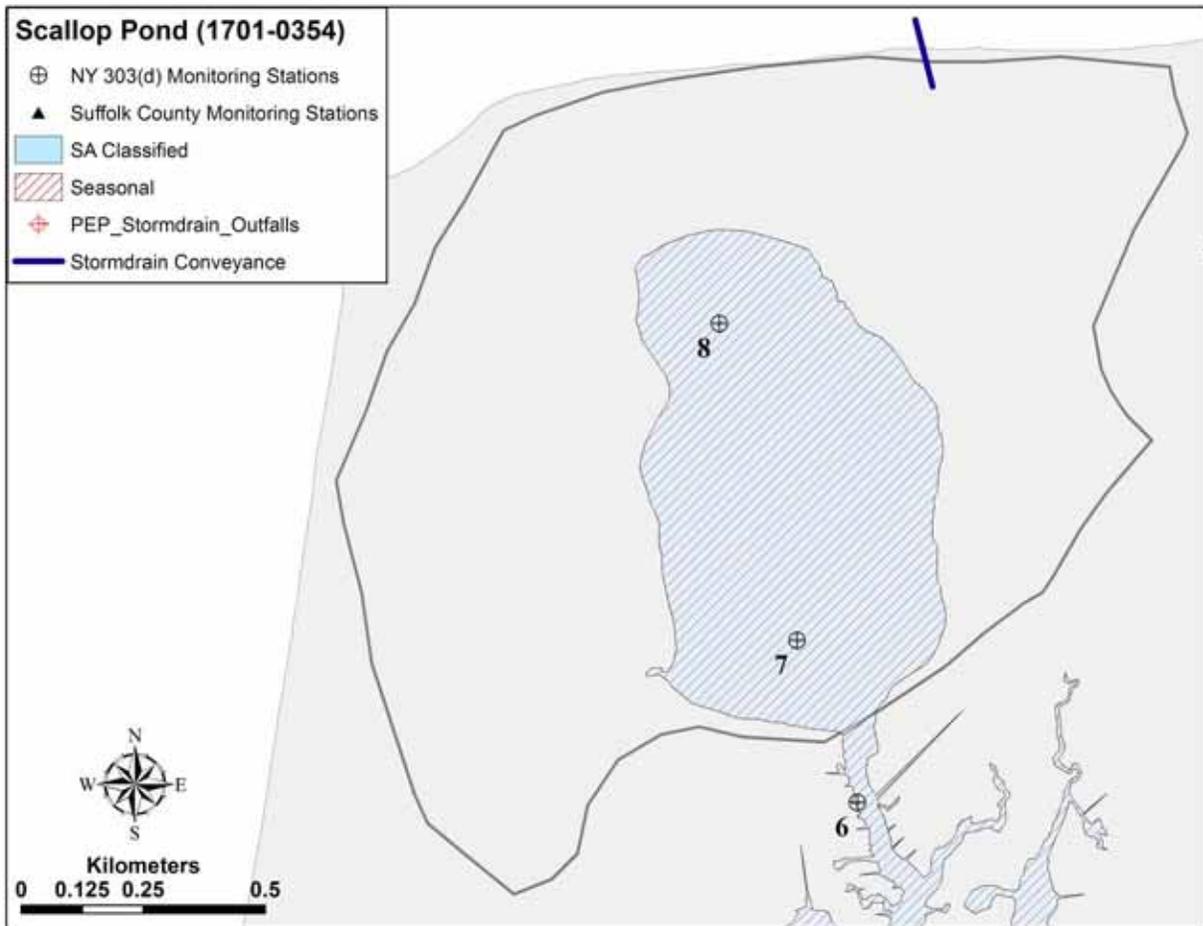


Figure 2-14. Scallop Pond 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

North Sea Harbor and tributaries: North Sea Harbor and its tributaries lie to the east of the Sebonac Creek/Bullhead Bay complex on the South Fork and empty into Little Peconic Bay. Davis Creek, which flows from Turtle Cove into the North Sea Harbor, is seasonally certified and may be harvested for shellfish between December 1 and April 30. From December 20, 2004 through April 23, 2005, the North Sea Harbor waters normally designated as closed were classified as conditionally certified (with the exception of Turtle Cove (Zone NSH-3 in Figure 2-15) and Alewife Creek (the tributary in Zone NSH-1). An update for the 2005-2006 season on the conditional status of these waters was unavailable. This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that not more that 0.25 inches of rainfall is recorded in a 24-hour period.

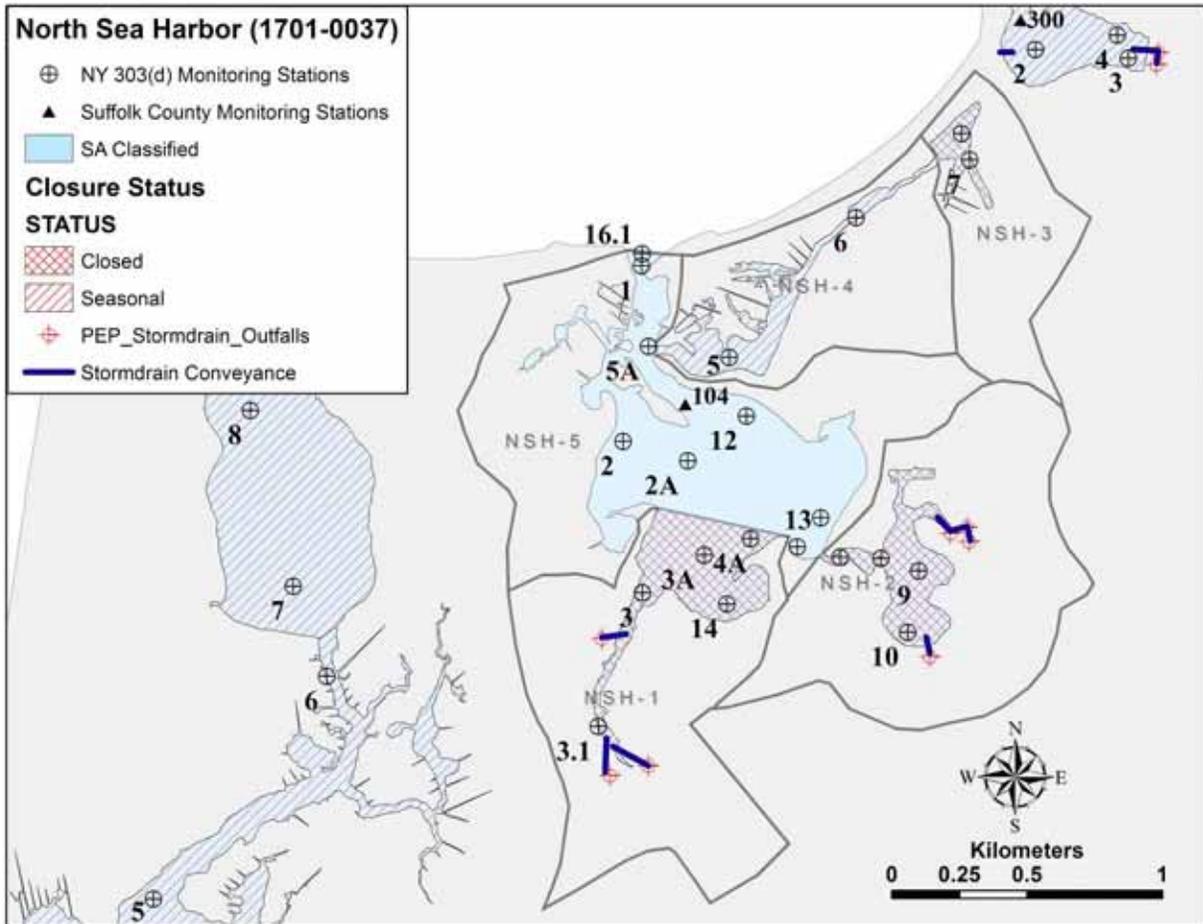


Figure 2-15. North Sea Harbor 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Wooley Pond: Wooley Pond lies along the South Fork, northeast of North Sea Harbor. Wooley Pond is seasonally certified for shellfish harvesting between December 1 and April 30.

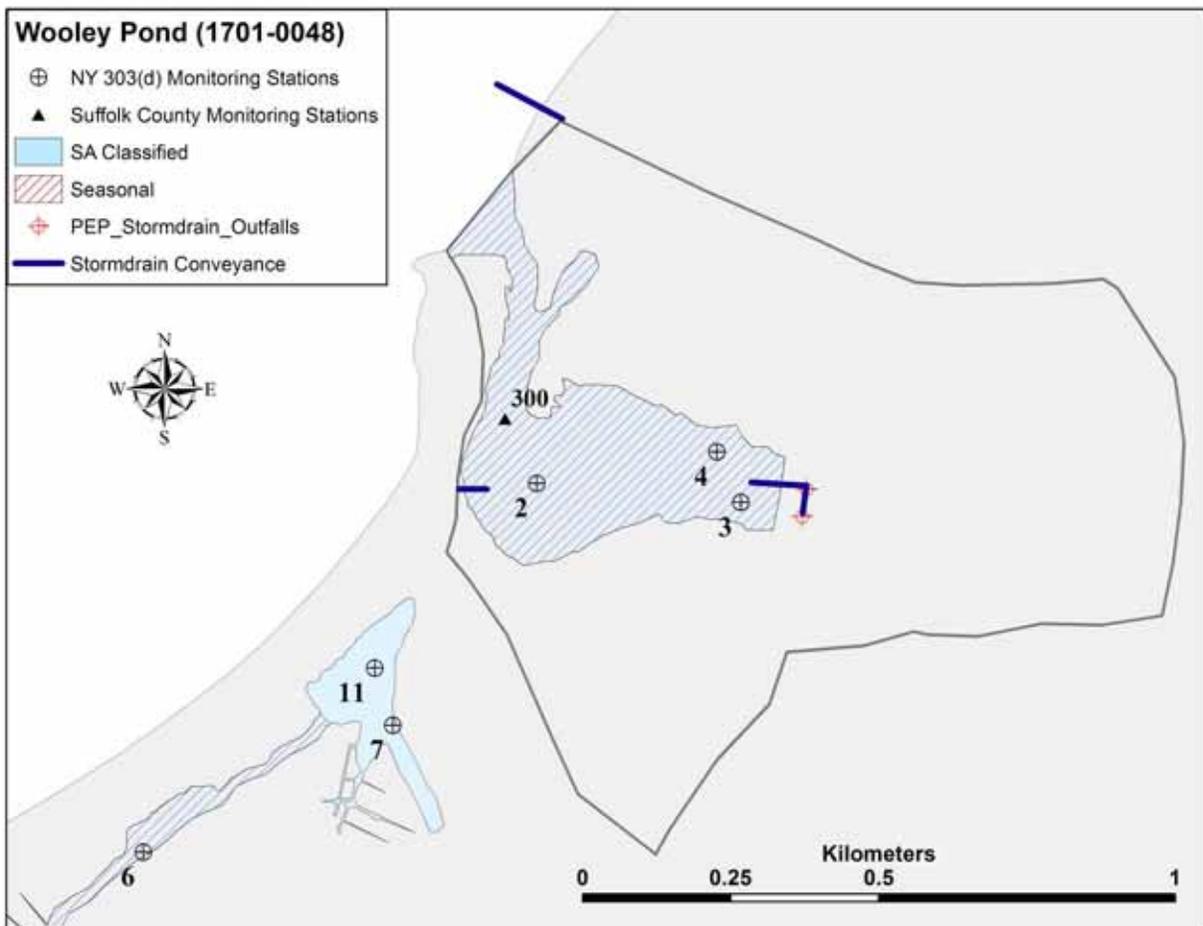


Figure 2-16. Wooley Pond 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Noyac Creek and tidal tributaries: Noyac Creek lies northeast of Wooley Pond along the South Fork, just east of Jessup's Neck, a long peninsula that juts into Peconic Bay. Noyac Creek is certified for shellfishing between December 1 and April 30.

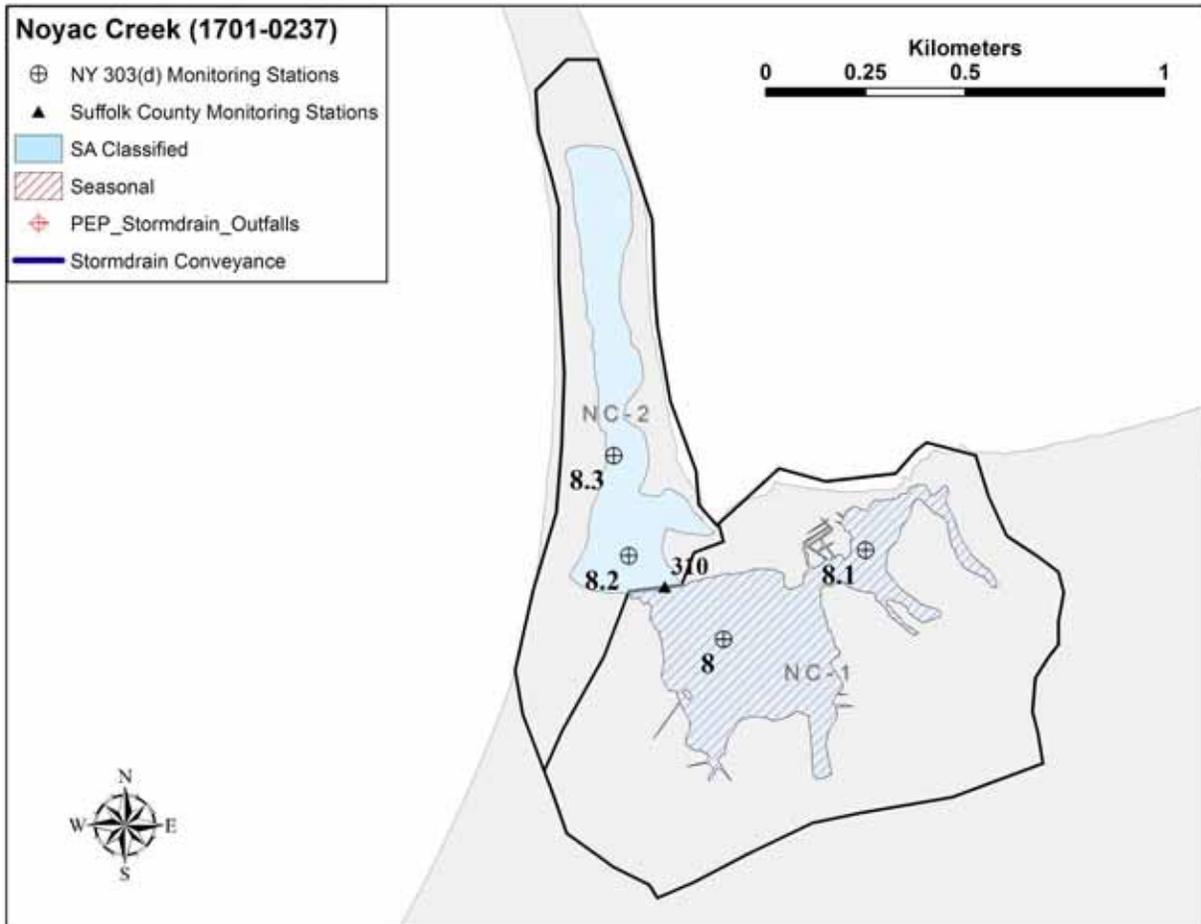


Figure 2-17. Noyac Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Sag Harbor and Sag Harbor Cove: Sag Harbor Cove is located east of Noyac Creek on the South Fork, bordering Noyac Bay on the west (but without an outlet) and emptying into Sag Harbor on the east. Sag Harbor itself, from the mouth of Sag Harbor Cove to the breakwaters, is uncertified for shellfish harvesting. Portions of Sag Harbor Cove are also uncertified, including upper Paynes Creek in the western section of the cove complex and a portion of Upper Sag Harbor Cove, adjacent to Bluff Point. The two parts of Sag Harbor Cove that are seasonally certified for shellfishing from November 1 until May 14 are the Redwood Canal and the easternmost section of the cove, before it empties into Sag Harbor. From December 19, 2005 through April 30, 2006, the waters of the Sag Harbor Complex normally designated as closed were classified as conditionally certified, with the exception of Sag Harbor Proper. This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that not more that 0.40 inches of rainfall is recorded in a 24-hour period.

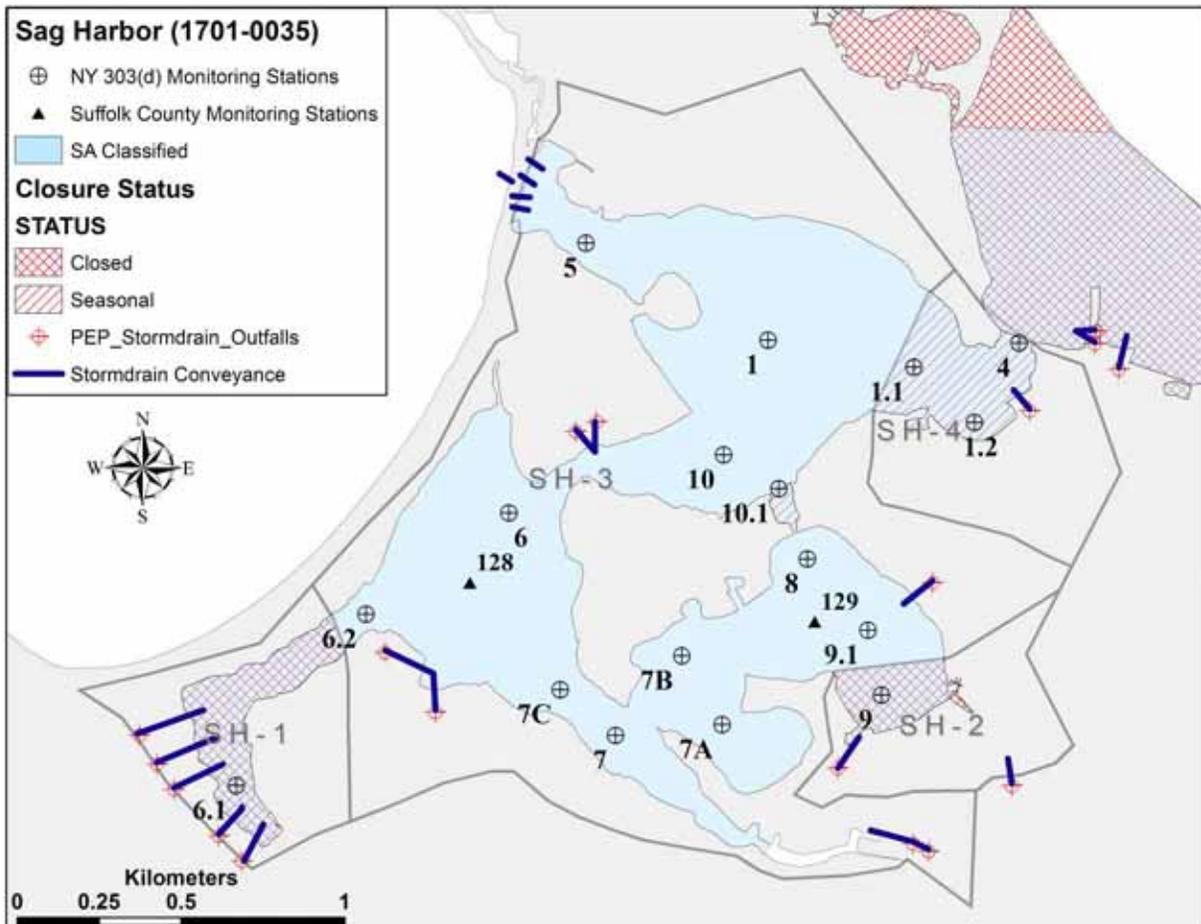


Figure 2-18. Sag Harbor 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Northwest Creek and tidal tributaries: Northwest Creek lies to the east of Sag Harbor along the South Fork of Long Island. The creek and its tributaries are normally uncertified for shellfish harvesting. However, between December 20 and April 30, the water body (with the exception of two small areas) is conditionally certified as long as precipitation over a seven day timespan does not exceed 0.25 inches. The two areas that remain uncertified for harvesting are unnamed tributary systems in the easternmost part of the creek. From January 9, 2006 through April 30, 2006, the waters of Northwest Creek normally designated as closed were classified as conditionally certified. This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that not more that 0.40 inches of rainfall is recorded in a 24-hour period.

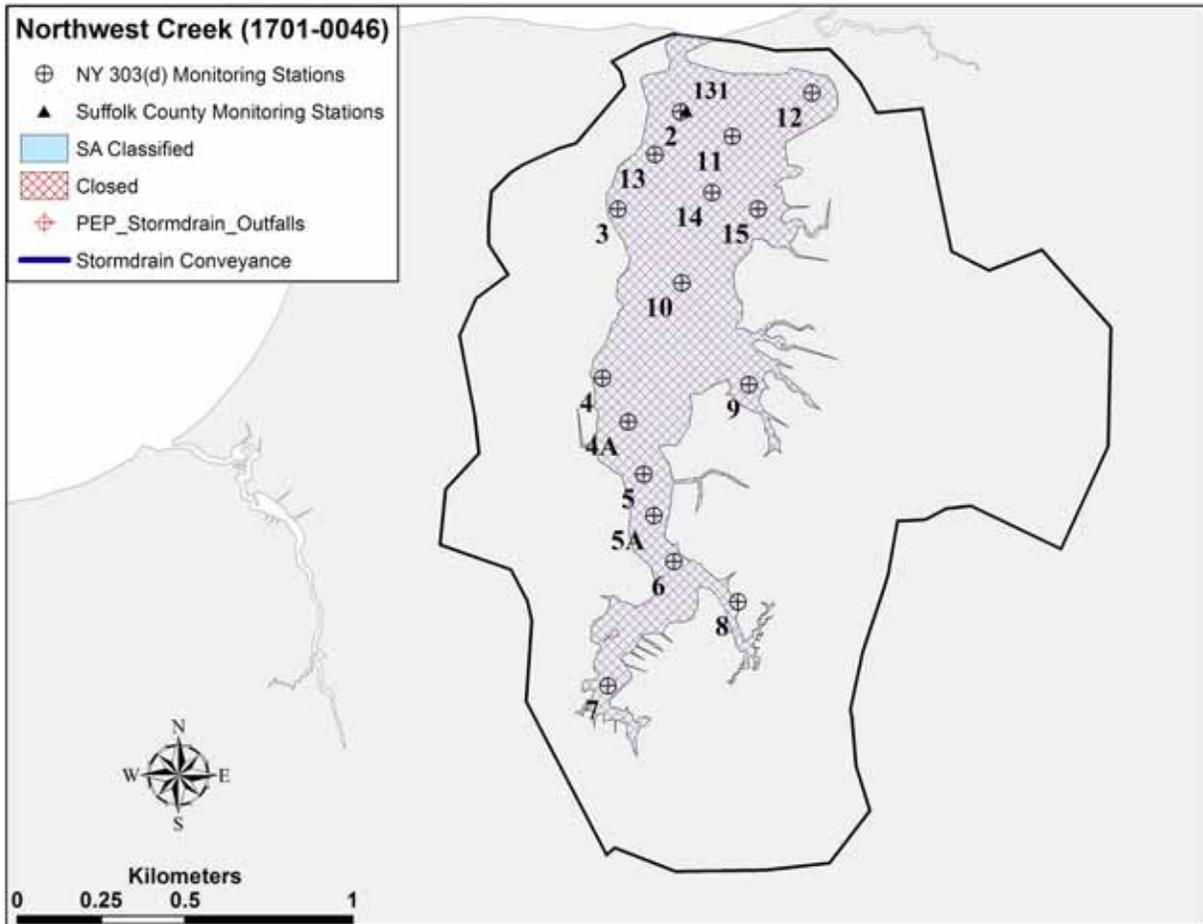


Figure 2-19. Northwest Creek 303(d). Classification indicating uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Acabonac Harbor: Acabonac Harbor is one of the most easterly of the water bodies covered by this TMDL report, being located on the South Fork, facing Block Island Sound. Between December 20 and April 30, the northernmost sections of Acabonac Harbor as well as the southernmost tributary system are conditionally certified for shellfishing, provided precipitation does not exceed 0.3 inches during a seven day timespan. The remaining part of Acabonac Harbor south of Sage Island is seasonally certified between December 1 and April 30. From December 12, 2005 through April 30, 2006, the waters of Acabonac Harbor normally designated as closed were classified as conditionally certified. This conditional designation is not automatic and is established on an annual basis. Conditional areas remain open to shellfishing, provided that not more that 0.30 inches of rainfall is recorded in a 24-hour period.

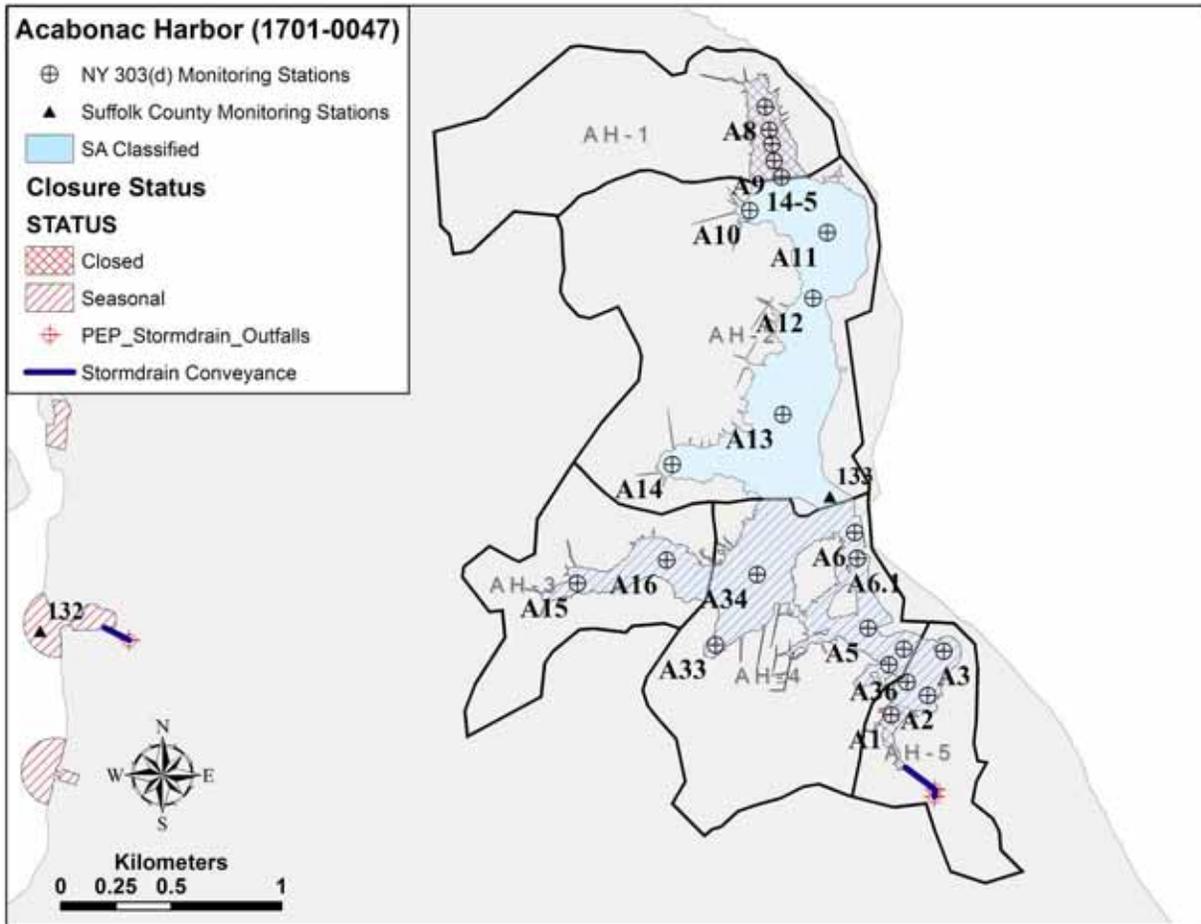


Figure 2-20. Acabonac Harbor 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Montauk Lake: Montauk Lake lies near the extreme tip of the South Fork, with an outlet to Block Island Sound. The region of Montauk Lake between the jetties marking the entrance to the lake and the northern tip of Star Island (along with the western side of the island) is uncertified for shellfish harvesting. Other sections of the lake, however, are seasonally certified, including the area directly south of the uncertified section (and to the east of Star Island) and the area surrounding the Montauk Lake Marina and Club, which are open for shellfishing between October 16 and May 14. Another section (the southernmost tip of the lake) is certified from December 15 until March 30.

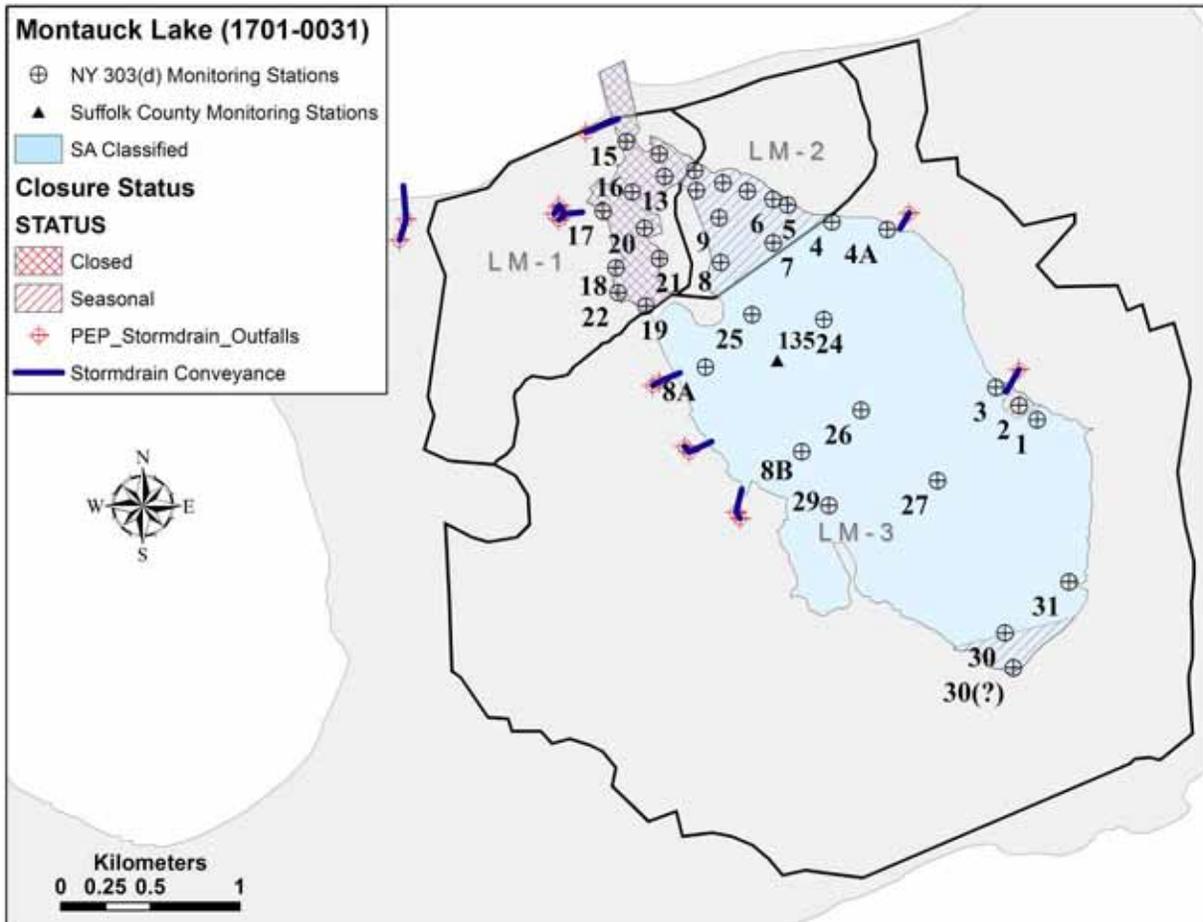


Figure 2-21. Montauk Lake 303(d). Classification indicating seasonally certified (seasonal) and uncertified (closed) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

Oyster Pond/Lake Munchogue: Oyster Pond is located adjacent to Montauk Lake, with a small outlet to Block Island Sound. The entire lake is uncertified for shellfish harvesting.

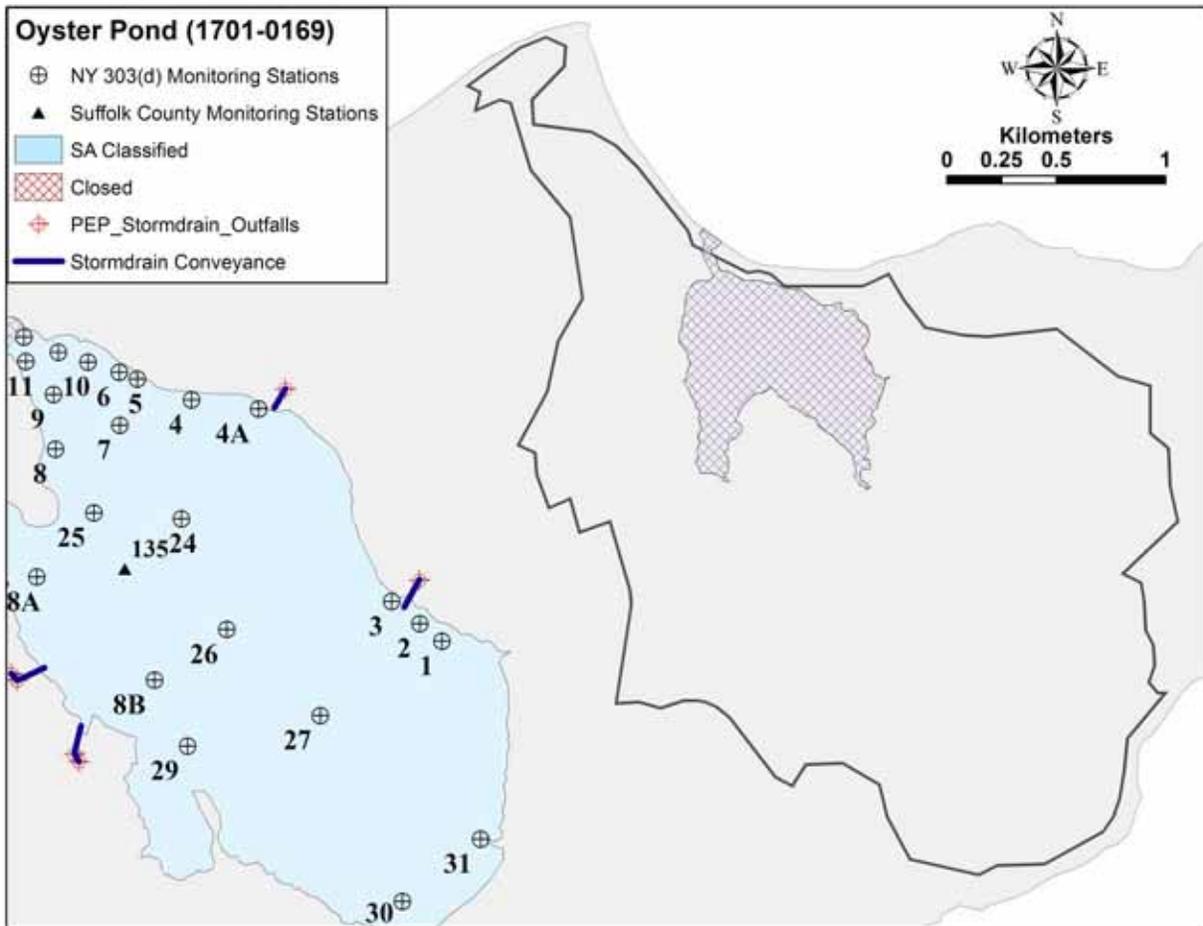


Figure 2-22. Oyster Pond/Lake Munchogue 303(d). Classification indicating uncertified (closed) SA waters. NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations do not exist within Oyster Pond and associated contributing zone. Gray boundary indicates stormwater contributing zones.

Little Sebonac Creek: Little Sebonac Creek is a section of the Sebonac Creek/Bullhead Bay complex and is seasonally certified for shellfishing between December 1 and April 30.

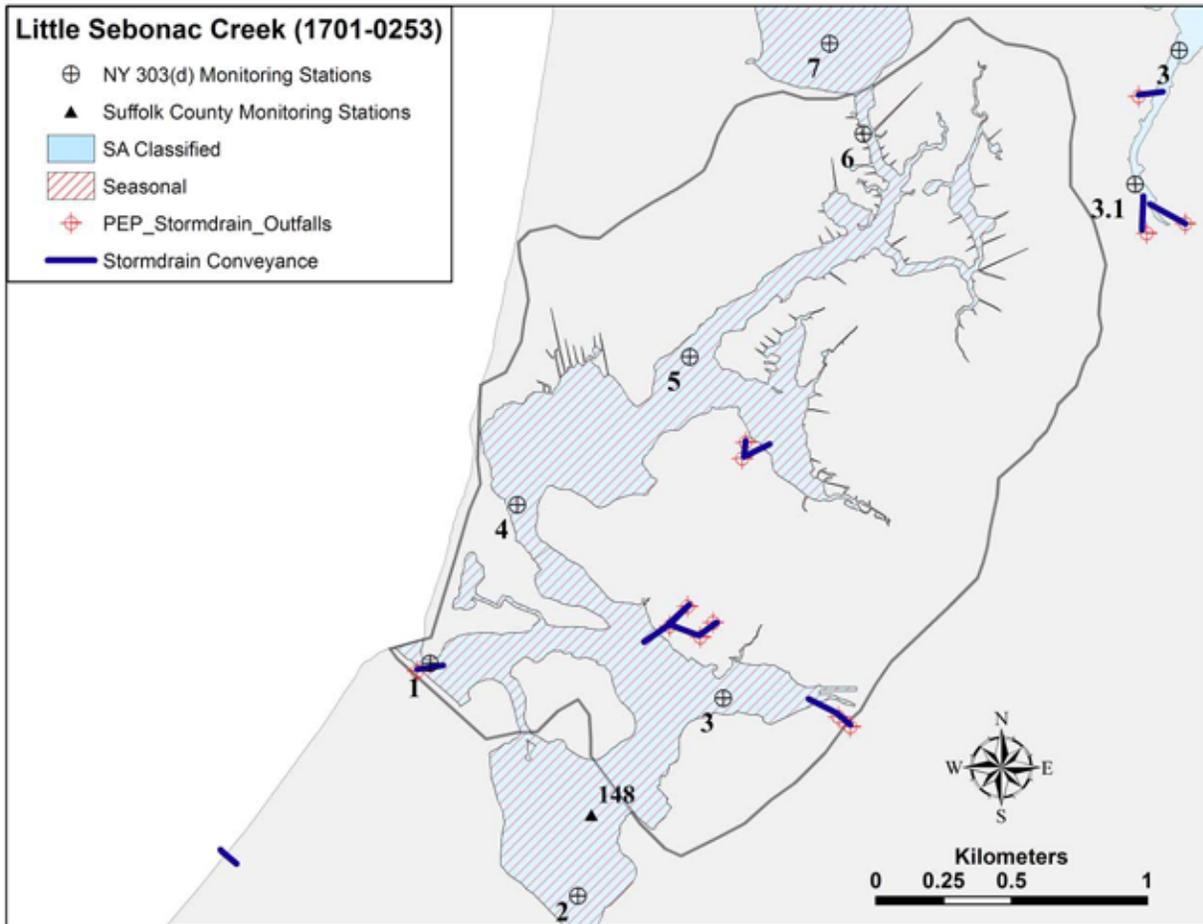


Figure 2-23. Little Sebonac Creek 303(d). Classification indicating seasonally certified (seasonal) SA waters, NYS and Suffolk County sampling stations, stormdrain conveyances, and outfall locations. Gray boundary indicates stormwater contributing zones.

NYSDEC maintains administrative closures around sewage treatment plant (STP) outfalls. Although water quality within the administrative closure might meet the bacteriological criteria for certified shellfishing areas, the closures are necessary in the event of STP failure or malfunction, such as loss of disinfection. These closures serve as buffer zones between the actual point source (the STP outfall) and the nearest certified shellfishing areas. The closures are of sufficient size that untreated or inadequately treated sewage would be contained for long enough for NYSDEC officials to notify shellfish harvesters to stop harvesting in the adjacent certified waters.

Similarly, NYSDEC also maintains administrative closures within and around marinas and boat mooring areas due to the presence of marine sanitation devices (MSD) onboard boats. The guidelines of the National Shellfish Sanitation Program (NSSP, 2003) require closures within all marinas having more than 10 boats and also areas adjacent to the marinas that may be affected by MSD discharge. The size of the closures around marinas or mooring areas is based on a number of variables, including: the number of

boats with MSDs, the number of people occupying the boats, the availability of shore-based toilets, the tidal range and current in the area, etc.

The TMDL developed in this study will address impairment at the remaining uncertified and seasonally uncertified areas within SA-classified water bodies and develop load allocations for point and nonpoint sources to achieve the water quality goals for shellfish harvesting in the 25 water bodies. This will be done through a thorough evaluation of state and county water quality data (total and fecal coliform), determination of percent reduction (if needed) to statistically achieve coliform standards, an evaluation of likely sources of coliform loads to each impaired water body, and recommendations toward achieving necessary load reductions.