

**APPLICATION FOR
FEDERAL NO DISCHARGE ZONE (NDZ)
DESIGNATION**

**SARAH CREEK & PERRIN RIVER
GLOUCESTER COUNTY, VIRGINIA**



**SUBMITTED TO U.S. ENVIRONMENTAL PROTECTION AGENCY REGION III
BY THE COMMONWEALTH OF VIRGINIA**

DECEMBER, 2016

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INTRODUCTION

The Federal Clean Water Act (CWA) prohibits dumping of untreated sewage anywhere in the United States territorial waters. Human waste from boating activities must be either:

- (1) Stored on the vessel to be disposed of at an appropriate facility once on land; or
- (2) Treated by marine sanitation devices (MSDs) meeting treatment standards set by the U.S. Coast Guard prior to being discharged into the water.

MSD treatment standards are designed to minimize visible floating solids and to significantly reduce, but not eliminate, the concentration of fecal coliform bacteria and other pathogens potentially associated with human waste being released into the waterway. In comparison to wastewater discharged from terrestrial sources, treated wastewater discharged from boats is relatively concentrated. Furthermore, the most common marine sanitation devices in greatest use today do not provide for the reduction of nutrient levels (such as nitrogen or phosphorus) or treatment for chemical or biological oxygen demand in boat wastewater.

States however have the option under Section 312 of the CWA to petition the U.S. Environmental Protection Agency (EPA) to completely prohibit the discharge of all sewage from vessels, whether treated or not. They can do this by requesting EPA to designate waters in their jurisdiction considered sensitive to contamination from bacteria and pathogens as No Discharge Zones (NDZs).

Although the volume of sewage discharged from vessels is less than the volume of pollution resulting from agricultural or storm water runoff from the upland, the marine environment where this type of pollution occurs is particularly vulnerable. Boats are typically concentrated at marinas and these locations are often times situated in areas where flushing rates are slow, and as a result, pollutants may remain for an extended time period.

Many shellfish harvesting beds are also located in these vulnerable areas. The Chesapeake Bay is known for its shellfish, especially the oyster. These organisms are filter feeders that strain large volumes of water to obtain small plankton which they use as a food source. If bacteria and pathogens are present in the water, this filtering behavior can lead to the concentration of these microorganisms in the oyster's gut, thereby posing risks to human health from oyster consumption. For this reason, Virginia's water quality standard for bacteria in waters capable of growing shellfish is more stringent than Virginia's bacteria water quality standard for primary contact (e.g. swimming).

The best available tool that a state or local government can use for protection of waters from recreational and commercial vessel sewage discharges is designation of an area as a NDZ. Vessels traveling in a NDZ are prohibited from discharging both treated and untreated sewage (EPA, *Protecting Coastal Waters from Vessel and Marina Discharges: A Guide for State and Local Officials*, August 1994).

NO DISCHARGE ZONES IN VIRGINIA

The code of Virginia ([§ 62.1-44.33](#)) establishes all tidal creeks of the Commonwealth as No Discharge Zones, where vessels may be prohibited from discharging treated or untreated waste into Virginia's waters. The code further states that the establishment of a NDZ is to be premised on the improvement of impaired tidal creeks.

All or portions of the waters proposed for designation (Sarah Creek and Perrin River) have been listed on the current and previous 303(d) List of Impaired Waters by the Virginia Department of Environmental Quality (DEQ) as impaired for shellfish harvesting due to fecal coliform counts. A Total Maximum Daily Load (TMDL) for these shellfish impairments was developed and approved by EPA in 2006. Both waterways are also listed as impaired for dissolved oxygen and aquatic plants (macrophytes).

The establishment of a NDZ has been listed as one of Virginia's approaches for improving water quality in the Chesapeake Bay, as a strategy under the 2000 Chesapeake Bay Agreement, and in the Chesapeake Bay and Virginia Waters Clean-Up Plan established under House Bill 1140.

Because NDZs are federally designated, the U.S. Environmental Protection Agency (EPA) has the final decision as to whether a waterbody is designated a NDZ. However, in Virginia, individuals, organizations, and state or local government may initiate proposals for particular waterbodies to be designated NDZs. These proposals are then submitted to the Virginia Department of Environmental Quality for review and to the Virginia Secretary of Natural Resources and EPA for consideration.

In order to establish a waterbody as a NDZ under Section 312(f)(3) of the Clean Water Act and completely prohibit the discharge of sewage from vessels, whether treated or not:

- (1) A State must determine that the protection and enhancement of the quality of the waterbody requires greater environmental protection than the current Federal standards allow; and
- (2) EPA must determine that adequate facilities for the safe and sanitary removal and treatment of sewage from vessels are reasonably available for the waters to which the prohibition would apply.

REQUEST FOR NO DISCHARGE ZONE (NDZ) DESIGNATION

This application respectfully requests EPA to designate two defined creek boundaries in adjacent watersheds located in Gloucester County, Virginia as No Discharge Zones: Sarah Creek and Perrin River (Figure 1). In addition to its greater need for protection, Sarah Creek was chosen as an initial request for NDZ designation in the County due to the high number of marinas located in the creek, the historic citizen participation of stewardship for the creek (creek clean ups, water quality monitors, etc.), its proximity to the York River, and its total inclusion within County boundaries. The Perrin River was similarly chosen as an initial request due to the need for greater protection, its proximity to the Sarah Creek Watershed and discharge into the York River, and its location within County boundaries.

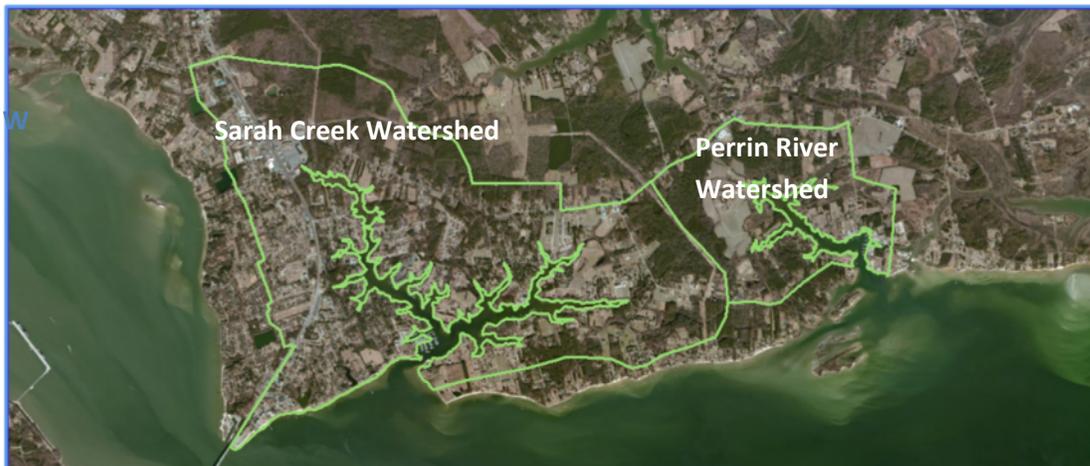


Figure 1 - Sarah Creek & Perrin River Watersheds

Data are provided in this application to: (1) demonstrate the need for NDZ designation in these areas; (2) verify the availability of adequate pump-out facilities as an alternative to overboard discharge; and (3) present evidence of local support for NDZ designation.

Given approval from EPA, the Commonwealth of Virginia intends to prohibit all sewage discharges from vessels, whether treated or untreated, into the designated No Discharge Zones. The NDZ designation will not apply to gray water vessel discharges in the affected areas provided the gray water discharge system is independent from the sewage system (i.e., no shared tanks, pipes, pumps, or valves).

CERTIFICATE OF NEED

Greater protection of Sarah Creek and Perrin River waters than provided by the currently applicable Federal regulations is required to protect the tidal ecosystem services provided by these creeks, restore the restricted and closed shellfish beds in these areas, and prevent further water quality degradation and loss of beneficial uses in these creeks as well as in the York River, a large tributary to the Chesapeake Bay in which these creeks discharge.

With the exception of small sections in these creeks, the shellfish use of these waters has been and is currently compromised by bacterial impairment, which causes the tributaries to fail to meet state water-quality standards. While terrestrial pollution is a threat to these marine natural resources, vessel pollution is direct and proximate to oyster grounds, and therefore may have a more immediate impact on local water quality.

The following Resources and Environmental Issues section documents the environmental status of the watersheds.

RESOURCES AND ENVIRONMENTAL ISSUES

Sarah Creek and Perrin River are tributaries to the larger York River which in turn drains to the Chesapeake Bay, one of the largest estuarine systems and most important natural resources in the United States (Figure 2).

SARAH CREEK WATERSHED

Sarah Creek watershed encompasses a land area of approximately 5.67 square miles or 3,632 acres with approximately 18 miles of shoreline. There are 2,477 residential dwellings located in the watershed. Bathymetry of the creek ranges from 0 to approximately 4 meters (13 feet) at Mean Low Water (MLW). Currently there is one commercial marina (York River Yacht Haven), one boat repair/marina (Jordan Marine), and two private marinas (Dockside Condominiums and Sawgrass Pointe Community Association) located on Sarah Creek providing 467 slips. An additional commercial marina (Gloucester Point Marina) is open for slip rental, but is under renovation and no other marina services are in operation. Approximately 180 private docks and 6 boat ramps are also located on the creek. Sarah Creek has a high concentration of boating activity including recreational and some commercial.



Figure 2: Sarah Creek & Perrin River, tributaries to Chesapeake Bay

PERRIN RIVER WATERSHED

Perrin River watershed, located just east of the Sarah Creek watershed, encompasses a land area of approximately 1.65 square miles or 1,056 acres with approximately 7.37 miles of shoreline. There are 195 residential dwellings located within the watershed. Bathymetry of the creek ranges from 0 to approximately 2.5 meters (8 ft) at MLW. There is one main marina, Crown Pointe Marina, located on the creek providing 238 slips. There are several working waterfront piers used by commercial watermen. The Middle Peninsula Public Access Authority recently reconstructed the public dock “Perrin River Landing” which provides 8 slips to local watermen. Approximately 50 private docks and 4 private boat ramps are also located on the river.

HUMAN USE

Multitudes of people enjoy these waterways for a variety of activities, including boating, fishing, shellfish harvesting, oyster gardening, crabbing, water skiing, swimming and more. There are marinas, private piers, numerous vessel anchorages, public and private boat launch facilities, commercial seafood docks, and a waterside restaurant, River’s Inn Restaurant, present on these waterbodies. In addition, Gloucester Point public beach is located on the York River not far from the mouth of Sarah Creek.



Figure 3: Gloucester Point Beach

Transient recreational vessels also utilize these creeks when traveling up and down the East coast and transiting the Chesapeake Bay. Those who live on the creeks and those that visit enjoy the scenery, wildlife and water. Vessels of all sizes and types use the creeks for recreational benefits including sailing vessels, motor yachts, fishing vessels, personal watercraft, canoes, kayaks, skiffs, water skiers and swimmers.

As briefly mentioned, Sarah Creek and Perrin River are used commercially by local watermen (Figure 4). In the summer they crab, and in the spring, fall and winter they fish for a variety of fishes and eels. The winter months are the oyster season. According to local watermen, there are approximately 24 to 30 large dead rise work boats working in either creek at any given time (Figure 5). These creeks provide sites of commercial oyster harvest and nurseries, clam harvest, fisheries and crabbing (Figure 6, 7, & 8). This area has a long heritage of watermen working the water. Watermen are interwoven with the unique identity of the Chesapeake Bay, influencing its history, culture, and economy.



Figure 4: Commercial Waterman



Figure 5: Chesapeake Bay Deadrise Workboat



Figure 6: Fish Harvest



Figure 6: Oyster Farm Nurseries



Figure 7: Blue Crab Catch



Figure 8: Oyster Float at Pier

The Tidewater Oyster Gardeners Association (TOGA), a non-profit organization established to promote the environmental health of the Bay and its tributaries through oyster cultivation, has members as well as other waterfront property owners engaged in private oyster culture (oyster gardening) on Sarah Creek and Perrin River by using oyster floats at private piers (Figure 9).

RESEARCH/EDUCATION

The Virginia Institute of Marine Science (VIMS), currently among the largest marine research and education centers in the United States, is located on the York River and at close proximity to the mouth of Sarah Creek. VIMS has a three part mission to conduct interdisciplinary research in coastal ocean and estuarine science, educate students and citizens, and provide advisory service to policy makers, industry, and the public; and provides these services to Virginia, the nation, and the world... *Science for the Bay, Impact for the World*. In addition, the School of Marine Science at VIMS is the graduate school in marine science for the College of William and Mary. VIMS' scientists and students actively use Sarah Creek, Perrin River, and the York River they drain into to conduct research and provide education of the marine and coastal environment (Figure 10).



Figure 9: VIMS Scientists conducting research in Sarah Creek

WILDLIFE

Sarah Creek, Perrin River, and the York River provide food, spawning and/or habitat to threatened, endangered, and rare species of plants and animals. Approximately 33 water-dependent species with special management status utilize these waters. A list of these species is provided in Table 1.

A complete species list is available by searching *VaFWIS Search* at the Virginia Department of Game and Inland Fisheries (DGIF) website.

Table 1: Most known or likely species ordered by Status Concern for Conservation in Sarah Creek and Perrin River

BOVA Code	Status*	Tier**	Common Name	Scientific Name
010032	FESE	II	Sturgeon, Atlantic	<i>Acipenser oxyrinchus</i>
030074	FESE		Turtle, Kemp's ridley sea	<i>Lepidochelys kempii</i>
030075	FESE		Turtle, leatherback sea	<i>Dermochelys coriacea</i>
030071	FTST	I	Turtle, loggerhead sea	<i>Caretta caretta</i>
040120	FTST	I	Plover, piping	<i>Charadrius melodus</i>
030072	FTST		Turtle, green sea	<i>Chelonia mydas</i>
040110	SE	I	Rail, black	<i>Laterallus jamaicensis</i>
020052	SE	II	Salamander, eastern tiger	<i>Ambystoma tigrinum</i>
030013	SE	II	Rattlesnake, canebrake	<i>Crotalus horridus</i>
040096	ST	I	Falcon, peregrine	<i>Falco peregrinus</i>
040129	ST	I	Sandpiper, upland	<i>Bartramia longicauda</i>
040379	ST	I	Sparrow, Henslow's	<i>Ammodramus henslowii</i>
020044	ST	II	Salamander, Mabee's	<i>Ambystoma mabeei</i>
020002	ST	II	Treefrog, barking	<i>Hyla gratiosa</i>
010038	FC	IV	Alewife	<i>Alosa pseudoharengus</i>
040144	FC	IV	Knot, red	<i>Calidris canutus rufus</i>
010045	FC		Herring, blueback	<i>Alosa aestivalis</i>
040093	FS	II	Eagle, bald	<i>Haliaeetus leucocephalus</i>
100001	FS	IV	fritillary, Diana	<i>Speyeria diana</i>
030067	CC	II	Terrapin, northern diamond-backed	<i>Malaclemys terrapin terrapin</i>
030063	CC	III	Turtle, spotted	<i>Clemmys guttata</i>
040225		I	Sapsucker, yellow-bellied	<i>Sphyrapicus varius</i>
040319		I	Warbler, black-throated green	<i>Dendroica virens</i>
040038		II	Bittern, American	<i>Botaurus lentiginosus</i>
040052		II	Duck, American black	<i>Anas rubripes</i>
040029		II	Heron, little blue	<i>Egretta caerulea caerulea</i>
040114		II	Oystercatcher, American	<i>Haematopus palliatus</i>
040105		II	Rail, king	<i>Rallus elegans</i>
040381		II	Sparrow, saltmarsh sharp-tailed	<i>Ammodramus caudacutus</i>
040186		II	Tern, least	<i>Sterna antillarum</i>
040187		II	Tern, royal	<i>Sterna maxima maximus</i>
040320		II	Warbler, cerulean	<i>Dendroica cerulea</i>
040266		II	Wren, winter	<i>Troglodytes troglodytes</i>

*FE=Federal Endangered; FT=Federal Threatened; SE=State Endangered; ST=State Threatened; FP=Federal Proposed; FC=Federal Candidate; FS=Federal Species of Concern; CC=4 VAC 15-360-10 section 5 Collection Concern ** I=VA Wildlife Action Plan - Tier I - Critical Conservation Need; II=VA Wildlife Action Plan - Tier II - Very High Conservation Need; III=VA Wildlife Action Plan - Tier III - High Conservation Need; IV=VA Wildlife Action Plan - Tier IV - Moderate Conservation Need

Sarah Creek, Perrin River, and their watersheds support many natural vegetative communities, from aquatic grass beds to tidal marshes to a variety of woodlands. These communities support a wide diversity of resident and migratory reptiles, birds, and mammals. This document highlights just some of the animals that inhabit the tributaries.



The Northern diamond-backed terrapin is the only species of turtle in North America that spends its life in brackish nearshore environments. It is common along both tidal creeks where typical food items such as fiddler crabs and periwinkle snails are in abundance (Figure 11). In Virginia, this unique turtle is protected by law and it is illegal to collect or possess them.

Figure 10: Diamondback Terrapin (Photo by William Roosenburg)

Two sea turtle species, the logger head turtle and Kemp's Ridley, are federally protected under the Endangered Species Act and are regular visitors to the area.

Bald eagles, osprey, egrets, great blue heron (Figure 12), various species of ducks and other migratory and resident bird species are regularly seen foraging in the waters of Sarah Creek and Perrin River. The most common marine mammal, the bottlenose dolphin, is an occasional to frequent visitor in summer months.



Figure 11: Great Blue Heron



Figure 12: American Shad (Image Courtesy of MTSOfan/Flickr)

Numerous species of migrating fish including the shad and herring family make these tributaries their home. Several members of this family are important to commercial, recreational, and subsistence fishermen.

American shad are filter feeders, eating planktonic shrimp and copepods, as well as fish larvae. Hickory shad juveniles move downstream into the brackish waters of the tributaries where they may remain until autumn when they migrate off shore. Gizzard or mud shad inhabit the brackish waters of the estuary and move to fresh water to spawn in late spring or early summer.

Members of the family Sciaenidae, collectively referred to as drums, and include Atlantic croaker, spot, weakfish, spotted seatrout, and silver perch are important members of the fish community in these tributaries. Atlantic croaker is one of Virginia's most important fishery resources and spot are harvested by both commercial and recreational fishermen.

Flatfishes are characterized by adults that lie flat on the bottom on one side of their body and are referred to as either righteyed or lefteyed. Summer flounder, a popular sport fish in the area, is a lefteye flounder that occurs in the tributaries from spring to autumn. The hogchoker, is a small, righteye flatfish that is a year round resident. The blackcheek tonguefish, a teardrop shaped lefteye flatfish is also found in these waters throughout the year. It inhabits soft muddy bottoms and feeds on mollusks, worms, and small crustaceans present in the waterways (Murdy et al., 1997).

White perch and striped bass are popular targets for recreational anglers. White perch are year-round residents, while young of the year striped bass inhabit brackish waters downstream from spawning grounds until fall when they migrate to deeper waters in the bay. Bay anchovy are an abundant year-round resident that serve as an important food resource for numerous other fish species (e.g. striped bass and summer flounder), making them an important component of the food web.

Other inhabitants include the oyster toadfish, the spotted hake, striped killifish, and mummichogs. Sharks, skates and rays are seasonal visitors and generally inhabit the area between May and November.



Figure 13: Oysters

Oysters are present in both waterways. Oysters play an important role in the Bay's ecosystem as both a habitat for a variety of sessile plants and animals and free-swimming fish and shellfish, and as filter feeders because they feed upon phytoplankton (algae), helping to improve water quality by reducing turbidity. The number of oyster reefs in the Chesapeake Bay watershed has declined since the 1930's, which makes them a prime concern for conservation.

Similarly present in the waterways are ribbed mussels. Like oysters, they are filter feeders. Ribbed mussels (Figure 15) remove bacteria, metals, and toxins from the water column. Unlike oysters, they are rich in organic bacteria and are not commonly eaten by people. However, they play a critical role in the health of salt marshes by exhibiting a cooperative relationship with plants and animals of the marsh. Mussels establish habitat within the root structures of smooth cordgrass and in turn provide essential nutrients that enhance plants. Ribbed mussels also provide support and better stability for the root structures of smooth cordgrass, allowing the plants to better withstand storm conditions.



Figure 14: Ribbed Mussels (Photo Courtesy of Dr. Donna Bilkovic)

Most clams, like oysters and mussels, feed by filtering the water. While oysters sit above the surface and filter the passing water, clams dig into the sediment and feed through siphons they stick out of their burrows and into the water like straws.



Figure 15: Blue Crab

A dominant component of the benthic assemblage in shallow waters throughout the proposed designation area is the blue crab (Figure 16). The blue crab is woven into the culture and economy of the Chesapeake Bay region more intimately than perhaps any other aquatic species (Warner, 1976). This crab has supported an important commercial fishery since the late 1800's. Despite declines, the blue crab fishery remains consistently one of the highest value fisheries in the Bay (NMFS, 2007), and is the leading contributor to the total U.S. landings of blue crab (Fogarty and Lipcius, 2007).

SHELLFISH

The Virginia Department of Health, Division of Shellfish Sanitation (VDH-DSS) indicates that portions of both Sarah Creek and Perrin River have previously failed and currently fail to meet the National Shellfish Sanitation standards for fecal coliform bacteria (Figures 17 and 18).

Condemnation under the Division of Shellfish Sanitation classification means it is *“unlawful for any person, firm, or corporation to take shellfish from these sections for any purpose, except by permit granted by the Marine Resources Commission, as provided in Section 28.2-810 of the Code of Virginia”*.

This condemnation is put into effect based on the potential threat to human health resulting from contaminated shellfish consumption. Terrestrial pollution is a threat to marine natural resources; and programs and regulations have been adopted to reduce the impact from these pollution sources. However vessel pollution is direct and proximate to oyster grounds, and therefore may have a more immediate impact on local water quality.

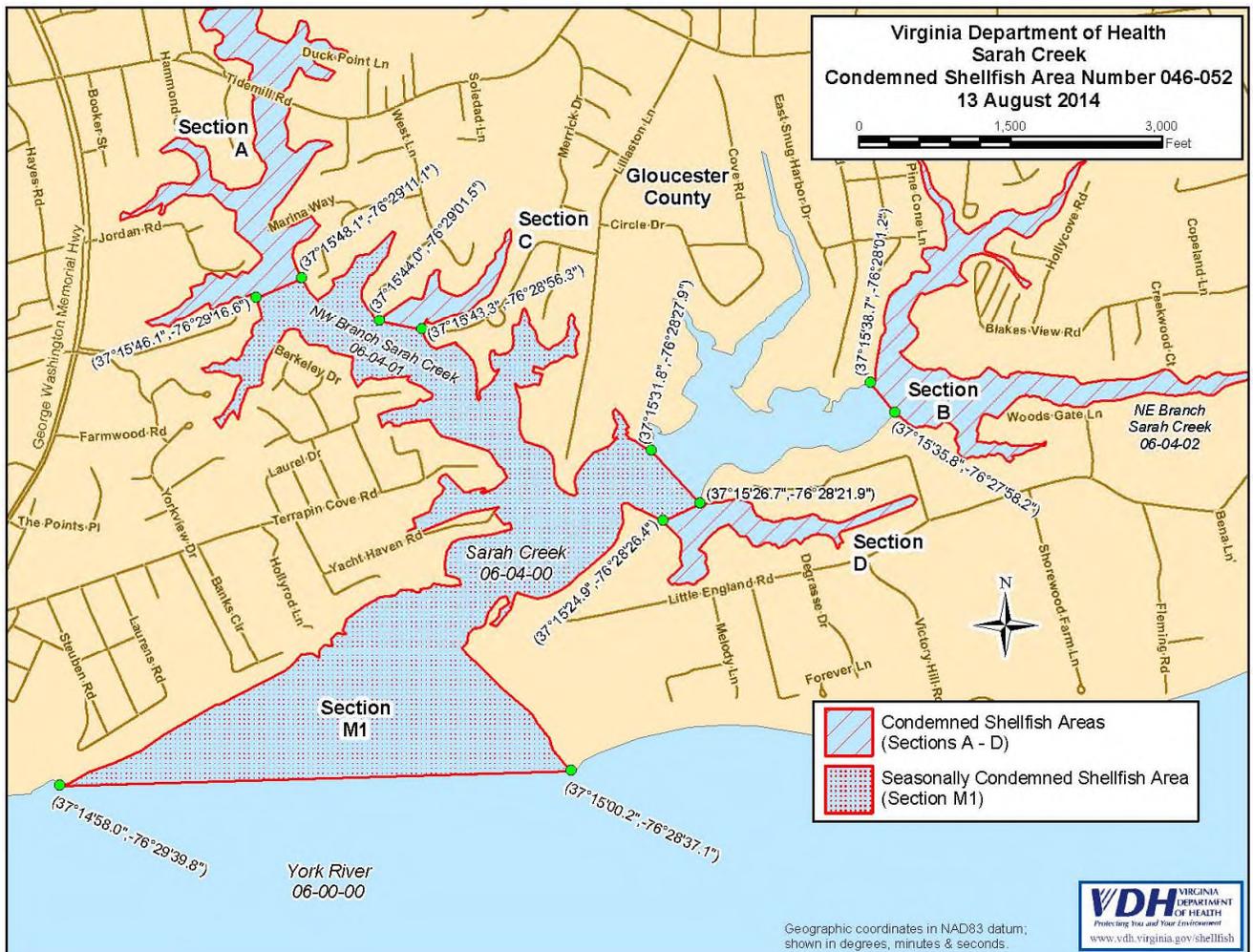


Figure 16: VDH-DSS Condemned Shellfish Area: Sarah Creek

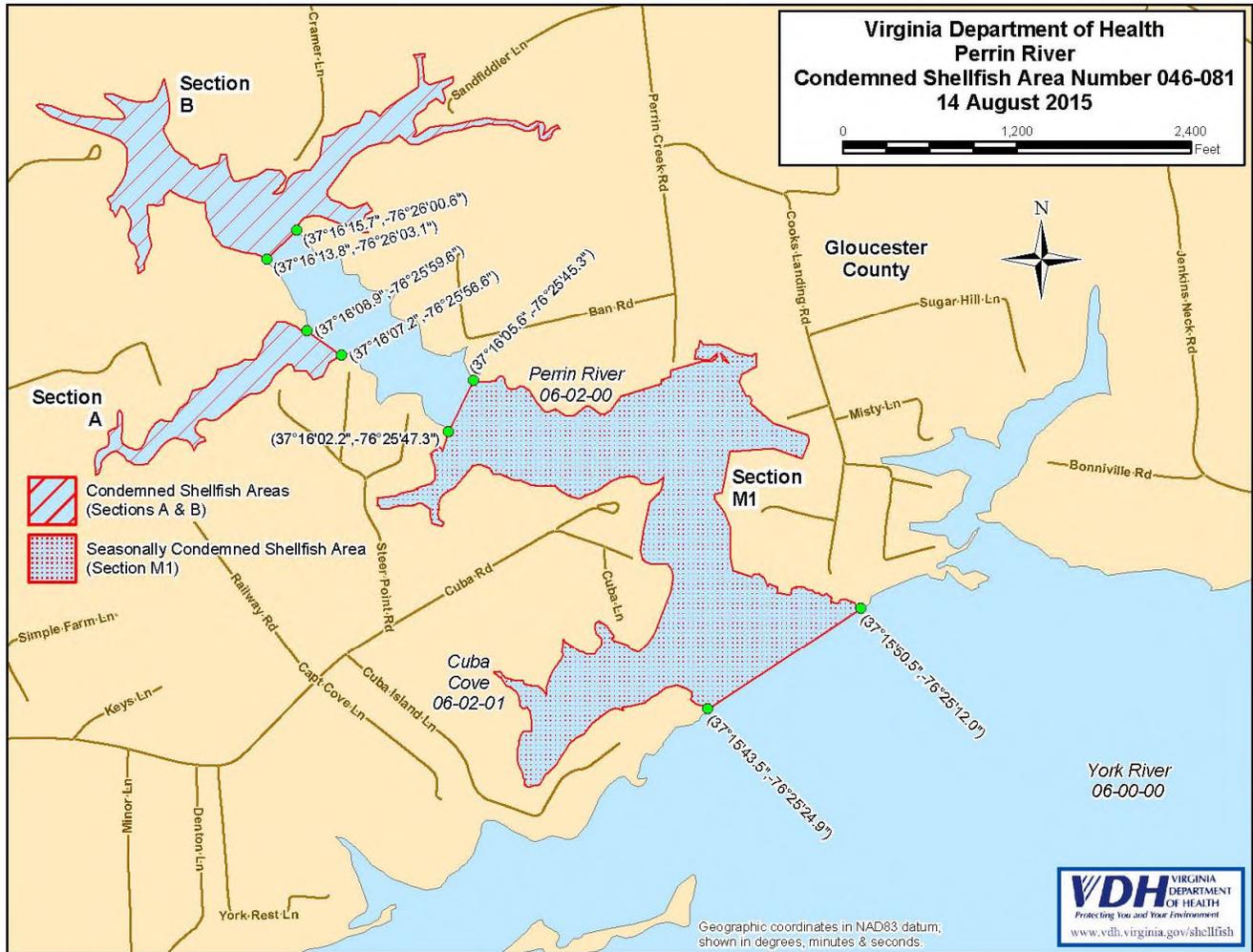


Figure 17: VDH-DSS Condemned Shellfish Area: Perrin River

WATER QUALITY

Sarah Creek and Perrin River are both listed on the 303(d) List of Impaired Waters by the DEQ as impaired for shellfish harvesting due to fecal coliform counts. A TMDL was developed and approved by EPA in 2006.

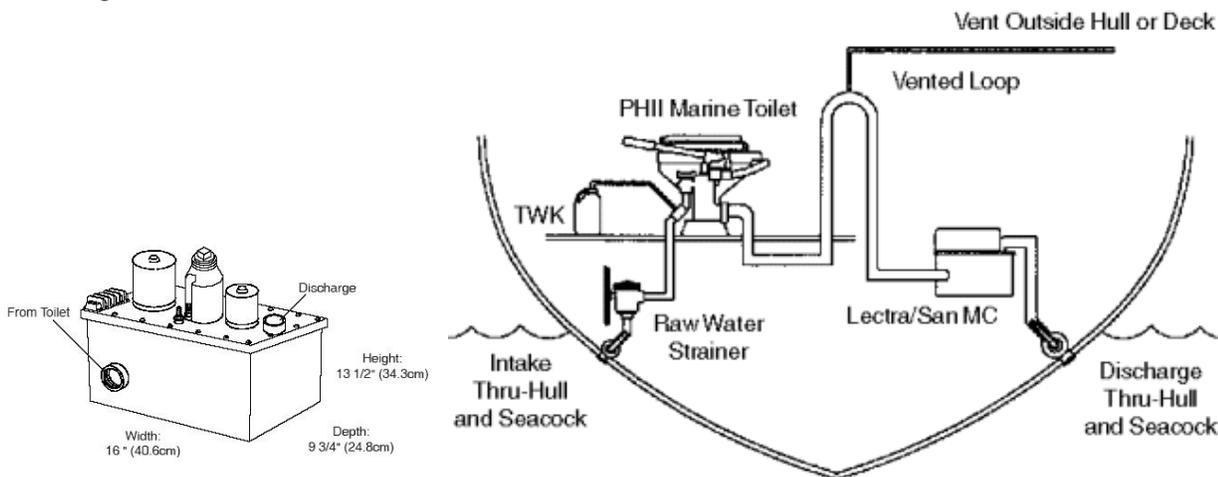
Additionally, both waterways have historically been and are currently impaired for aquatic life (dissolved oxygen and submerged aquatic vegetation). All waters of the York River and the Chesapeake Bay and its tributaries are also listed as impaired due to excess nutrients. As a result of these impairments, EPA completed and approved the Chesapeake Bay TMDL (12/29/2010).

Although many sources potentially contribute to declining water quality in these waters, discharges from vessels anchored, docked, moored, or operating within them have the potential to be contributory sources to the overall bacteria load, nutrient load, and oxygen demand.

MARINE SANITATION DEVICES (MSDs)

Under Section 312 of the Clean Water Act (CWA), human waste from boating activities must be either stored for land-based disposal or treated prior to discharge by marine sanitation devices (MSDs).

A MSD for purposes of the CWA, is “any equipment for installation on board a vessel which is designed to receive, retain, treat, or discharge sewage, and any process to treat sewage.” (33 U.S.C 1322(a)(5)). MSDs function by grinding the sewage and then treating it with chemicals such as chlorine, formaldehyde or heat to reduce the bacteria count before it is discharged overboard. Examples of MSDs can be seen in Figures 19 & 20.



Source: boatersisland.com

Figure 18: MSD Example

Figure 19: MSD Example

MSDs are required on board vessels that are equipped with installed toilets and operate on U.S. navigable waters. Vessels that do not have installed toilets are not required to have an MSD on board.

MSDs are categorized into three types (Type 1, Type II, and Type III) and are required to meet standards designed to minimize visible floating solids and to significantly reduce the concentration of fecal coliform bacteria and any other pathogens potentially associated with human waste (Table 2). These standards are set by the U.S. Coast Guard.

Table 2: MSD Type and Associated Treatment Standard

Type I Device	1000 fecal coliform/100 ml	No visible floating solids
Type II Device	200 fecal coliform/100 ml	150 mg/l suspended solids
Type III Device	No discharge standard	Holding tank; Recirculating toilet; Incinerating toilet

These standards, however, do not totally eliminate fecal coliform bacteria from discharge. Treated wastewater discharged from boats is relatively concentrated in comparison to wastewater discharged

from terrestrial sources. Furthermore, the most common marine sanitation devices in greatest use today do not provide for the reduction of nutrient levels (such as nitrogen or phosphorus) or treatment for chemical or biological oxygen demand in boat wastewater. A summary of the chemical constituents of vessel sewage measured in a typical recreational vessel holding tank is shown in Table 3.

Table 3: Chemical Constituents Measured in Vessel Sanitary Holding Tanks

Chemical Procedure	Unit	Result	Report Limit*
BOD	mg/l	2,800	2
COD	mg/l	5000	25
TKN	mg/l	2290	.5
Total P	mg/l	113	.2
Fecal Coliform	FC/100 ml	29,000,000	ND

Source: Lynnhaven Boat Wastewater Sampling Program. January 7, 2008

*Report Limit is the lowest concentration at which quantitation is demonstrated.

The introduction of wastes from boats into Sarah Creek and Perrin River not only increases the bacteria count, but can also increase biochemical oxygen demand (BOD) and therefore reduce the available oxygen required by aquatic species for their survival. In terms of the natural environment, BOD is perhaps the most serious consequence of waste discharge. BOD directly affects the amount of dissolved oxygen in rivers and streams. The greater the BOD, the more rapidly oxygen is depleted in the waterway. This means less oxygen is available to higher forms of aquatic life, which may result in increased stress and mortality.

The *Lynnhaven River Boat Wastewater Sampling Program* conducted by the City of Virginia Beach in 2008 revealed that the concentrations of BOD and chemical oxygen demand (COD) in boat sewage were 13 to 24 times the concentrations in domestic wastewater. The nitrogen and phosphorus concentrations in boat waste were 44 times higher and 20 times higher respectively than domestic wastewater. In addition, the boating season places an oxygen demand on the water body at a time of the year when the natural oxygen level is at its minimum due to water temperature and salinity.

Depending on the type of MSD, wastewater discharges from marine vessels may also contain additional pollutants such as protozoa (e.g. *giardia*), viruses (e.g. *norovirus*), and deodorant or sanitizing chemicals (e.g., formaldehyde) that are potentially harmful to humans, wildlife, and the environment. There are some advances in treatment systems which can help to minimize the BOD and/or the pollutants referred to above. It is unknown how many of these systems are installed on boats within these waterways and as with any MSD, the effectiveness of these systems are dependent upon proper maintenance and adequate competency of the individual operating it.

SUGGESTED NO DISCHARGE ZONE (NDZ) BOUNDARIES



Figure 20: No Discharge Zone Boundary - Sarah Creek

For purposes of this application, the proposed Sarah Creek No Discharge Zone is defined as all contiguous waters contained within the shoreline of Sarah Creek and located north of the line established as the designated intersection with the York River situated between the points formed by Latitude $37^{\circ}14' 58.34'' \text{ N}$ and Longitude $-76^{\circ}29'39.17'' \text{ W}$ to the west and Latitude $37^{\circ}15'00.81'' \text{ N}$ and Longitude $-76^{\circ}28'37.84'' \text{ W}$ to the east. A location map is provided in Figure 21.



Figure 21: No Discharge Zone Boundary - Perrin River

For the purposes of this application, the proposed Perrin River No Discharge Zone is defined as all contiguous waters contained within the shoreline of Perrin River and located north of the line established as the designated intersection with the York River situated between the points formed by Latitude 37°15' 47.18"N and Longitude -76°25'20.73"W to the west and Latitude 37°15'50.63"N and Longitude -76°25'11.84" W to the east. A location map is provided in Figure 22.

SEWAGE PUMP-OUT FACILITY (MARINA) INFORMATION

AVAILABLE PUMP-OUT AND DUMP STATIONS

Table 4 summarizes information about the marina facilities and available pump-out and dump stations present in Sarah Creek and Perrin River. Information was obtained visiting each of the marina facilities and meeting with staff.

Table 4: Marina Pump-Out Facility Details

Marina (Sarah Creek)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
York River Yacht Haven 8109 Yacht Haven Road Gloucester Point, VA 23062 Contact: Lisa Pittman (804) 642-2156 LPittman@suntexmarinas.com	Marina Store: Memorial Day- Labor Day 8 am – 6 pm Rest of the year: 9 am – 5 pm Pump-outs available to the public 24/7	Yes – 3 Stationary pump-outs Fee: No charge. Open and available to anyone Water Depth @ pump-out = 8’ MLW Pump-outs are connected to the public sewer system Pump-outs are grant funded	The marina has a portable pump-out station which can be brought to the boat. Marina Rules state: All Porta-potties are to be dumped at the marina pump-out stations HRSD services the marina on weekends and pumps out portable toilets	310 total; 13 transient 75 dry storage	Marina Rules prohibit boat owners from discharging into waters

Marina (Sarah Creek)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
Dockside Condominiums Sunset Drive Gloucester Point, VA 23062 Tom Richmond – contact 757-876-1568 757-898-1347 TRichmond7809@aol.com Jennifer Williams Chesapeake Bay Management 757-534-7751 JWilliams@1cbm.com	Nov 15-April 1 closed for winter Open 24 hrs/7 days a week the rest of the year	Yes – 1 Stationary Pump-out No charge to anyone – open to the public 24 hours when marina is open Water depth at pump- out = 6’ MLW Pump-out is grant funded. Pump-Out waste goes to a holding tank which when near full gets pumped by a septic hauler and taken to an approved facility.	No (Exempt)	78 total slips: 3 transient; 5 dry storage; no boats put in from land; dry storage would be a boat that has a slip	Willing to add deed restriction stating no discharge of treated or untreated sewage is permitted.

Marina (Sarah Creek)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
Jordan Marine 7804 Jordan Road, Gloucester Point, VA 23062 Contact: Julie Hedrick/Betty Jordan (804) 642-4360	7:30 am – 4pm (M-F) Saturday 8-1 Sunday Closed (Year-round)	Yes – 1 Pump-out is portable (on rollers); can pump-out a boat on land or taken to dock to pump out boat in water Pump-Out waste goes to a holding tank which when near full gets pumped by a septic hauler and taken to an approved facility. Pump-out \$20; open to anyone who pays fee during operating hours HRSD provides FREE pump-out services at marina upon request Pump-out is not grant funded	No	34 seasonal total; all local boats no transients; 22 slips usually full;100% recreationa l 10 dry storage	Willing to add no discharge rule to slip agreement

Marina (Sarah Creek)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
Sawgrass Pointe Community Association End of Sawgrass Pointe Drive, Hayes, Va 23062 John Matson, (757) 220-6184 Lonnie Byrd President of Home Owners Association LByrdiii@cox.net 757-291-3875	24 hours/7days a week – all year long	No (Agreement with Crown Pointe Marina to use pump-out facility)	Yes Not open to public	25 slips; 1 “slip” at end of T for emergency or permission temp; 7 boats (40’, 37’, 34’, 53’, 19’, 33’, 25’ (2 sailboats and 5 powerboats)	Community Association rules state there is to be no sewage of any kind discharged into the waterway

Marina (Sarah Creek)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
Gloucester Point Marina 7871 Marina Way, Hayes, VA 23072 Gibson Wright (owner) (804) 288-2238 Ricky Robins manager 804-832-1343	24 hours– Only slips open – no other marina operations; marina is under renovation	No (Use HRSD or Jordan Marine)	No	Total 38 slips; currently renting 15 slips; all local boats; all recreational	All 15 boats are 26-40’

Marina (Perrin River)	Hours of Operation	Pump-Out	Dump Station	Number of Vessel slips	Comments
<p>Crown Pointe Marina 9737 Cooks Landing Road, Hayes, VA 23072</p> <p>Contact: Shelley Abel 804-642-6177 office@crownpointemarina.com</p>	<p>May-Labor Day 9-6 Friday & Saturday 9-5 Sunday M-F-9-5 Service open 8- 4 all year.</p> <p>Rest of the Year 9-3 (7 days) Closed Major Holidays – Easter, Thanksgiving, Christmas Eve, Christmas Day, New Year’s Day and New Year’s Eve.</p>	<p>Yes – 1</p> <p>Stationary pump- out</p> <p>N/C for slip holders and ramp users; \$5 for others (however charge is waived if an item, such as a drink, is purchased in the marina store; may be willing to have pump-outs available 24/7</p> <p>Pump-Out waste goes to a holding tank which when near full gets pumped by a septic hauler and taken to an approved facility.</p> <p>Water depth at pump-out = 5’ @ low tide-7’at high tide</p> <p>Pump-out is grant funded</p>	<p>Yes; Wand attachment on pump- out station allows for portable toilets to be emptied</p>	<p>238 total; only counting 200 some slips too shallow at low tide; 10 transient slips; 26 dry storage; service yard; 6 store and launch – people keep their boats on their own trailers at the marina</p>	<p>Marina rules do not allow discharge of MSDs into waterway. Complimentary pump-out is provided to slip holders and they are expected to use it. Marina staff conducts vessel inspections and pump-out is one item inspected.</p>

Sources: Virginia Department of Health Division of Wastewater Engineering/Marina Program & Contact with Marina Owners



Facilities where pump-out and/or dump stations are available to the public.

MAPS OF FACILITIES WITH AVAILABLE PUMP-OUTS



Figure 22: Sarah Creek Marina Facilities



Figure 23: Perrin River Marina Facility

PUMP-OUT STATION DETAILS

SARAH CREEK



Figure 24: York River Yacht Haven Pump-Out Station

York River Yacht Haven (YRYH)

Has three (3) identical pump-out stations (Figure 25):

One located on the Fuel Dock

Two located on Dock F – Pier 2 (see Figure 26 map)

Make: Sanisailor

Type: Stationary

Depth at Dock 8' at low water.

Open 24 hours/7days a week; Free and open to the public

Restrictions:

The marina has had 0% incidence of boats not being able to access the pump-out. Some of the larger transient boats may need to pump-out at high-tide.

No water depth restrictions (See Figures 31 & 32 for Sarah Creek sounding information).

No height restrictions.

No length restrictions.

HRSD typically services marina every weekend May – October and upon individual request at other times. HRSD can pump-out vessels at the dock or directly from the vessel. YRYH requires port-a-potties to be emptied at the pump-out stations.

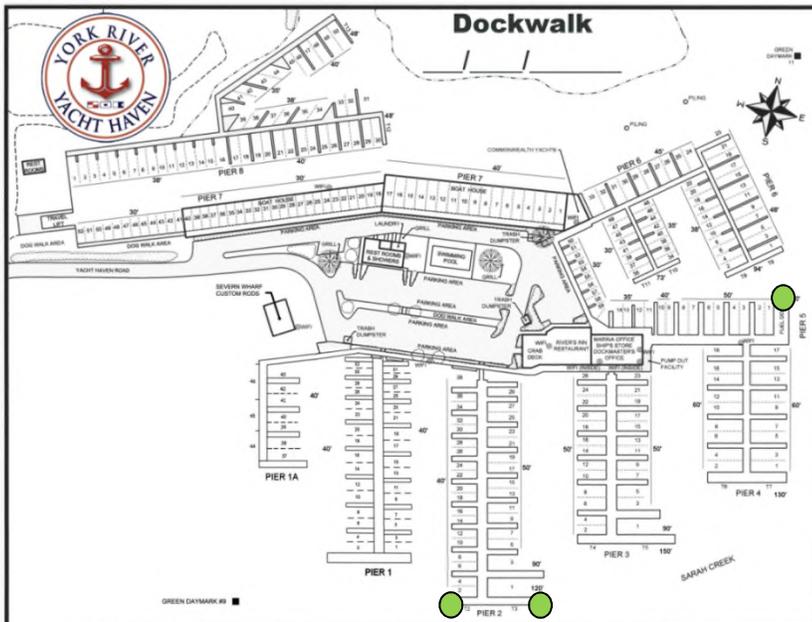


Figure 25: York River Yacht Haven Pump-Out Station Locations



Figure 26: Dockside Condominium Pump-Out Station

Dockside Condominiums

One (1) pump-out station (Figure 27)

Make: Keco Pump-A-Head

Type: Stationary

Depth at Dock 6' at low water

Open: April 1st – Nov. 15th

Free & open to the Public 24/7 during these times

Restrictions:

Depth at dock for vessels that draw greater than 6' at low tide, however Dockside typically does not have boats in which draught would be a limitation. However, any larger transient vessels could pump-out at high-tide or contact HRSD portable pump-out service.

No height restrictions.

No length restrictions.

Restriction: Closed Nov. 16 – March 31.



Figure 27: Dockside Condominium Pump-Out Station Location



Figure 28: Jordan Marine Portable Pump-Out

Jordan Marine

One (1) pump-out station (Figure 29)

Make: Edson

Type: Portable; Pump is on rollers and can be used to pump out a boat on land or taken to dock to pump out boat in the water.

Depth at Dock: Varies depending upon where portable pump-out is placed.

Pump-out is open to the public.

HRSD provides pump-out services to Jordan Marina.

Restrictions:

There is a \$20 fee.

Pump out is available only during marine operating hours. HRSD pump-out service available free at marina on weekends upon request.

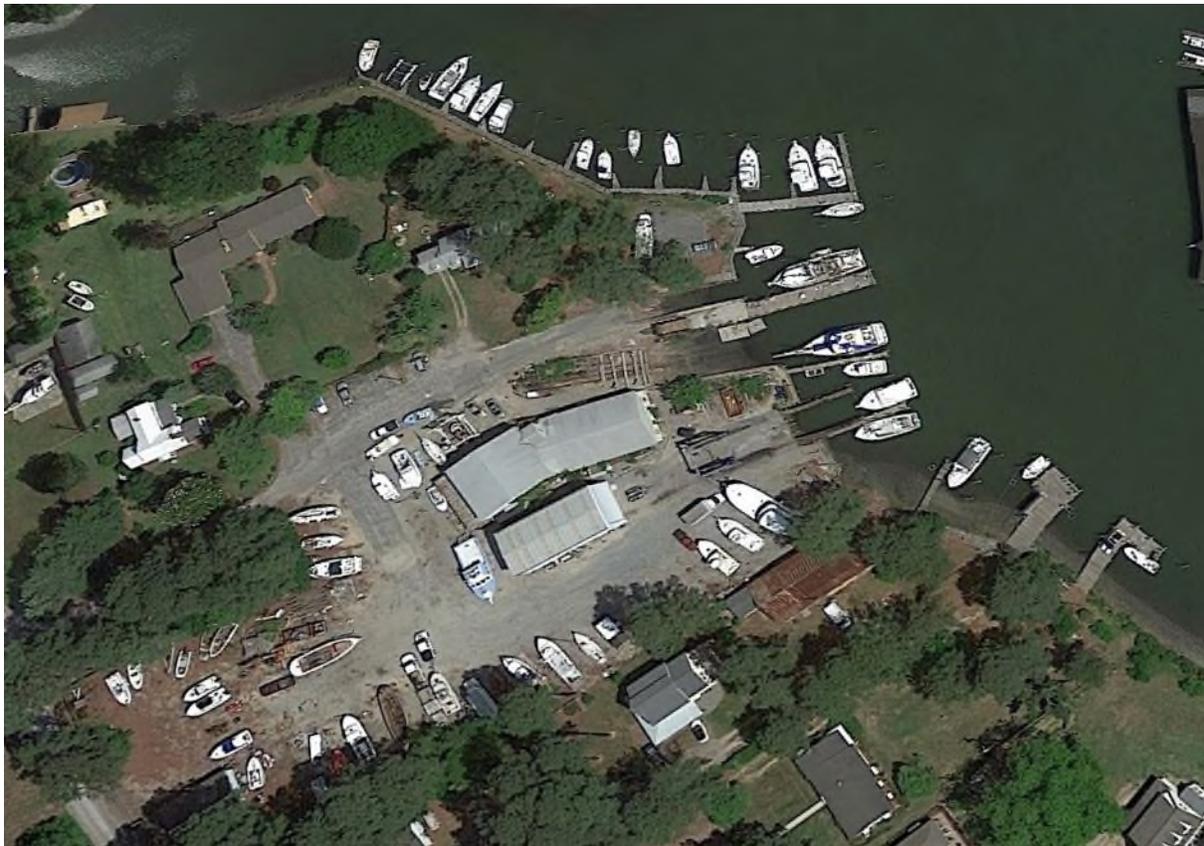


Figure 29: Jordan Marine on Sarah Creek

Water Depth Restrictions - Sarah Creek Soundings

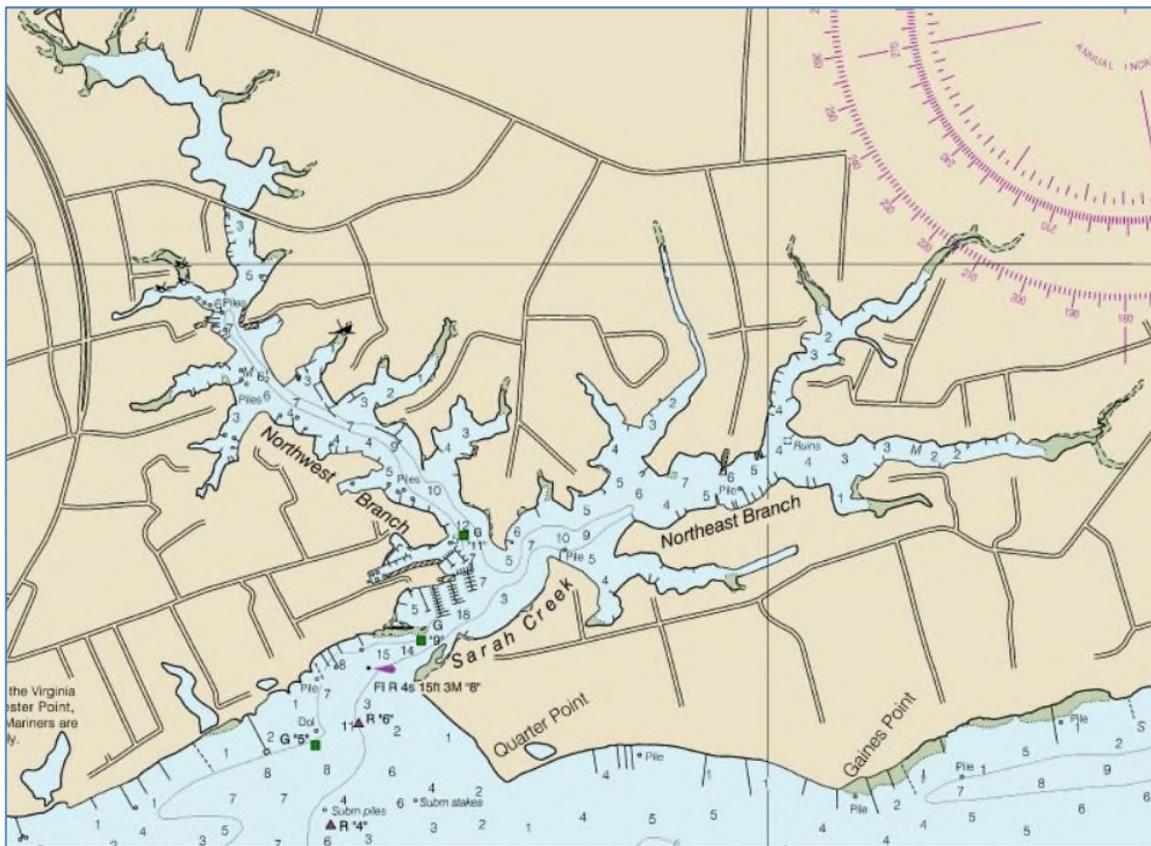


Figure 30: Sarah Creek Soundings - NOAA York River - Yorktown and Vicinity - Soundings in Feet

Soundings at Entrance to Sarah Creek

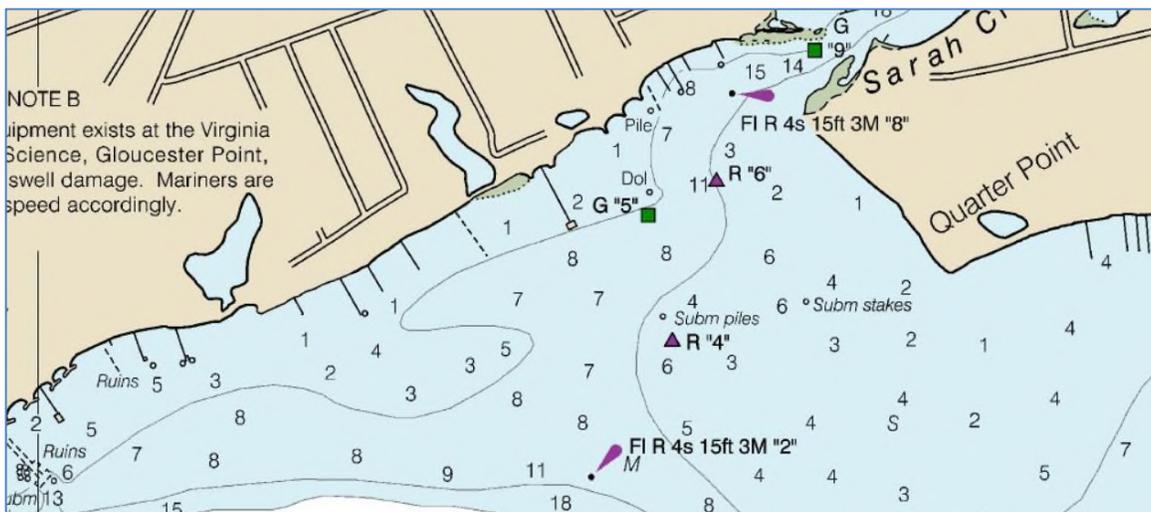


Figure 31: Soundings at entrance to Sarah Creek (NOAA Office of Coast Survey)

The depths at the entrance channel to Sarah Creek are similar to the water depths at the pump-out facilities in the creek (7-8'). If a boat draws more than the available depth at a pump-out at low tide, the pump-out can be accessed at high tide. According to the marina managers, only the very large boats and some sailboats (less than 1%) need to access the pump-outs at high tide. Boats drawing more than the available depth at high tide cannot physically enter either creek. There has been no incidence at any pump-out station in either watershed where a vessel was restricted from accessing a pump-out. Therefore no significant water depth restriction exists at the pump-out stations.

PERRIN RIVER



Figure 32: Crown Pointe Marina Pump-Out Station

Crown Pointe Marina

(1) Pump-Out station (Figure 33)

Make: Edson

Type: Stationary

Depth at Dock

5' at MLW

7' at MHW

Restrictions: Marina has had 0% incidence of a boat not being able to access the pump-out facility. Boats that require greater than 5' depth must access at high tide. Boats requiring depths greater than high tide would not be able to enter the creek (See Figure 34: Perrin River Soundings). No height restrictions. No length restrictions.

HRSD provides pump-out services to Crown Pointe Marina typically every weekend May – October and upon individual request at other times. HRSD can pump-out vessels at the dock or directly from the vessel.

Dump Station:

There are wand attachments located in a box on the pier housing the pump-out unit to facilitate the pump-out of port-a-potties thereby allowing the facility to also serve as a dump station.

Perrin River Soundings – Water Depth Restriction



Figure 33: Perrin River Soundings - NOAA Office of Coast Survey

As in Sarah Creek, water depth restriction at the pump-out station in the Perrin River is not an issue due to the fact the depths of the entrance channel are similar to the depth at the pump-out station; vessels requiring greater depths than provided at the pump-out station would have difficulty entering the creek.



Figure 34: Crown Pointe Marina Pump-Out Station Location

HAMPTON ROADS SANITATION DISTRICT (HRSD) PUMP-OUT PROGRAM

Hampton Roads Sanitation District (HRSD) provides FREE portable pump-out service in Gloucester County on Fridays, Saturdays, and Sundays during summer months and on Saturdays the rest of the year. HRSD prefers to service marinas, but will provide the portable pump out at a private residence when requested. To request the free pump-out service contact 757-460-4253.



Figures 35: HRSD Staff pumping out a MSD

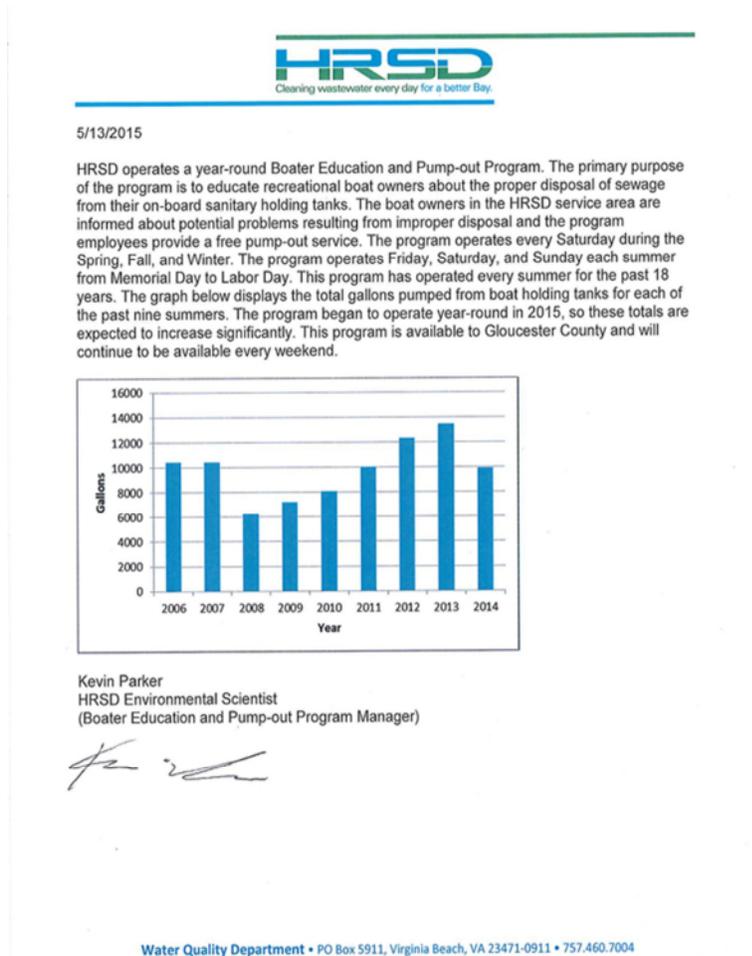


Figure 36: HRSD Letter describing Boater Education and Pump-Out Program

PUMP Out, Don't DUMP Out!

Protect our Precious
Waterways by
Pumping Out Your
Boat's Sewage
Holding Tank



**Boater Education Program staff are available
year-round to provide a FREE pump-out service.**

**Friday, Saturday & Sunday: Memorial Day – Labor Day
and
Saturday: Labor Day – Memorial Day**

Call (757) 460-4253 and leave a message to schedule an appointment or visit
<http://www.hrsd.com/boatereducationproject.shtml> to fill out our pump-out
form and email to BoaterEd@hrsdc.com.

Include: Your name, phone number, marina name, pier/slip number, boat name, and day and time*
(morning or afternoon) you would like the pump-out.

* Please Note: Times requested may be changed. If inclement weather occurs, pump-outs may be rescheduled.

Visit: [http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARINA/
documents/pumpouts.pdf](http://www.vdh.virginia.gov/EnvironmentalHealth/ONSITE/MARINA/documents/pumpouts.pdf)

for marina pump-out locations.

This educational program is provided by:



Figure 37: HRSD Boater Education Program Flyer

COMMERCIAL BOAT TRAFFIC

In the past, the commercial seafood industry had been a large part of this area of Gloucester County. Today, however, the proposed NDZ areas are small tidal tributaries surrounded by predominantly residential land use and not characterized by significant commercial traffic. Many of the old seafood processing facilities have gone out of business and are vacant. Sarah Creek no longer has any commercial seafood processing plants or traditional commercial waterfront mooring facilities in operation today. Perrin River has only two seafood facilities remaining; York River Seafood (recently purchased by new owner) and Bennie Belvin Seafood (the future of this facility is uncertain due to the death of the owner). Perrin River Landing, owned by the Middle Peninsula Chesapeake Bay Public Access Authority (MPCBPAA), is used by commercial watermen on the Perrin River for moorage, landing and unloading supplies, and for unloading their catch (See Figure 39 for commercial waterfront locations on the Perrin River).

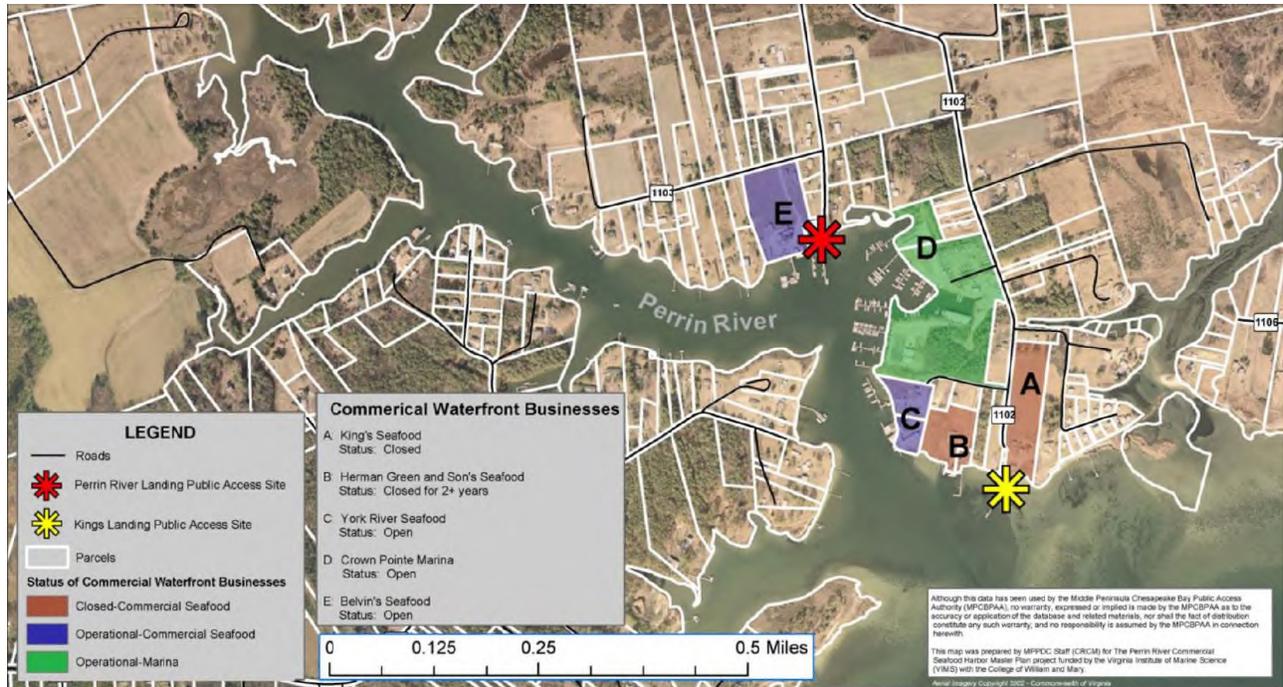


Figure 38: Perrin River Commercial Development Map

The majority of the commercial traffic on these two creeks consists mainly of local watermen; people who make their living from the water by fishing (crabbing, fishing and oyster dredging in the winter). According to local waterman, Tommy Leggett, there are approximately 24 to 30 large dead rise work boats working in either creek at any given time. Most commercial boats do not have MSDs installed; local watermen's boats do not have MSDs. There are two large fiberglass fishing boats that tie up in the Perrin that have MSDs. There are currently a few small tug boats working at the oil refinery across the York River that are using an old fish house property on Perrin River as a staging area. They use porta johns located on the barges; and the tugs most likely have an MSD. Crown Pointe Marina in the Perrin and York River Yacht Haven in Sarah Creek have pump-outs that are accessible by any of these boats that come into either creek.

Perrin River and Sarah Creek are located within the Chesapeake Bay Program river segment designated the *York River Lower*. Below is the number of Commercial Harvest Licenses issued by the Virginia Marine Resources Commission (VMRC) for the *York River Lower*, which encompasses a much larger area than Perrin River and Sarah Creek (See Figure 40).

**2014 VMRC Commercial Harvest Licenses
Issued for York River Lower
(includes both Sarah Creek and Perrin River)**



Figure 39: 2014 VMRC Commercial Harvest Licenses Issued for York River Lower

Boat Length	Number of Vessels
Less than 16	2
16-25'	27
26-40'	14
Over 40'	4

Source: VMRC Plans and Statistics Department; Source Data: FSMRPT, flpvessel; Date Run: 3/18/2015
Samantha M. Hoover Fisheries Department Specialist; 757-247-2115, Samantha.Hoover@mrc.virginia.gov

Communication with Captain Edloe Morecock and Captain Alan Alexander, members of the Virginia Charter Boat Association, determined that two charter fishing boats (Boats 1 & 2) keep their boats on Sarah Creek, but only use the creek for access to the York River and Chesapeake Bay. One charter boat, (Boat 3), fishes at the mouth of Sarah Creek and the York River. This same charter boat will occasionally fish the Perrin River.

Boat 1: 24'; has a porta-potty

Boat 2: 31'; has a holding tank

Boat 3: 25'; has a porta-potty

CALCULATING THE NUMBER OF PUMP-OUT & DUMP STATIONS REQUIRED

In order to calculate the number of pump-out and dump stations required to be provided, the number of vessels using the proposed No Discharge Zone had to be determined.

Sources consulted to estimate the number of vessels in the proposed NDZ:

- A. Desktop observations conducted using Pictometry aerials and software
- B. Virginia Department of Game & Inland Fisheries (DGIF) Boater Registration Database. DGIF is the state boating law administrative office. Tom Guess is the State Boating Law Administrator (804-921-9147).
- C. Office of Environmental Health Services, Virginia Department of Health, Marina Program.
- D. Marina Staff – Number of boats at slips and vessels launched during peak season
- E. U.S. Coast Guard Federally Documented Vessels
- F. Virginia Marine Resources Commission (VMRC) Commercial Harvest Vessel Data – York River Lower
- G. Virginia Charter Boat Association

Final boat totals from the various sources are shown in Table 5: Sarah Creek & Perrin Boat Count Detail.

Table 5: Sarah Creek and Perrin River Boat Count Details

Sarah Creek Boat Count								
Vessel Length	Pictometry Data (Includes boats in watershed) (A)	DGIF Data (B)	Average of Pictometry Data and DGIF Data (Avg. of A+B)	VDH Data (2013) (C)	Marina Counts (D)	Coast Guard Documented (E)	York River Lower Commercial Harvest License (F)	Combined TOTAL of All Sources (Avg A+B plus C-F)
Less than 16'	133	450	292	NA	4	NA	2	298
16 to 25 feet	423	989	706	59	49	1	27	842
26 to 40 feet	308	146	227	339	189	49	14	818
Over 40 feet	92	91	92	NA	47	14	4	157
Total	956	1676	1317	398	289	64	47	2115
Perrin River Boat Count								
Vessel Length	Pictometry Data (includes boats in watershed) (A)	DGIF Data (B)	Average of Pictometry Data and DGIF Data (Avg. of A+B)	VDH Data (2013) (C)	Marina Counts (D)	Coast Guard Documented (E)	York River Lower Commercial Harvest License (F)	Combined TOTAL of All Sources (Avg A+B plus C-F)
Less than 16'	21	450	235	NA	0	NA	2	237
16 to 25 feet	165	989	577	60	25	0	27	689
26 to 40 feet	160	146	153	114	150	14	14	445
Over 40 feet	18	91	55	NA	11	7	4	77
Total	364	1676	1020	174	186	21	47	1448

Definition of Boat Data Sources

- (A) **Pictometry Data** – The number of vessels located on the water, at private piers and marinas, and parked in the watershed as observed on Pictometry aerials (taken between Wed Jan. 4, 2012 and Friday, Jan. 6, 2012). The analysis was performed on these dates because these are the dates of the images available on the Pictometry server at the time the boat count was conducted. Most aerial resources are flown during leaf-off season so that structures and other items are visible. Since the dates of the images were in January, boats in the watershed as well as in the water were counted, assuming the boats in the watershed were being stored and would be in the respective waterway during the summertime. Boats were located via desktop, measured by VIMS staff using the Pictometry software, counted, and categorized by location, size, and other information using an ArcGIS geodatabase.
- (B) **DGIF Data**- Data obtained from the *Boat Owners Active* section of the Virginia Department of Game and Inland Fisheries Boater Registration Database. Includes boats listed in the database as DOCKED or USED in Gloucester County and having a zip code of Hayes or Gloucester Point. These zip code areas were chosen because they include the Perrin River and Sarah Creek watersheds, however, the limits of the Hayes zip code extends much beyond the boundaries of both watersheds; therefore the vessel estimate is expected to be overstated (see Figure 41).

Since it is impossible to determine which boats in the Hayes zip code are using Sarah Creek versus the Perrin River, the boat count data for the Hayes zip code area was used as the total DGIF boat count for both watersheds. This is expected to result in an overestimated count of vessels.

(Avg A + B) Average of Pictometry Data and DGIF Data -

Since it is anticipated that the Pictometry and DGIF vessel data both reflect an inflated overall count and most likely include duplicative counts of vessels for the same proposed NDZ area, an average of the Pictometry and DGIF data vessel counts for each watershed was determined and used as a combined category in calculating the total number of required pump-outs for each creek.

- (C) **VDH Data** - Data provided by the Office of Environmental Health Services, Virginia Department of Health, Marina Program. The Marina Program oversees regulations that require marina and other places where boats are moored to have adequate sanitary facilities in order to protect public health and improve water quality. The Marina Program issues the Certificate to Operate (CTO) and conducts an annual inspection of all marinas, other places where boats are moored, and private sector companies. The data provided here is information collected by VDH Marina Program staff during the annual site inspections of marinas and other places where boats are moored. Staff count and measure the boats on site at each facility on the day of the inspection and place them in two categories; less than 26' and 26' or greater. Marina inspections are done during the summer boating season between the end of April to October, depending on the weather. Contact: Preston Smith, Marina Program Manager (804) 864-7468, Preston.Smith@vdh.virginia.gov for more information. The data provided in this report reflects 2013 data collected. Data from 2015 inspections were also obtained, however boat numbers were lower and therefore 2013 data was used to be conservative.

- (D) **Marina Count** – Number of boats and length of each boat docked at marinas during peak season obtained directly from marina staff of each facility.

- (E) **Coast Guard Documented** – Data obtained from the U.S. Coast Guard (USCG) Documented Vessels for Virginia database. Includes vessels with a hailing port address located in the Perrin River or Sarah Creek watershed.
- (F) **Commercial Harvest Licenses** – Commercial Harvest Licenses issued by the Virginia Marine Resources Commission (VMRC) in *York River Lower* (designated Chesapeake Bay Program river segment). Licenses were categorized by size of vessel. The *York River Lower* includes Sarah Creek and Perrin River, however the total York River Lower encompasses a much greater area, therefore vessels specific to Sarah Creek and Perrin River are likely over counted. Due to the difficulty in determining which boats harvested in Sarah Creek versus the Perrin River, the total commercial harvest license vessel total for *York River Lower* was used as the commercial harvest license total for each creek, most likely counting some vessels twice.

Combined Total of All Sources (Avg. (A + B) plus C, D, E, F) - **The Combined Total** is the total number of boats from all data sources (the original Pictometry and DGIF datasets were averaged).

This combined total of all sources was used to calculate the *required number of pump-outs and dump stations* in each creek and includes transient boats. (Transient boat information was obtained from the marina boat counts). It is expected that many of these data sources overlap and that this “Combined Total of All Sources” is an overestimation of boat totals, thereby resulting in an exaggerated number of *required pump-out and dump stations*.

Since the number of existing pump-out and dump stations exceeds the calculated number of required stations, adequate facilities for the safe and sanitary removal and treatment of sewage from vessels are reasonably available for the waters to which the prohibition would apply.



Figure 40: Hayes and Gloucester Point Zip Code Areas with Sarah Creek and Perrin River Watershed Boundaries Shown

PUMP-OUT FACILITY REQUIREMENTS WORKSHEET

Sarah Creek Pump-Out & Dump Station Requirements

Table 6: Estimate of Required Pump-Out Stations (Sarah Creek)

A) Number of Vessels 26-40 feet in length (From Table 5, Pg. 30)	818
B) Enter % of 26-40 feet vessels with holding tanks in Virginia ²	25%
C) Estimated number of 26-40 feet vessels with holding tanks (Multiply lines A and B)	205
D) Enter the number of vessels greater than 40 feet in length	157
E) Estimated total number of vessels with holding tanks (addition of lines C and D)	362
F) Estimated peak occupancy rate (i.e. on a holiday weekend; if unknown, use 40%)	40%
G) Estimated number of vessels requiring pump-out facilities (multiply lines E and F)	145
H) Average number of vessels served per hour per pump-out (if unknown, use 4/hr)	4
I) Average number of weekend operating hours per facility (if unknown, use 24 hrs.) <i>(See Page 37-38 for explanation of how weekend operating hours were determined.)</i>	39; using 24 to be conservative
J) Estimated number of vessels served per pump-out facility (multiply lines H and I)	96
K) Estimated number of pump-out facilities required (divide line G by line J)	1.5
Number of pump-out facilities provided	7

7 pump-out facilities are provided to the public on Sarah Creek: Dockside Condominiums, Jordan Marine Service and (3) at York River Yacht Haven Marina. In addition, the Hampton Roads Sanitation District (HRSD) provides FREE portable pump-out service to marinas and private docks on Sarah Creek upon request. According to the York River Yacht Haven and Crown Pointe Marina HRSD is on site every weekend, from May – September.

Pump-Out Facility Criterion is Met

Table 7: Estimate of Required Dump Stations (Sarah Creek)

L) Number of vessels 16-25 ft. in length (From Table 5, Pg. 30)	842
M) Enter % of 16-25 ft. vessels with portable toilets in Virginia ²	37%
N) Estimated number of vessels with portable toilets (multiply lines L and M)	312
O) Estimated peak occupancy rate (if unknown, use 40%)	40%
P) Estimated number of vessels requiring dump stations (multiply lines N and O)	125
Q) Average number of vessels served per hour per station (if unknown, use 12/hr)	12
R) Average number of weekend operating hours per station (if unknown, use 24 hrs.)	24
S) Estimated number of vessels served per dump station (multiply lines Q and R)	288
T) Estimated number of dump stations required (divide line P by line S)	.43
Number of dump stations provided	4

Each of York River Yacht Haven Marina's three pump-out stations serve as dump-stations; In addition, HRSD's boater pump-out service pumps out port-a-potties upon request.

Dump Station Criterion is met

PERRIN RIVER PUMP-OUT & DUMP STATION REQUIREMENTS

A) Number of Vessels 26-40 feet in length (From Table 5, Pg. 30)	445
B) Enter % of 26-40 feet vessels with holding tanks in Virginia ²	25%
C) Estimated number of 26-40 feet vessels with holding tanks (Multiply lines A and B)	112
D) Enter the number of vessels greater than 40 feet in length	77
E) Estimated total number of vessels with holding tanks (addition of lines C and D)	189
F) Estimated peak occupancy rate (i.e. on a holiday weekend; if unknown, use 40%)	40%
G) Estimated number of vessels requiring pump-out facilities (multiply lines E and F)	76
H) Average number of vessels served per hour per pump-out (if unknown, use 4/hr)	4
I) Average number of weekend operating hours per facility (if unknown, use 24 hrs.) (See Page 38 for explanation of how operating hours were determined) (used most conservative, not most realistic during peak holiday weekend when pump-outs are open longer)	14
J) Estimated number of vessels served per pump-out facility (multiply lines H and I)	56
K) Estimated number of pump-out facilities required (divide line G by line J)	1.35
Number of pump-out facilities provided	2
<p>Crown Point Marina, a full service marina, provides pump-out facilities on Perrin River. In addition the Hampton Roads Sanitation District (HRSD) provides FREE portable pump-out service to the marina as well as private docks on weekends upon request.</p> <p style="text-align: center;">Pump-out criterion met.</p>	

Table 12: Estimate of Required Dump Stations (Perrin River)

L) Number of vessels 16-25 ft. in length (From Table 5, Pg. 30)	689
M) Enter % of 16-25 ft. vessels with portable toilets in Virginia ²	37%
N) Estimated number of vessels with portable toilets (multiply lines L and M)	255
O) Estimated peak occupancy rate (if unknown, use 40%)	40%
P) Estimated number of vessels requiring dump stations (multiply lines N and O)	102
Q) Average number of vessels served per hour per station (if unknown, use 12/hr)	12
R) Average number of weekend operating hours per station (if unknown, use 24 hrs.) (See Page 38 for explanation of how operating hours were determined)	14 (used most conservative, not most realistic during peak holiday weekend when pump-outs are open longer)
S) Estimated number of vessels served per dump station (multiply lines Q and R)	168
T) Estimated number of dump stations required (divide line P by line S)	.60
Number of dump stations provided	2
<p>Crown Point Marina, a full service marina, provides a dump station via a wand attachment on the pump-out station. HRSD provides pump-out of port-a-potties upon request on weekends at the Marina and at private docks.</p> <p style="text-align: center;">Dump-station criterion met.</p>	

Source: Environmental Protection Agency, Document Number EPA 842-B-94-004, August 1994 - <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P1007NAG.txt>

²Source: "Clean Vessel Act: Pumpout Station and Dump Station Technical Guidelines," Federal Register, Vol. 59, No. 47, March 10, 1994; and "National Recreational Boating Survey: Sanitation Pumpout Questionnaire Tabulations," U.S. Department of Fish and

EXPLANATION OF HOW AVERAGE NUMBER OF WEEKEND OPERATING HOURS WAS DETERMINED

*Scenario 1 (Most Conservative) Looked at hours of operation **per FACILITY (Marina), not pump-out station, using the average number of hours open (Saturday and Sunday) for the entire year. NOTE: These operating hours do not include the pump-out services provided by HRSD.***

Since York River Yacht Haven has three pump-out stations at its facility and the stations at two of the facilities are open longer than the facilities, Scenario 1 is the most conservative route in determining the number of operating hours pump-stations are available.

SARAH CREEK

A. York River Yacht Haven (YRYH)

Saturday – Open 24/7 all year Sunday – Open 24/7 all year

Average number of hours open for the weekend the entire year = 48 hours

B. Dockside Condominiums – Closed Nov 15 – April 1. Open 24/7 the rest of the year.

Saturday – Open 24/7 Sunday – Open 24/7

Facility open 228 days/year

Closed 137 days/year

228 days/year – average operating weekend hours = 48 hours

137 days/year – average operating weekend hours = 0 hours

Average year round operating weekend hours = 29 hours

C. Jordan Marine – Open year round. Saturday 8 am – 1 pm, Sunday Closed

Average year round operating weekend hours = **5 hours**

Total average number of weekend hours open the entire year = 82 total hours/3 marinas= 27 hours

*Scenario 2 - Looked at hours of operation **per pump-out station, not facility (marina), using the average number of hours open (Saturday and Sunday) for the entire year. NOTE: These operating hours do not include the pump-out services provided by HRSD.***

York River Yacht Haven

Saturday – Open 24/7 all year, Sunday – Open 24/7 all year

Average number of weekend hours open the entire year – 48 hours x 3 pump-out stations = 144 hrs

Dockside Condominiums – Closed Nov 15 – April 1. Open 24/7 the rest of the year.

Saturday – Open 24/7 Sunday – Open 24/7

Facility open 228 days/year

Closed 137 days/year

228 days/year – average operating weekend hours = 48 hours

137 days/year – average operating weekend hours = 0 hours

Average year round operating weekend hours = 29 hours

Jordan Marine – Open year round. Saturday 8 am – 1 pm, Sunday Closed

Average year round operating weekend hours = **5 hours**

Total average number of weekend hours open for the entire year = 178 total hours/5 pump-out stations = 35.6 hours

*Scenario 3 (Most realistic) - Looked at hours of operation **per pump-out station, not facility (marina)**, using the average number of hours open for the peak 4th of July boating weekend (Saturday and Sunday). **NOTE:** These operating hours do not include the pump-out services provided by HRSD.*

York River Yacht Haven

Open 24/7 Saturday and Sunday July 4th holiday weekend

Average number of hours open for the holiday weekend– 48 hours x 3 pump-out stations = 144 hours

Dockside Condominiums – Open 24/7 Saturday and Sunday on July 4th holiday weekend.

Average number of hours open for the holiday weekend – 48 hours x 1 pump-out station = 48 hours

Jordan Marine – Open Saturday 8 am – 1 pm, Sunday Closed on 4th of July holiday weekend

Average number of hours open for the holiday weekend = 5 hours x 1 pump-out station = 5 hours

Total average number of hours open for the holiday weekend = 197 total hours/5 pump-out stations = 39.4 hours

PERRIN RIVER

NOTE: These operating hours do not include the pump-out services provided by HRSD.

May 1 – Labor Day - Open Saturday and Sunday 9 am- 5pm (8 hours); Rest of the year 9 am – 3 pm.

202 days @ 9 am- 3pm = average operating weekend hours = 12 hours

163 days @ 9 am - 5 pm = average operating weekend hours = 16 hours

Average number of weekend hours for the entire year = 14 hours x 1 pump-out station = **14 hours (most conservative)**

Average number of hours open for the holiday weekend = 16 hours x 1 pump-out station = **16 hours (most realistic for peak holiday weekend)**

FACILITY MAINTENANCE

The Virginia Department of Health (VDH) ensures that proper sanitary facilities are present at marinas. Standards are set forth in the Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings, and marina facilities are inspected annually by VDH for compliance with regulations. Routine Virginia Department of Health inspections and tests are performed to ensure that the pump-out facilities are open to the public and functioning properly. Malfunctioning pump-out stations can be reported by calling the VDH Marina Program (804-864-7468). Specific design and operation requirements are addressed in the Virginia Sanitary Regulations for Marinas and Boat Moorings.

FACILITY WASTE TREATMENT METHOD

The Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings (12 VAC 5-570) address treatment of collected vessel sewage from pump-outs and dump stations. In compliance with these regulations, all wastes collected from marinas within Sarah Creek and Perrin River, with the exception of York River Yacht Haven, are initially held in a holding tank and then ultimately transported by haulers who deliver them to municipal waste treatment facilities or private facilities permitted under the Virginia Pollutant Elimination Discharge System for final treatment and disposal. Pump-out stations at York River Yacht Haven Marina are connected to the public sewer system.

The stationary pump-out stations located at York River Yacht Haven are linked directly into the Gloucester County Sewer System (piped municipal system) which is connected to the Hampton Roads Sanitation District (HRSD) force main which conveys sewage to the York River Treatment Plant located at 515 Back Creek Road, Seaford, VA 23696. Highly skilled and trained staff operate and maintain the processes and equipment in the treatment plant, meeting the technological and regulatory challenges of the wastewater industry. HRSD is recognized as a leader in the industry, with an impressive record of environmental permit compliance. HRSD must comply with Virginia Pollutant Discharge Elimination System (VPDES) permit limitations. The Virginia Department of Environmental Quality issues the permit, which is reviewed, revised (if necessary), and reissued every 5 years.

The stationary pump-out located at Crown Pointe Marina is connected by pipe to a 2000 gallon holding tank which is emptied by a licensed septic hauler when it is $\frac{3}{4}$ full. The septic hauler then transports the waste to the HRSD York River Treatment Plant in Seaford, VA.

The stationary pump-out station at Dockside Condominium is connected by pipe to an underground holding tank that is pumped when the tank is no more than $\frac{3}{4}$ full. The septic hauler transports the waste to the HRSD York River Treatment Plant in Seaford, VA.

The mobile pump-out at Jordan Marine is emptied into a holding tank that is emptied by a licensed septic hauler when it is $\frac{3}{4}$ full. The septic hauler conveys the waste to the HRSD York River Treatment Plant in Seaford, VA.

The HRSD mobile pump-out service involves a truck with a 300 gallon holding tank. Staff walk a mobile cart with a 30 gallon tank and a long hose to the pier/boat location. After the MSD is pumped, the mobile cart is walked back to the truck where the waste is emptied into the larger 300 gallon tank. The 300 gallon tank is emptied at the HRSD York River Treatment Plant in Seaford, VA.

FACILITIES ACCESSIBILITY & RESTRICTIONS

According to the marina manager of York River Yacht Haven, the marina which houses the largest boats found on Sarah Creek, larger boats can access their pump out facilities. The greatest restriction is that they may need to access at high tide. Any boat that can access the creek can access their pump out facilities. The depth at the mouth of the creek is shallower or equal to the pump-out facility water depths. Crown Pointe Marina staff stated the marina has had 0% incidence of a boat not being able to access the pump-out facility. Boats that require greater than 5' depth must access at high tide. This has not been an issue. There are no height restrictions at any of the facilities.

The pump-out stations in the proposed NDZ waterways would not be accessible to large shipping vessels however these vessels cannot access these waterways due to the shallow depth at the entrance of each of these channels.

ENFORCEMENT, SUPPORT, AND OUTREACH ACTIVITIES

State Regulations

The Virginia State Water Control Law (§62.1-44.33) addresses vessel discharges and provides authority for the State Water Control Board to adopt regulations controlling discharges from boats.

Section 62.1-44.33 also provides that *“Violation of such rules and regulations and violations of the prohibitions created by this section on the discharge of treated and untreated sewage from documented and undocumented boats and vessels shall, upon conviction, be a Class 1 misdemeanor. Every law enforcement officer of this Commonwealth and its subdivisions shall have the authority to enforce the rules and regulations adopted and promulgated under the provisions of this section and to enforce the prohibitions on the discharge of treated and untreated sewage created by this section.”*

The current boating regulation that results from this authority is entitled “Regulations Governing the Discharge of Sewage and Other Wastes from Boats” (9 VAC 25-71). This regulation contains a section that addresses No Discharge Zones:

A. All discharge of sewage, whether treated or not, and other wastes from all vessels into designated No Discharge Zones is prohibited. A listing of designated No Discharge Zones within the state appears at 9 VAC 25-71-70.

B. Vessels without installed toilets shall dispose of any collected sewage from portable toilets or other containment devices at facilities approved by the Virginia Department of Health for collection of sewage wastes, or otherwise dispose of sewage in a manner that complies with state law.

C. Vessels with installed toilets shall have a marine sanitation device to allow sewage holding capacity unless the toilets are rendered inoperable.

D. Houseboats having installed toilets shall have a holding tank with the capability of collecting and holding sewage and disposing of collected sewage at a pump-out facility or other facility approved by the Virginia Department of Health for collection of sewage wastes; if a houseboat lacks such capability, the installed toilet shall be removed.

E. Y-valves, macerator pump valves, or any other through-hull fitting valves capable of allowing a discharge of sewage from marine sanitation devices shall be secured in the closed position by a device that is not readily removable, including, but not limited to, a numbered container seal, such that through-hull sewage discharge capability is rendered inoperable.

F. Every owner or operator of a marina within a designated No Discharge Zone shall notify boat patrons leasing slips of the sewage discharge restriction in the No Discharge Zone. As a minimum, notification shall consist of No Discharge Zone information in the slip rental contract and a sign indicating the area is a designated No Discharge Zone.

Local Enforcement

Should EPA designate Sarah Creek and Perrin River *No Discharge Zones*, in addition to the U.S. Coast Guard, the Virginia Marine Police and the Virginia Department of Game and Inland Fisheries will be the state enforcing authorities. The Code of Virginia § [62.1-44.33](#) states “In formulating regulations pursuant to this section, the Board shall consult with the State Department of Health, the Department of Game and Inland Fisheries and the Marine Resources Commission for the purpose of coordinating such regulations with the activities of such agencies.” Later in the section it also states....”C. Violation of such regulations and violations of the prohibitions created by this section on the discharge of treated and untreated sewage from documented and undocumented boats and vessels shall, upon conviction, be a Class 1 misdemeanor. **Every law-enforcement officer of this Commonwealth and its subdivisions shall have the authority to enforce the regulations adopted under the provisions of this section and to enforce the prohibitions on the discharge of treated and untreated sewage created by this section.**”

The U.S. Coast Guard Station at Milford Haven (on Hills Bay), is approximately 30 nautical miles northeast of the proposed No Discharge Zone waters. Both the Virginia Marine Resources Marine Patrol and the Department of Game and Inland Fisheries Game Wardens store boats on land and launch from public facilities in the area and patrol the proposed waters on a routine basis. Additionally, Virginia Department of Environmental Quality and the Virginia Department of Health - Division of Shellfish Sanitation staff frequent these waters to monitor for pollutants. Upon sight of a violation these entities would contact the state and/or local policing authorities.

Marina operators are already helping to enforce a NDZ policy. Slip lease agreements at all facilities require boaters to properly pump out vessel sewage. Discharge of waste from marine sanitation devices into waters is prohibited at York River Yacht Haven, Crown Pointe Marina, and Sawgrass Point Homeowners Association Pier. Dockside Condominiums and Jordan Marine have stated they would be willing to revise their deed or slip agreement to state discharge from MSDs is prohibited. Upon designation as a NDZ, the marina and other boating facilities in the NDZ area will provide signage from the Virginia Health Department to educate the boating public on the importance of pumping out MSDs and not discharging the waste into the water. House Bill 1943 (which amends and re-enacts 62.1-44.3) states that “.....and (v) every owner or operator of a marina within a designated no discharge zone to notify boat patrons leasing slips of the sewage discharge restriction in the no discharge zone. As a minimum, notification shall consist of no discharge zone information in the slip rental contract and a sign indicating the area is a designated no discharge zone.” DEQ will work with other agencies and local stakeholders to ensure that appropriate signage is implemented.

Enforcement will be executed by providing a summons to the potential offender by the enforcing authority.

Local Public Support and Outreach

A public meeting was held on July 27, 2016 to provide a summary of this application for No Discharge Zone designations and to seek public comment. There was a 30 day public comment period from July 28, 2016 – August 26, 2016. Twenty five comments were received. All comments were in support of the establishment of an NDZ for Sarah Creek and for Perrin River. Comments were received from local oyster farmers, local citizens, scientists at the Virginia Institute of Marine Science, and the Go Green Advisory Committee for the Gloucester County Board of Supervisors. All public comments and DEQ's responses to those comments can be found at the following link:

<http://www.deq.virginia.gov/Programs/Water/WaterQualityInformationTMDLs/TMDL/NoDischargeZoneDesignations.aspx>.

All of the marina operators in Sarah Creek and Perrin River have expressed support for the NDZs and most already prohibit discharge of MSD waste at their marinas. The marinas not already doing this have expressed their willingness to do so. Upon approval of these NDZs, DEQ will be working with other agencies to provide appropriate NDZ signage and to educate the public about the importance of disposing of vessel waste properly.

Existing Point Source Pollution:

According to the Virginia DEQ, there are no point sources located in either watershed.

References

Marine Sanitation Device (MSD) Standard:

40 CFR §140.4(a)

TITLE 40 - PROTECTION OF ENVIRONMENT

CHAPTER I - ENVIRONMENTAL PROTECTION AGENCY

SUBCHAPTER D - WATER PROGRAMS

PART 140 - MARINE SANITATION DEVICE STANDARD

140.4 - Complete prohibition.

(a) Prohibition pursuant to CWA section 312(f)(3): a State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into some or all of the waters within such State by making a written application to the Administrator, Environmental Protection Agency, and by receiving the Administrator's affirmative determination pursuant to section 312(f)(3) of the Act. Upon receipt of an application under section 312(f)(3) of the Act, the Administrator will determine within 90 days whether adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available. Applications made by States pursuant to section 312(f)(3) of the Act shall include: (1) A certification that the protection and enhancement of the waters described in the petition require greater environmental protection than the applicable Federal standard; (2) A map showing the location of commercial and recreational pump-out facilities; (3) A description of the location of pump-out facilities within waters designated for no discharge; (4) The general schedule of operating hours of the pump-out facilities; (5) The draught requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility; (6) Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and (7) Information on vessel population and vessel usage of the subject waters.

(b) Prohibition pursuant to CWA section 312(f)(4)(A): a State may make a written application to the Administrator, Environmental Protection Agency, under section 312(f)(4)(A) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularity the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application.

(1) For the following waters the discharge from a vessel of any sewage (whether treated or not) is completely prohibited pursuant to CWA section 312(f)(4)(A): (i) Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, as described in 16 U.S.C. 577577d1.

(ii) Waters of the State of Florida within the boundaries of the Florida Keys National Marine Sanctuary as delineated on a map of the Sanctuary at <http://www.fknms.nos.noaa.gov/>.

(c)(1) Prohibition pursuant to CWA section 312(f)(4)(B): A State may make written application to the Administrator of the Environmental Protection Agency under section 312(f)(4)(B) of the Act for the issuance of a regulation establishing a drinking water intake no discharge zone which completely prohibits discharge from a vessel of any sewage, whether treated or untreated, into that zone in particular waters, or portions thereof, within such State. Such application shall: (i) Identify and describe exactly and in detail the location of the drinking water supply intake(s) and the community served by the intake(s), including average and maximum expected amounts of inflow; (ii) Specify and describe exactly and in detail, the waters, or portions thereof, for which a complete prohibition is desired, and where appropriate, average, maximum and low flows in million gallons per day (MGD) or the metric equivalent; (iii) Include a map, either a USGS topographic quadrant map or a NOAA nautical chart, as applicable, clearly marking by latitude and longitude the waters or portions thereof to be designated a drinking water intake zone; and (iv) Include a statement of basis justifying the size of the requested drinking water intake zone, for example, identifying areas of intensive boating activities.

(2) If the Administrator finds that a complete prohibition is appropriate under this paragraph, he or she shall publish notice of such finding together with a notice of proposed rulemaking, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that a complete prohibition covering a more restricted or more expanded area than that applied for by the State is appropriate, he or she shall also include a statement of the reasons why the finding differs in scope from that requested in the State's application.

(3) If the Administrator finds that a complete prohibition is inappropriate under this paragraph, he or she shall deny the application and state the reasons for such denial.

(4) For the following waters the discharge from a vessel of any sewage, whether treated or not, is completely prohibited pursuant to CWA section 312(f)(4)(B): (i) Two portions of the Hudson River in New York State, the first is bounded by an east-west line through the most northern confluence of the Mohawk River which will be designated by the Troy-Waterford Bridge (126th Street Bridge) on the south and Lock 2 on the north, and the second of which is bounded on the north by the southern end of Houghtaling Island and on the south by a line between the Village of Roseton on the western shore and Low Point on the eastern shore in the vicinity of Chelsea, as described in Items 2 and 3 of 6 NYCRR Part 858.4.

(ii) [Reserved] [41 FR 4453, Jan. 29, 1976, as amended at 42 FR 43837, Aug. 31, 1977; 60 FR 63945, Dec. 13, 1995; 63 FR 1320, Jan. 8, 1998; 67 FR 35743, May 21, 2002]

Source: <http://cfr.vlex.com/vid/140-4-complete-prohibition-19813573>

The Code of Virginia (§ 62.1-44.33)

The Code of Virginia (§ 62.1-44.33) establishes all tidal creeks of the Commonwealth as No Discharge Zones; the establishment of NDZs shall be premised on the improvement of impaired tidal creeks.

<https://lis.virginia.gov/cgi-bin/legp604.exe?000+cod+62.1-44.33>

§ 62.1-44.33. Board to adopt regulations; tidal waters no discharge zones.

A. The State Water Control Board is empowered and directed to adopt all necessary regulations for the purpose of controlling the discharge of sewage and other wastes from both documented and undocumented boats and vessels on all navigable and nonnavigable waters within this Commonwealth. No such regulation shall impose restrictions that are more restrictive than the regulations applicable under federal law; provided, however, the Board may adopt such regulations as are reasonably necessary with respect to: (i) vessels regularly berthed in marinas or other places where vessels are moored, in order to limit or avoid the closing of shellfish grounds; and (ii) no discharge zones. Documented and undocumented boats and vessels are prohibited from discharging into the Chesapeake Bay and the tidal portions of its tributaries sewage that has not been treated by a Coast Guard-approved Marine Sanitation Device (MSD Type 1 or Type 2); however, the discharge of treated or untreated sewage by such boats and vessels is prohibited in areas that have been designated as no discharge zones by the United States Environmental Protection Agency. Any discharges, as defined in 9 VAC-25-71-10, that are incidental to the normal operation of a vessel shall not constitute a violation of this section.

B. The tidal creeks of the Commonwealth are hereby established as no discharge zones for the discharge of sewage and other wastes from documented and undocumented boats and vessels. Criteria for the establishment of no discharge zones shall be premised on the improvement of impaired tidal creeks. Nothing in this section shall be construed to discourage the proper use of Type 1 and Type 2 Marine Sanitation Devices, as defined under 33 U.S.C. § 1332, in authorized areas other than properly designated no discharge zones. The Board shall adopt regulations for designated no discharge zones requiring (i) boats and vessels without installed toilets to dispose of any collected sewage from portable toilets or other containment devices at marina facilities approved by the Department of Health for collection of sewage wastes, or otherwise dispose of sewage in a manner that complies with state law; (ii) all boats and vessels with installed toilets to have a marine sanitation device to allow sewage holding capacity unless the toilets are rendered inoperable; (iii) all houseboats having installed toilets to have a holding tank with the capability of collecting and holding sewage and disposing of collected sewage at a pump-out facility; if the houseboats lack such tank then the marine sanitation device shall comply with clause (iv); (iv) y-valves, macerator pump valves, discharge conveyances or any other through-hull fitting valves capable of allowing a discharge of sewage from marine sanitation devices shall be secured in the closed position while in a no discharge zone by use of a padlock, nonreleasable wire tie, or removal of the y-valve handle. The method chosen shall present a physical barrier to the use of the y-valve or toilet; and (v) every owner or operator of a marina within a designated no discharge zone to notify boat patrons leasing slips of the sewage discharge restriction in the no discharge zone. As a minimum, notification shall consist of no discharge zone information in the slip rental contract and a sign indicating the area is a designated no discharge zone.

In formulating regulations pursuant to this section, the Board shall consult with the State Department of Health, the Department of Game and Inland Fisheries and the Marine Resources Commission for the purpose of coordinating such regulations with the activities of such agencies.

For purposes of this section, "no discharge zone" means an area where the Commonwealth has received an affirmative determination from the U.S. Environmental Protection Agency that there are adequate facilities for

the removal of sewage from vessels (holding tank pump-out facilities) in accordance with 33 U.S.C. § 1322(f)(3), and where federal approval has been received allowing a complete prohibition of all treated or untreated discharges of sewage from all vessels.

C. Violation of such regulations and violations of the prohibitions created by this section on the discharge of treated and untreated sewage from documented and undocumented boats and vessels shall, upon conviction, be a Class 1 misdemeanor. Every law-enforcement officer of this Commonwealth and its subdivisions shall have the authority to enforce the regulations adopted under the provisions of this section and to enforce the prohibitions on the discharge of treated and untreated sewage created by this section.

(Code 1950, § 62.1-44.1; 1968, c. 659; 1970, c. 638; 1975, c. 204; 1997, c. 502; 2001, c. 42; 2004, c. 287; 2009, c. 337; 2011, c. 220.)

Commonwealth of Virginia Sanitary Regulations for Marinas and Boat Moorings

Virginia Administrative Code, CHAPTER 570, Part I, Introduction, Article 1
12VAC5-570-10. Definitions.

As used in this chapter, the words and terms hereinafter set forth shall have the following meanings respectively, unless the context clearly requires a different meaning.

"Board" means the State Board of Health.

"Boat" means any vessel or other watercraft, privately owned or owned by the Commonwealth or any political subdivision thereof, whether moved by oars, paddles, sails or other power mechanism, inboard or outboard, or any other vessel or structure floating on water in the Commonwealth of Virginia, whether or not capable of self-locomotion, including but not limited to cruisers, cabin cruisers, runabouts, houseboats and barges. Excluded from this definition are commercial, passenger and cargo carrying vessels subject to the Quarantine Regulation of the United States Public Health Service adopted pursuant to Title 42 of the United States Code and ships or vessels of the U.S. Government and boats which are tenders to larger boats moored or stored at the same facility.

"Certificate" means a written approval from the Commissioner or his designated representative indicating that plans for sanitary facilities and sewage facilities meet or satisfy the minimum requirements of this chapter and § 32.1-246 of the Code of Virginia.

"Commissioner" means the State Health Commissioner whose duties are prescribed in § 32.1-19 of the Code of Virginia.

"Division" means the Division of Wastewater Engineering, Department of Health.

"Dry storage" means a boat storage or parking space, whether covered or uncovered, at a marina or other place where boats are moored for the purpose of storing boats on land between use.

"Marina" means any installation, operating under public or private ownership, which provides dockage or moorage for boats (exclusive of paddle or rowboats) and provides, through sale, rental or fee basis, any equipment, supply or service (fuel, electricity or water) for the convenience of the public or its lessee, renters or users of its facilities.

"Marine sanitation device" means any equipment, piping and appurtenances such as holding tanks for installation on board a boat which is designed to receive, retain, treat or discharge sewage and any process to treat such sewage.

"Other places where boats are moored" means any installation operating under public or private ownership, which provides dockage, moorage or mooring for boats (exclusive of paddle or rowboats) either on a free, rental or fee basis or for the convenience of the public.

"Owner" means the Commonwealth or any of its political subdivisions and any public or private institution, corporation, association, firm or company organized or existing under the laws of this or any other state or county, or any person or group of persons acting individually or as a group who owns a marina or other place where boats are moored.

"Pump-out facilities" means any device, equipment or method of removing sewage from a marine sanitation device. Also, it shall include any holding tanks either portable, movable or permanently installed, and any sewage treatment method or disposable equipment used to treat, or ultimately dispose of, sewage removed from boats.

"Sanitary facilities" means bathrooms, toilets, closets and other enclosures where commodes, stools, water closets, lavatories, showers, urinals, sinks or other such plumbing fixtures are installed.

"Seasonal slips" means any slip which is used, rented, leased or otherwise made available for mooring or docking of boats during the normal boating season, usually from April through September, or for any period greater than 30 days.

"Sewage" means the spent water or wastewater containing human excrement coming from toilets, bathrooms, commodes and holding tanks.

"Sewage treatment or disposal systems" means device, process or plant designed to treat sewage and remove solids and other objectionable constituents which will permit the discharge to another approved system, or an approved discharge to state waters or disposal through an approved subsurface drainfield or other acceptable method, such as incineration.

"Sewerage facilities" means entire sewage collection and disposal system including commodes, toilets, lavatories, showers, sinks and all other plumbing fixtures which are connected to a collection system consisting of sewer pipe, conduit, holding tanks, pumps and all appurtenances, including the sewage treatment or disposal system.

"Transient slips" means temporary docking or mooring space which may be used for short periods of time, including overnight, days, or weeks, but less than 30 days.

Statutory Authority: §§ 32.1-12 and 32.1-246 of the Code of Virginia.

Historical Notes: Derived from VR355-17-01 § 1.1, eff. September 1, 1987; amended, Virginia Register Volume 6, Issue 24, eff. October 1, 1990.

Source: <http://leg1.state.va.us/cgi-bin/legp504.exe?000+reg+12VAC5-570-10>

Article 2 - General Information

12VAC5-570-20. Authority for regulations.

Section 32.1-12 and 32.1-246 of the Code of Virginia provides that the State Board of Health is empowered and directed to promulgate all necessary rules and regulations establishing minimum requirements as to adequacy of sewerage facilities at marinas and other places where boats are moored. These facilities should be sufficient to serve the number of boat slips or persons such marinas and places are designed to accommodate, regardless of whether such establishments serve food.

Statutory Authority: §§ 32.1-12 and 32.1-246 of the Code of Virginia.

Historical Notes: Derived from VR355-17-01 § 1.2, eff. September 1, 1987; amended, Virginia Register Volume 6, Issue 24, eff. October 1, 1990.

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