

APPLICATION

For a State Designated, Federally approved

No Discharge Zone

**For the waters in the City of Annapolis and
Anne Arundel County
Maryland**

Under Clean Water Act §312(f)(3)

*Submitted to EPA December 2019
Revised and Resubmitted to EPA May 2020
Final Corrections to Coordinates May 2021*

Prepared by:



<https://severnriver.org/>

Submitted by:

Maryland Department of Natural Resources
Maryland Department of the Environment



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PREFACE

The Back Creek Conservancy prepared two previous drafts of this application in response to resolutions calling for no discharge zones by the Annapolis Environmental Commission (November 2014), the Anne Arundel Maritime Industry Advisory Board (December 2016), and the Severn River Commission (January 2017). All three are volunteer citizen's advisory bodies with no direct implementation authority.

To initiate the application, the Back Creek Conservancy engaged Tyler Domanski, a 2016 summer intern, to prepare a feasibility study for a no discharge zone application. Based on his report, the Conservancy organized a consultative roundtable at Port Annapolis Marina on 15 December 2016, chaired by Stuart and Hamilton Chaney, which confirmed the feasibility of a no discharge zone application. A follow-up roundtable in July set the format based on EPA guidance and the basic approach as a positive strategy to promote clean boating, with less emphasis on enforcing a new environmental regulation. A final consultative roundtable in November began the drafting of the application.

The Conservancy's 2017 fundraising launched major corporate sponsorship by the Brick Companies Foundation, Herrington Harbour Marinas, and the Eastport Yacht Center. A second round of fundraising, led by William J. Kardash and Charles R. Kreter, fulfilled the initial financial goal.

Research and drafting of the application took place from November 2017 to February 2018, led by David Read Barker along with Lara Mulvaney, GIS Specialist, and Grace B. Stewart, Program Assistant.

In response to concerns among maritime businesses about the economic impact of no discharge zones, the Back Creek Conservancy brought the harbormasters of Newport, RI (Timothy Mills) and Chatham, MA (Stuart Smith) to Annapolis on 7 February 2018. At a public meeting for maritime businesses, hosted by Annapolis Mayor Gavin Buckley and facilitated by Chesapeake Legal Alliance Executive Director Jacqueline Guild, the harbormasters described their positive experiences.

The first draft of this application was circulated for comment on 23 February 2018 with written and oral comments received from several interested parties. Based on the comments, a revised draft application dated 28 June 2018 was circulated to Anne Arundel County, and the City of Annapolis, resulting in resolution 31-18 by the County Council in support of the application and resolution 47-18 by the City Council expressing the same support.

At the end of 2018, the Back Creek Conservancy consolidated with the Severn River Association, which now includes the establishment of this No Discharge Zone in its mission.

Following public information meetings held in August, 2019 this document was handed off to the Maryland Department of Natural Resources for submission and revisions as needed.

1.0 CERTIFICATION OF NEED

The waters of Anne Arundel County are in need of the additional protection provided by a No Discharge Zone designation due to the presence of living resources determined to be sensitive to discharge of vessel sewage, the high amount of vessel activity in the area, and the impairments of these waters as detailed below.

The aim of this no discharge zone application is to restrict discharges of nutrient carrying effluent in the rivers, creeks, and coves where recreational boating is most concentrated, flushing is reduced, and where no discharge zones will have the most effects. The proposed limits of the NDZ also allow for commercial vessels transiting the area to retain use of Type I and II marine sanitation devices in deeper, well flushed waters less sensitive to these discharges.

In April 2000, a document titled *Report to the Legislature on Marine Sanitation* (Attachment I) was completed by the Maryland Department of Natural Resources with the work of the Sensitive Areas Committee appointed by the DNR Secretary. The Committee included representatives from Maryland DNR, the U.S. Environmental Protection Agency, the Maryland Department of the Environment, the Chesapeake Bay Foundation, the Marine Trades Association of Maryland, the Maryland Boat Act Advisory Committee, and the Boat U.S. Clean Water Trust.

Areas of water that contain living resources sensitive to boat sewage discharges were identified in a two-stage analysis that narrowed down relevant concerns to two categories: 1) public health hazards associated with elevated level of fecal coliform, and 2) adverse impacts on Submerged Aquatic Vegetation from increased nutrients. Data layers used were:

- Oyster bars;
- Public access sites;
- Water quality closed areas;
- Drinking water intake areas; and
- Historical SAV beds.

A third stage analysis combined boat congregation data with the *Stage II* sensitive areas data. *Stage III* areas are the most likely to experience water quality problems as a result of boat sewage discharge.

In the *Stage IV* analysis, areas identified in *Stage III* were prioritized by proximity to existing pumpouts. A two-mile distance was used to evaluate proximity. This analysis identified 33 areas, including the waters of Anne Arundel county, meeting that criteria.

1.1 Overview

Anne Arundel County, Maryland sits on the Coastal Plain that forms the upper western shore of the Chesapeake Bay. The highest elevation in the county is less than 300 feet; the terrain is deeply incised by rivers, bays, and creeks that cumulatively create more than 533 miles of shoreline. This topography has supported a long history of boating, highlighted by the establishment in 1845 of the U.S. Naval Academy in the county seat and state capital, Annapolis, along with active centers of boat-building, fishing, crabbing, and oystering from the earliest settlements into the 1980s. In recent decades, commercial vessels have largely given way to so much recreational boating that Annapolis is well known as “The Nation’s Sailing Capital.” The U.S. sailboat and powerboat shows, held annually in Annapolis each October since 1970, are the largest in-the-water boat shows in the United States. The 2017 *Portbook*¹ lists 96 recreational boating businesses in Anne Arundel County; several more support and depend on recreational crabbing and fishing.

Anne Arundel County is bounded on the north by the Patapsco River, on which the Port of Baltimore is located. The county is incised by five significant rivers—the Magothy, Severn, South, Rhode, and West— and by two bays—Whitehall and Herring. A combination of intense suburban development, relatively shallow water depths, and limited tidal range makes these water bodies among the most seriously impaired in the Chesapeake Bay.

1.2 Impairments

Table 1.1 Summary of Anne Arundel Rivers Impairments

Waterway/Impairment	N	P	Fecal Coliform	TSS	Uses	Notes
<i>Magothy River</i>	X	X	X	X	Seasonal Migratory Fish Spawning and Nursery; shellfishing; tidal fishing	Sources unknown.
<i>Whitehall Bay/Meredith Creek</i>			X		Shellfishing, tidal fishing	Fecal coliform Source: Pet waste
<i>Severn River</i>	X	X	X	X	Seasonal Migratory Fish Spawning and Nursery; shellfishing; tidal fishing	Source of fecal coliform: pet waste. Sources of N and P unknown. TSS: The SAV restoration goal is not being met and no water clarity data are available.
<i>South River</i>	X	X	X	X	Shellfishing, tidal fishing; Seasonal Shallow-Water Submerged Aquatic Vegetation Subcategory; Seasonal	TSS Source: Urban Runoff/Storm Sewers. Fecal coliform source: pet

					Migratory Fish Spawning and Nursery	waste. Sources of N and P unknown.
<i>Rhode River</i>	X	X	X	X	Open-Water Fish and Shellfish Subcategory; Shellfishing, tidal fishing; Seasonal Shallow-Water Submerged Aquatic Vegetation Subcategory; Seasonal Migratory Fish Spawning and Nursery Subcategory	Sources of N and P and TSS unknown. Fecal coliform source: pet waste.
<i>West River</i>	X	X	X		Fishing, Shellfishing, Seasonal Migratory Fish Spawning and Nursery Subcategory.	Fecal coliform source: manure. Sources of N and P unknown.

This application draws authoritative environmental information about the Chesapeake Bay from three sources: the Maryland Department of the Environment, the Chesapeake Bay Foundation, and the University of Maryland Center for Environmental Science.

The [2018 Integrated Impairment Report⁴](#) of the Maryland Department of the Environment offers important information on the impairment status within each basin. A summary of waters covered by this NDZ application is provided in Table 1.1.

While marine sanitation devices (MSDs) lower fecal coliform levels, they do not effectively eliminate nutrients (N and P) or solids. A no discharge zone should help reduce levels of nutrients, total suspended solids, and fecal coliform within these impaired waters.

1.3 Progress on Nutrient Reduction Goals in Chesapeake Bay and Anne Arundel County

Table 1.2 shows information from the Chesapeake Bay TMDL³ for an approximation of the total amount of pounds of nitrogen allowed for areas within the proposed no discharge zone. Over 1 million pounds of nitrogen can be discharged into these waters.

Table 1.2: Pounds of Nitrogen Allowed Per Year TMDLs³

	Nitrogen (lbs/year)
Magothy	252,398
Severn	428,899
South	249,449
Rhode	52,235
West	37,777
TOTAL	1,020,758

On 30 May 2018, the Chesapeake Bay Foundation released its 2017 Maryland Midpoint Assessment, accessible at www.cbf.org/how-we-save-the-bay/chesapeake.../2017-maryland-midpoint.html. This midpoint assessment sought to determine whether Maryland is on track to meet its 2025 pollution reduction targets. The major finding was that, “*Maryland has achieved its overall 2017 goals for phosphorus and sediment, but still falls short in nitrogen reductions. Nitrogen and phosphorus pollution from urban and suburban areas and nitrogen pollution from septic systems continue to increase.*”

The University of Maryland Center for Environmental Science has developed a sophisticated report card for the health of the Chesapeake Bay, dividing the water body into 12 regions. The “Lower Western Shore” region covers Anne Arundel County and a portion of Calvert County, an area that is nearly identical to the area covered in the application and Herring Bay. The 2017 map of nitrogen levels, reproduced below, **shows the Lower Western Shore to be “very poor” and meeting less than 20% of the nitrogen pollution diet’s target (Figure 1).**

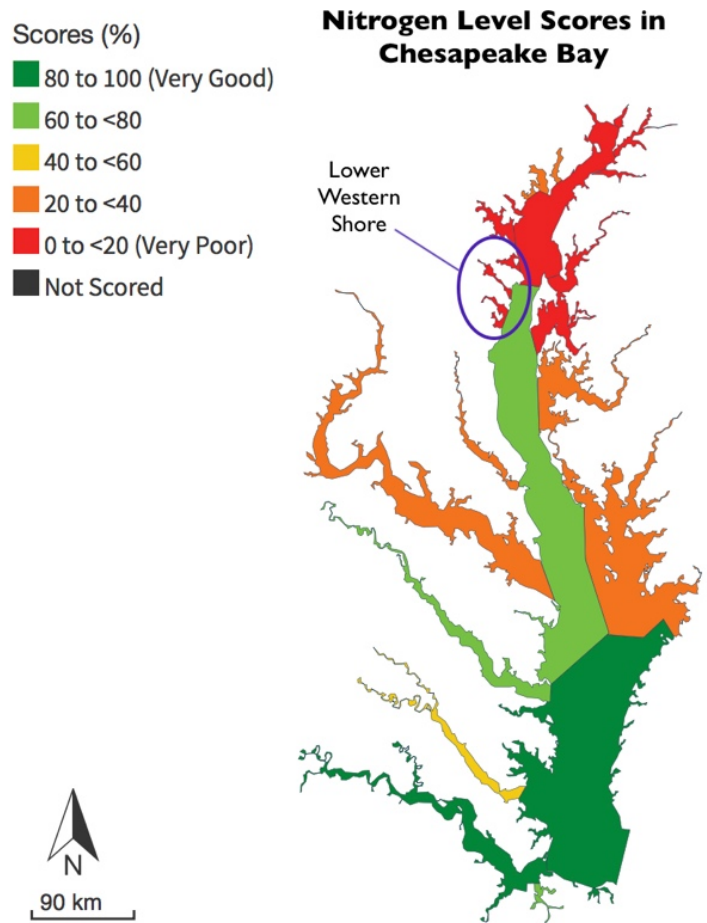


Figure 1.
Lower Western Shore
Nitrogen Scores

Source:
<https://ecoreportcard.org/report-cards/chesapeake-bay/health/>

“No Discharge Zones in Maryland’s Waters,” a 2014 white paper by Donald O’Neill and Donna Morrow at Maryland Department of Natural Resources², is a source of regional information on this subject.

“Nutrient over-enrichment is the biggest threat to the health of the Chesapeake Bay and Type I MSDs [marine sanitation devices] do little to reduce the amounts of nutrients contained in boat sewage. For this reason, discharges from Type I MSDs can be a problem in sensitive areas of water that are already impacted by other sources of nutrients including poorly flushing areas and areas where vessels tend to congregate.” (p.9)

“The biggest threat to the health of the Chesapeake Bay is nutrient overenrichment. Boat sewage, whether treated or not, contains nutrients. Untreated, or improperly treated, boat sewage also contains disease-causing microorganisms (pathogens), such as bacteria, protozoans, and viruses which can cause illness to swimmers and can contaminate shellfish beds also causing illness. Treated boat sewage may also contain toxic chemicals that can harm marine life.” (p. 10)

“Nutrients contained in boat sewage can have a more significant impact on local water quality particularly in areas of water that do not flush well and where boats tend to congregate. Although one discharge from one boat may not add a significant amount of nutrients to the water, the effects of nutrient over-enrichment are cumulative so areas of vessel congregation can be a concern. This is a particular problem in environmentally sensitive areas of water that contain living resources and that may not flush well.” (p. 11)

1.4 Current NDZs in Maryland and Areas in this Proposal

In 2001 EPA approved Maryland’s request for two NDZs—the Northern Coastal Bays and Herring Bay (Southern Anne Arundel County). In 2019 EPA approved Maryland’s third NDZ encompassing the Chester River.

The impaired water quality of Herring Bay prompted an application in 2001 to become the first no discharge zone in Maryland’s portion of the Chesapeake Bay. The proponent of that application was the owner of Herrington Harbour marinas—South, in Rose Haven, and North, in Deale. In the 16 years since the no discharge zone has been in place, Herrington Harbour has consistently reported it to be a great success from the viewpoint of boaters’ satisfaction with cleaner water. The marinas also undertook restoration of shoreline habitats and removal of invasive *phragmites* and replacing it with native *spartina alterniflora* which helped greatly in the return of Maryland’s iconic species, terrapins and horseshoe crabs.

The existing No Discharge Zones in Maryland prompted the Chester River Association, a nonprofit organization in Chestertown, Maryland (now part of Shore Rivers), to prepare an application in 2016 for a no discharge zone designation for the entire Chester River. This received a Final Affirmative Determination from EPA December 2019.

This current request is the first no discharge zone application in Maryland to be initiated by local government entities: The City of Annapolis and Anne Arundel County. Annapolis is the County seat as well as the state capital. The strategy of the application has been to identify all of the water bodies in the County that fulfill the requirements of adequate pump-out and dump station facilities and to limit the no discharge zones to the “interior” waters of the County and not to extend the proposed no discharge zone boundaries into the main stem of the Chesapeake Bay. These limits arise from two considerations.

First, the aim of this no discharge zone application is to focus on the rivers, creeks, and coves where recreational boating is most concentrated and where, it is expected, successful no discharge zones will have the most beneficial effects. These areas are also served by existing environmental nonprofit organizations that are currently active in water and habitat quality monitoring, education and reporting violations.

Secondly, by limiting the scope of the proposed NDZ to rivers, the application avoids impacting large commercial shipping and related interested that transit the main stem of the Bay and the Port of Baltimore.

This strategy results in a no discharge zone application that expands the existing Herring Bay no discharge zone to 13 additional water bodies in Anne Arundel County. Excluded from this proposed no discharge zone are the two inter-jurisdictional rivers that border the county: the Patapsco, on the northern boundary, and the Patuxent, to the west.

These 13 water bodies constitute essentially all of the County’s waters but one. The exception is Curtis Creek, off the Patapsco River. Curtis Creek is excluded from this application because, although the southern headwaters and upstream portion of the creek is in Anne Arundel County, the juncture of the creek and the river sits in Baltimore City, a geographic feature that would create inter-jurisdictional complications in managing a no discharge zone there. Second, it is by far the most heavily industrialized creek in Anne Arundel County and has relatively limited recreational boating.

Four creeks are proposed on the Patapsco River, the northern border of Anne Arundel County:

1. Stony Creek, 677 acres
2. Rock Creek, 524 acres
3. Bodkin Creek, 609 acres

The fourth location on the Patapsco includes one marina directly on the river:

4. Atlantic Marina Resort, 2 acres

Four complete rivers are proposed:

5. Magothy and Little Magothy rivers, 5,879 acres
6. Severn River, 7,497 acres
7. South River, 5,904 acres
8. West and Rhode rivers, 4,370 acres

Finally, four creeks and one bay opening directly onto the Chesapeake Bay are proposed:

9. Podickory Creek, 9 acres
10. Sandy Point/Mezick Ponds, 47 acres
11. Whitehall Bay, 1,599 acres
12. Oyster Cove, 34 acres
13. Fishing Creek, 228 acres

These 13 proposed water bodies total 27,379 acres, which amounts to approximately an eight-fold expansion of the 3,500 acres of the Herring Bay No Discharge Zone initiated in 2001. Should EPA determine any one creek, bay, or river does not meeting the criteria for NDZ designation, Maryland requests that a such smaller pieces of the application be denied independently from the application as a whole.

2.0 FACILITIES INFORMATION

2.1 Maps of Sanitary Waste Reception Facilities

The following pages include an overview map (Map 10) and nine other maps which show the geographic locations of existing pump-out facilities. The proposed no discharge zone would include all navigable waters west of the delineation line at the mouth of each creek, bay, and river.

The facilities open to the public are indicated by a green circle; those that are “private” (only open to slip holders or community residents) are indicated by an orange square. Maps 1 through 9 have accompanying tables that list the marinas depicted. Each table is on the page after its respective map. All of the documented marinas are on at least one of these smaller maps, as well as on the overview map. The maps show only locations of a pump-out facility; they do not indicate if more than one exists at any given location.

Tables A.1.1 and A.1.2 in Appendix 1 provide map codes and information for marinas with public pump-outs and marinas with private pump-outs respectively. Both tables are organized first by river, from north to south, then by creek alphabetically. The map codes correspond with the information source. If the code is just a number, for example 66, this indicates that Anne Arundel County provided the marina information. The other initials stand for City of Annapolis (COA), Department of Natural Resources (DNR), and Back Creek Conservancy (BCC).

Map 1 shows the four proposed no discharge zones on the Patapsco River (Stony Creek, Rock Creek, Atlantic Marina Resort, and Bodkin Creek) and the northern portion of the Magothy River.

Map 2 shows the upper Magothy and Severn rivers.

Map 3 shows the southern portion of the Magothy River, including the Little Magothy River, and, directly off the Chesapeake Bay, Podickory Creek, Sandy Point/Mezick Ponds, and Whitehall Bay.

Map 4 shows the City of Annapolis portion of the Severn River and Chesapeake Harbor.

Map 5 shows the upper South River.

Map 6 shows Oyster Creek and Fishing Creek (both directly off the Chesapeake Bay) and the lower South River.

Map 7 shows again the southeastern portion of the South River, the Rhode River, and the outer portion of the West River.

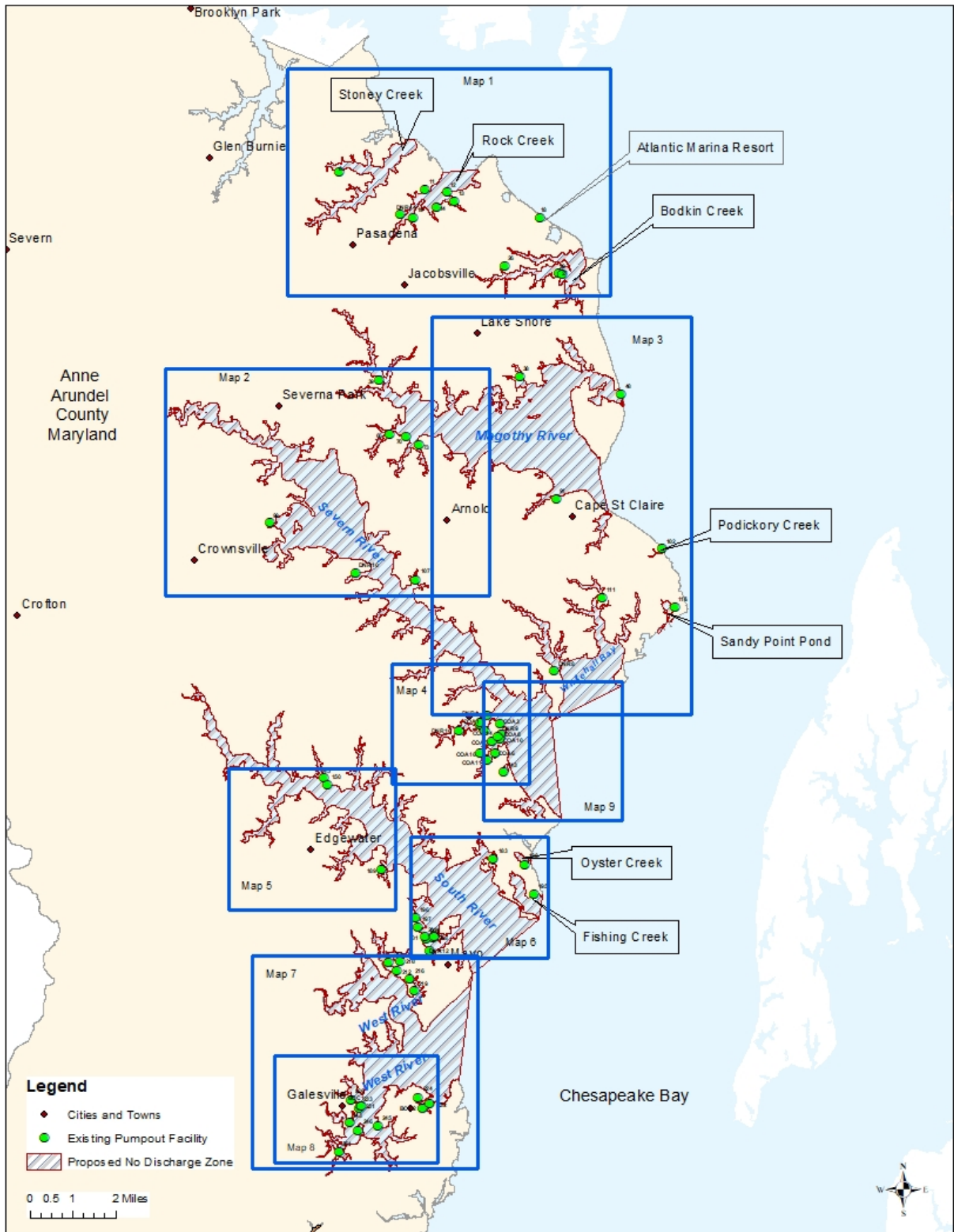
Map 8 shows the West River.

Map 9 shows the outer Severn River.

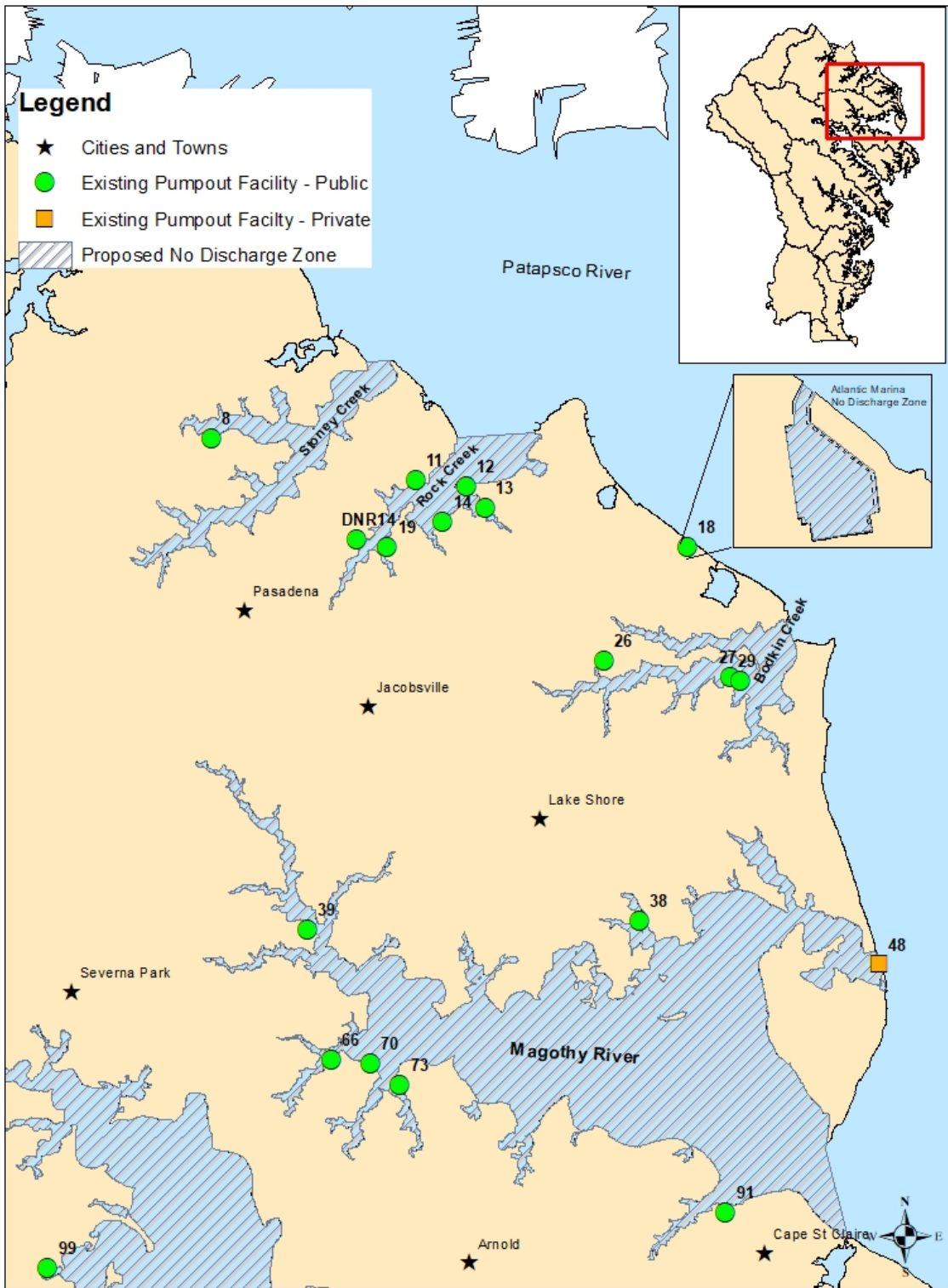
Map 10 is an index map of the entire proposed discharge zone, showing the locations of maps 1 to 9.

The proposed no discharge zone would include all navigable waters west of the delineation line at the mouth of each creek, bay, and river.

Map 10: Overview Proposed No Discharge Zones and Existing Pump-out Facilities



Map 1: Stony Creek, Rock Creek, and Bodkin Creek Areas



Marinas with Pump-outs: MAP 1

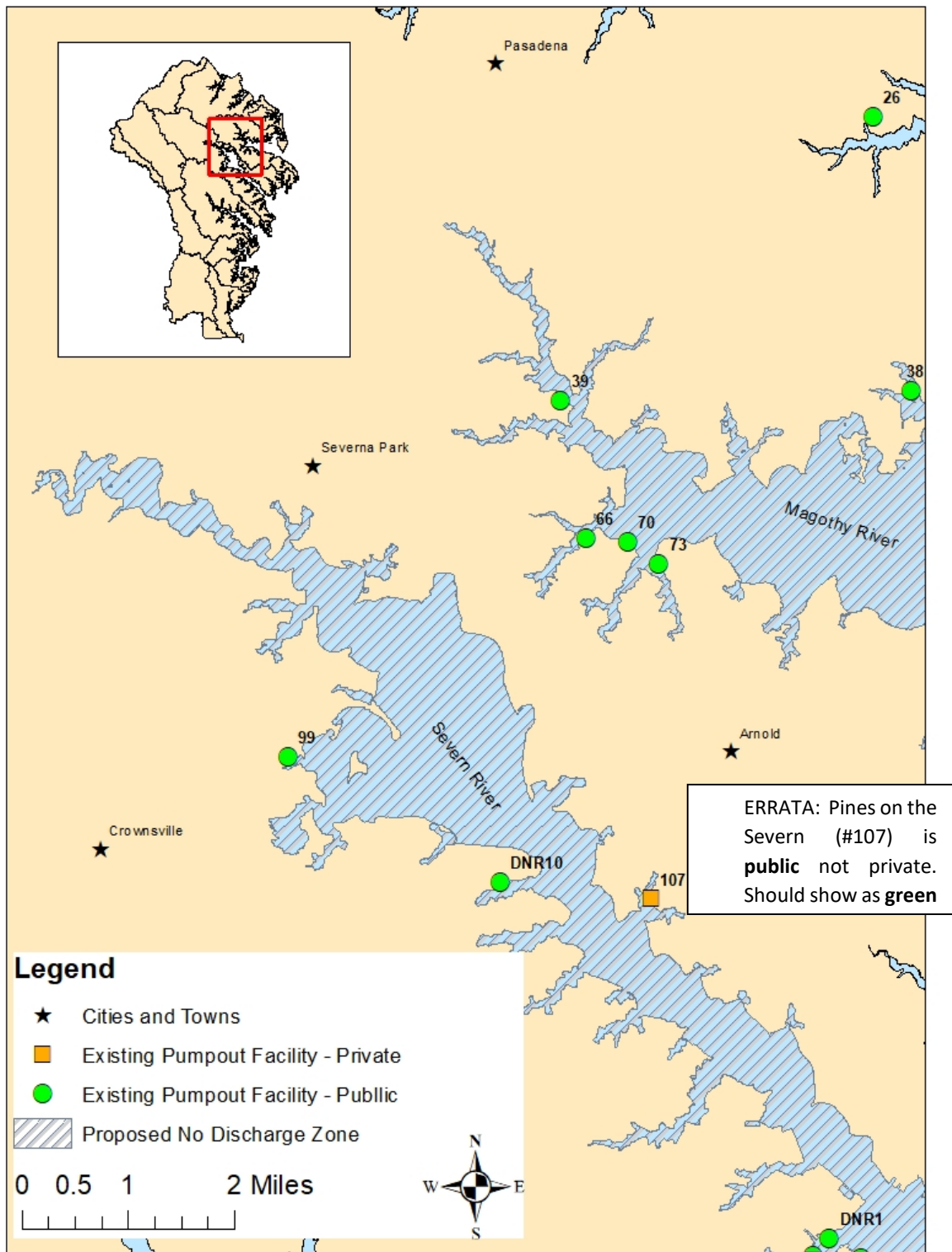
River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone #	Address	City	Slips	Public/Private	Marina Website
Patapsco	Bodkin	Pleasure Cove Marina	26	39°07'41.4"	76°28'24.3"	410 437 6600	1701 Poplar Ridge Rd	Pasadena	105	Public	www.pleasurecove.com
Patapsco	Bodkin	Ventnor Marine Service	27	39°07'39.3"	76°27'01.1"	410 255 4100	8070 Ventnor Rd	Pasadena	135	Public	
Patapsco	Bodkin	Hammock Island Marina	29	39°07'34.6"	76°26'53.8"	410 437 1870	8083 Ventnor Rd	Pasadena	64	Public	www.hammockisland.com
Patapsco	River Direct	Atlantic Marina Resort	18	39°08'42.1"	76°27'29.4"	410 437 6926	2010 Knollview Dr	Pasadena	60	Public	www.atlanticmarinaresort.com
Patapsco	Rock	Blake's Bar Harbor Marina	11	39°09'19.3"	76°30'28.8"	410 255 5500	208 Bar Harbor Rd	Pasadena	30	Public	www.blakesbarharbormarina.com
Patapsco	Rock	Maryland Yacht Club	12	39°09'16.0"	76°29'55.3"	410 255 4444	1500 Fairview Beach Rd	Pasadena	144	Public	www.mdyc.org
Patapsco	Rock	Fairview Marina	13	39°09'06.0"	76°29'44.6"	410 437 3400	1575 Fairview Beach Rd	Pasadena	120	Public	www.fairviewmarina.com
Patapsco	Rock	White Rocks Marina	14	39°08'56.9"	76°30'11.4"	410 255 3800	1402 Colony Rd	Pasadena	370	Public	www.whiterocks.com
Patapsco	Rock	Oak Harbor Marina	19	39°08'44.3"	76°30'48.9"	410 255 4070	1343 Old Water Oak Pt. Rd	Pasadena	100	Public	
Patapsco	Rock	Pasadena Yacht Yard (PYY marine)	DNR14	39°08'47.7"	76°31'07.2"	410 255 1771	1130 Pasadena Yacht Yard Rd	Pasadena	50	Public	www.pyy.com
Patapsco	Stoney	Nabbs Creek Marina	8	39°09'43.8"	76°32'45.5"	443 354 1918	864 Nabbs Creek Rd	Glen Burnie	120	Private	www.nabbscreekmarina.com
Magothy	Cypress	Cypress Marine, Inc.	66	39°04'18.6"	76°31'27.0"	410 647 7940	730 Cypress Rd	Severna Park	40	Public	www.cypressmarine.net
Magothy	Cypress	Magothy Marina, Inc.	70	39°04'18.4"	76°31'07.1"	410 647 2356	360 Magothy Rd	Severna Park	182	Public	www.magothymarina.com/index.html
Magothy	Gray's	Atlantic Marina on the Magothy	38	39°05'31.1"	76°28'02.8"	410 360 2500	487 New York Ave	Pasadena	48	Public	www.atlanticmarinaresort.com
Magothy	Magothy Narf	Gibson Island Marina	48	39°05'05.6"	76°25'53.3"	410 255 7632	420 The Causeway	Gibson Island	77	Private	www.gibsonisland.com/club/yacht
Magothy	Mill	Ferry Point Marina and Yachtyard	73	39°04'04.5"	76°30'41.5"	410 544 6368	700 Mill Creek Rd	Arnold	100	Public	www.ferrypointmarina.com
Magothy	River Direct	Hamilton Harbour Marina and Boatworks	39	39°05'26.1"	76°31'43.1"	410 647 0733	368 North Dr	Severna Park	20	Public	www.hamiltonharbourmarina.net

ERRATA:

-Nabbs Creek Marina pumpout is public and is shown correctly on Map 1.

-Ferry Point Marina and Yacht Yard was sold and is now named Atlantic Marina at Ferry Point.

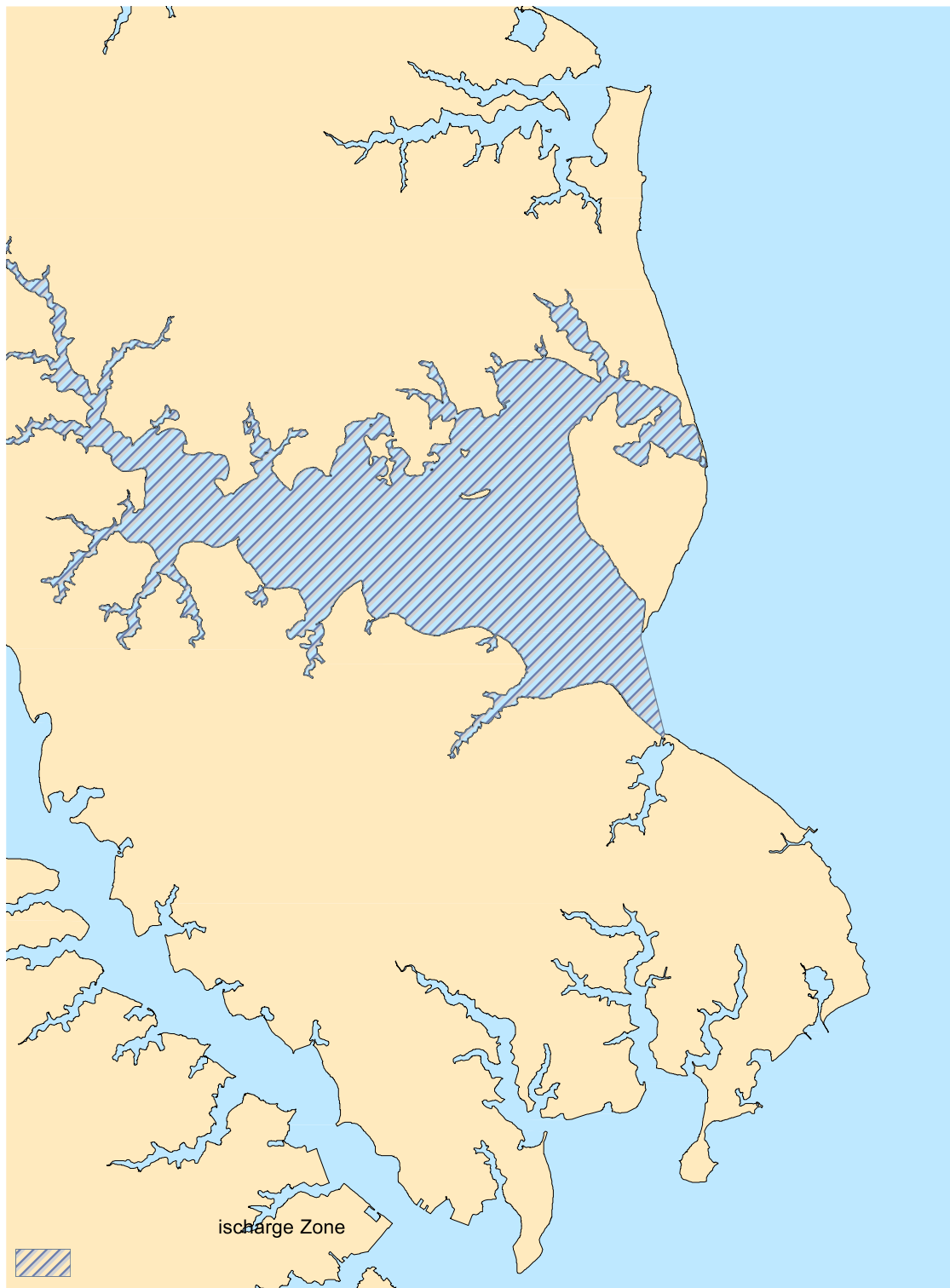
Map 2: Upper Magothy and Severn Rivers



Marinas with Pump-outs: MAP 2

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone	Address	City	Slips	Public/Private	Website
Magothy	Cypress	Cypress Marine	66	39 04' 18.6"	76 31' 27.0"	410-647-7940	730 Cypress Rd	Severna Park	40	Public	www.cypressmarine.net
Magothy	Cypress	Magothy Marina	70	39 04' 18.4"	76 31' 07.1"	410-647-2356	360 Magothy Rd	Severna Park	182	Public	www.magothymarina.com/index.html
Magothy	Gray's	Atlantic Marina on the Magothy	38	39 05' 31.1"	76 28' 02.8"	410-360-2500	487 New York Ave	Pasadena	48	Public	https://atlanticmarinasmd.com/magothy/
Magothy	Mill	Atlantic Marina at Ferry Point	73	39 04' 04.5"	76 30' 41.5"	410-544-6368	700 Mill Creek Road	Arnold	100	Public	https://atlanticmarinasmd.com/ferrypoint/
Magothy	River Direct	Hamilton Harbour Marina and Boat	39	39 05' 26.1"	76 31' 43.1"	410-647-0733	368 North Dr	Severna Park	20	Public	www.hamiltonharbourmarina.net
Severn	Brewer	Little John Marina	DNR10	39 01' 39.8"	76 32' 37.9"	410-841-6497	134 Shewood Forest Rd	Annapolis	109	Public	
Severn	Browns Cove	Smith's Marina	99	39 02' 34.5"	76 34' 33.2"	410-923-3444	529 Ridgely Rd	Crownsville	60	Public	www.smithsmarina.com
Severn	Chase	Pines on the Severn Community	107	39 01' 37.1"	76 30' 18.6"		PO Box 19	Arnold	3	Public	www.pinesonthesevern.com

Map 3: Magothy River, Little Magothy and Whitehall Bay



Marinas with Pump-outs: MAP 3

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone #	Address	City	Slips	Public/Private	Marina Website
Magothy	Cypress	Cypress Marine, Inc.	66	39°04'18.6"	76°31'27.0"	410 647 7940	730 Cypress Rd	Severna Park	40	Public	www.cypressmarine.net
Magothy	Cypress	Magothy Marina, Inc.	70	39°04'18.4"	76°31'07.1"	410 647 2356	360 Magothy Rd	Severna Park	182	Public	www.magothymarina.com/index.html
Magothy	Deep	Fairwinds Marina	91	39°02'59.1"	76°27'07.9"	410 974 0758	1000 Fairwinds Dr	Annapolis	100	Public	www.fairwindsmarina.com
Magothy	Gray's	Atlantic Marina on the Magothy	38	39°05'31.1"	76°28'02.8"	410 360 2500	487 New York Ave	Pasadena	48	Public	www.atlanticmarinahiresort.com
Magothy	Magothy Narri	Gibson Island Marina	48	39°05'05.6"	76°25'53.3"	410 255 7632	420 The Causeway	Gibson Island	77	Private	www.gibsonisland.com/club/yacht
Magothy	Mill	Ferry Point Marina and Yachtyard	73	39°04'04.5"	76°30'41.5"	410 544 6368	700 Mill Creek Rd	Arnold	100	Public	www.ferrypointmarina.com
Magothy	Podickory	Podickory Point Yacht and Beach Club	102	39°01'58.1"	76°24'22.4"	410 757 8000	2116 Bay Front Terrace	Annapolis	120	Public	www.podickorypoint.com
Magothy	River Direct	Hamilton Harbour Marina and Boatworks	39	39°05'26.1"	76°31'43.1"	410 647 0733	368 North Dr	Severna Park	20	Public	www.hamiltonharbourmarina.net
Severn	Mill	John L. Dunning Memorial Pier	DNR8	38°59'22.8"	76°27'08.9"	410 293 3731	140 Hooper High Road	Annapolis	32	Public	www.navywmrannapolis.com
Severn	River Direct	Sandy Point Marina	116	39°00'52.9"	76°24'07.3"	410 974 2149	800 Revell Hwy	Annapolis	25	Public	www.stateparks.com
Severn	Whitehall	Scandia Marine Center	111	39°00'58.4"	76°25'52.0"	410 643 0037	1656 Homewood Landing Rd	Annapolis	110	Public	www.scandiamarineservices.com

ERRATA:

- Ferry Point Marina was sold and is now named Atlantic Marina at Ferry Point.
- Scandia Marina location is now occupied by Hinckley Yacht Services.

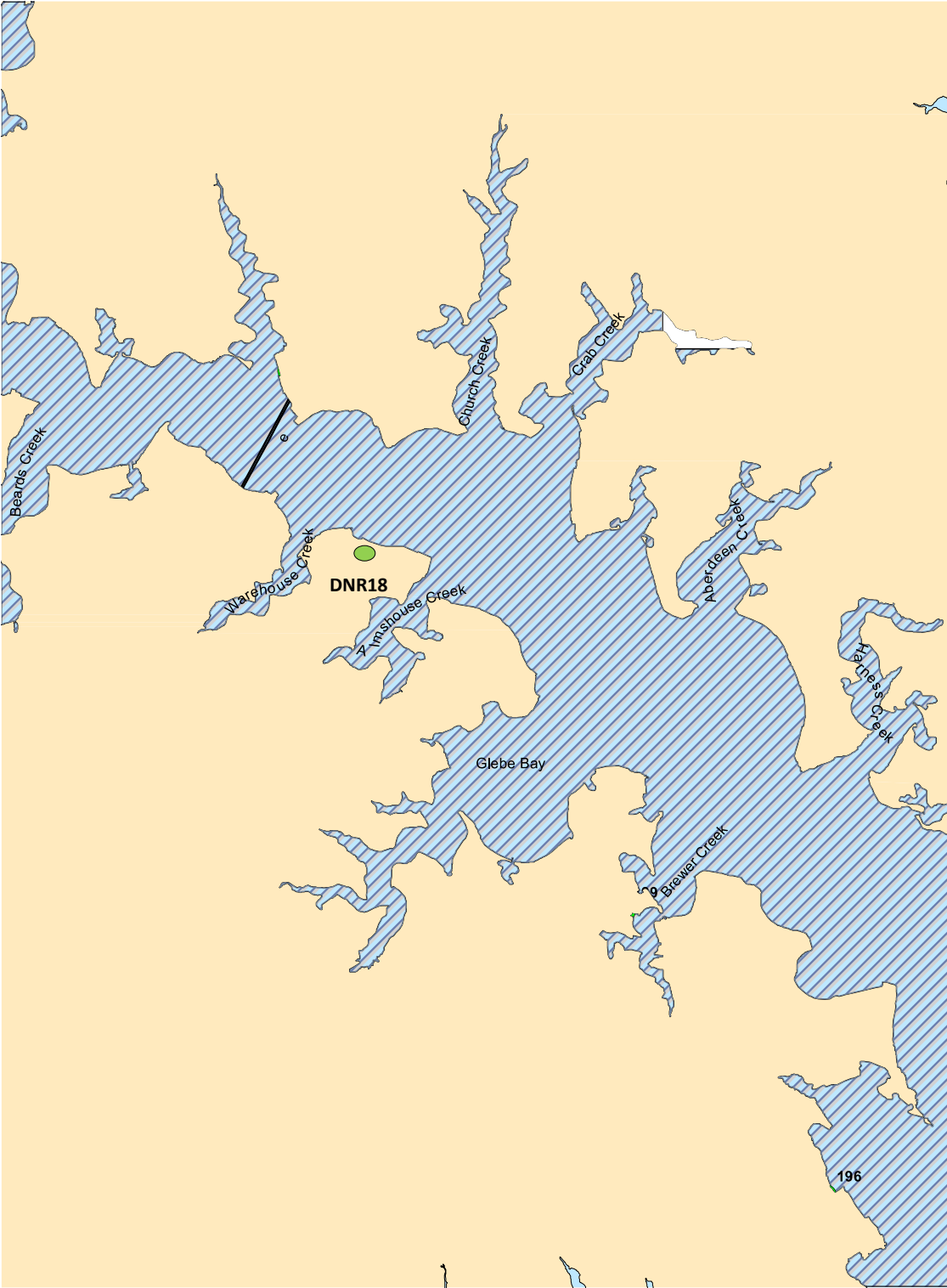
Map 4: Annapolis Area



Marinas with Pump-outs: MAP 4

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone	Address	City	Slips	Public/Private	Website
Severn	Back	Mears Marina Annapolis	COA 5	38°58' 04.8"	76°28' 53.1"	410-268-519	519 Chest	Annapolis	186	Public	www.mearsannapolis.com
Severn	Back	Port Annapolis Marina	COA 6	38°57' 49.0"	76°28' 43.6"	410-269-7074	7074 Bent	Annapolis	229	Public	www.portannapolis.com
Severn	Back	Horn Point Harbor Marina	COA 8	38°58' 11.8"	76°28' 34.4"	410-263-105	105 Easter	Annapolis	56	Public	www.horpointharbor.com
Severn	Back	Eastport Yacht Center	COA 10	38°58' 06.1"	76°28' 36.7"	410-280-726	726 Secon	Annapolis	101	Public	www.eycetcm.com
Severn	Back	Bert Jabin Yacht Yard	COA 11	38°57' 37.2"	76°28' 53.2"	410-268-7310	7310 Edge	Annapolis	220	Public	www.bjyy.com
Severn	Back	Watergate Pointe Marina	COA 16	38°57' 48.6"	76°29' 07.6"	443-926-655	655 Ameri	Annapolis	160	Public	www.livewatergatemarina.com
Severn	Back	Jport Marina	DNR 9	38°58' 09.6"	76°28' 39.9"	410-280-213	213 Easter	Annapolis	22	Public	www.jwportannapolis.com
Severn	Back	Annapolis Landing Marina	DNR 17	38°57' 57"	76°28' 37"	410-263-980	980 Awald	Annapolis	124	Public	http://annapolislandingmarina.com
Severn	Spa	City of Annapolis Pumpout Boat	DNR 1	38°58' 39.4"	76°29' 09.5"	410-220-1	1 Dock St	Annapolis	18	Public	www.annapolis.gov
Severn	River Direct	Chesapeake Harbour Marina	143	38°57' 34.3"	76°28' 30.8"	410-268-2090	2090 Ches	Annapolis	198	Public	www.chesapeakeharbourmarina.com
Severn	River Direct	Annapolis MD Capital Yacht Club	COA 14	38°58' 24.9"	76°28' 37.4"	410-269-16	16 Chesap	Annapolis	82	Public	www.amcyc.com
Severn	Spa	Annapolis Yacht Club	COA 7	38°58' 37.7"	76°29' 05.7"	410-263-510	510 Severn	Annapolis	75	Private	www.annapoliscyc.com
Severn	Spa	The President Point Marina	DNR 16	38°58' 17.2"	76°29' 37.7"	410-991-	President	Annapolis	50	Public	
Severn	Spa	Yacht Basin Co.	COA 16	38°58' 29.7"	76°29' 04.1"	410-263-2	2 Compro	Annapolis	107	Public	www.yachtbasin.com
Severn	Spa	Annapolis City Marina	COA 3	38°58' 29.7"	76°29' 01.0"	410-268-410	410 Severn	Annapolis	89	Public	www.annapoliscitymarina.com

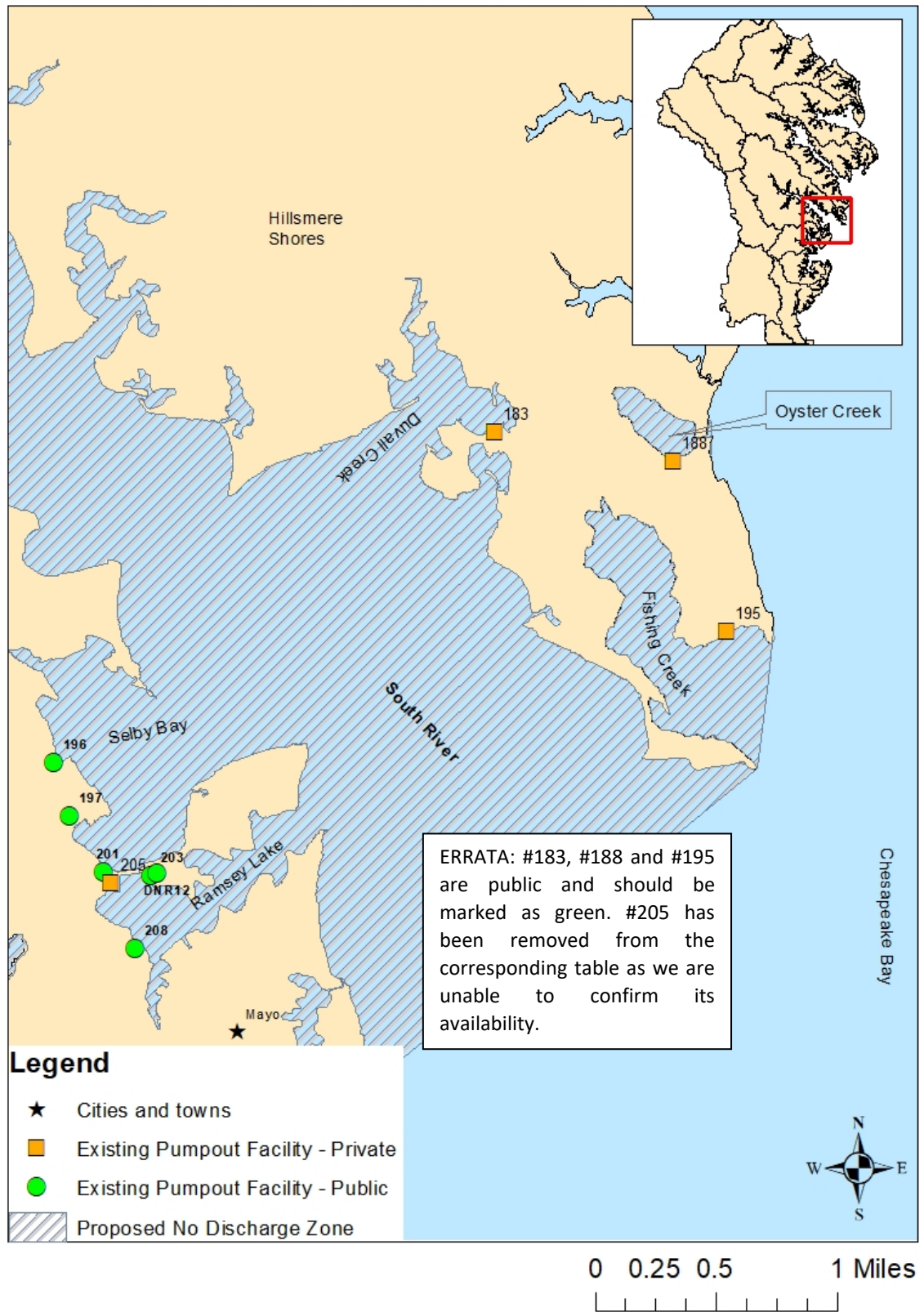
Map 5: South River Area



Marinas with Pump-outs: MAP 5

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone	Address	City	Slips	Public/Private	Website
South	Brewer	Pochontas Marina	189	38 55' 27.4"	76 31' 43.5"	410-798-7082	3365 Pochontas Dr	Edgewater	47	Public	www.pochontasmarina.com
South	Gingerville	Oak Grove Marina	145	38 57' 22.4"	76 33' 10.2"	410-266-6696	2820 Solomons Is. Rd	Edgewater	136	Public	www.boatoakgrove.com
South	River Direct	Liberty Marina	150	38 57' 11.8"	76 33' 09.4"	410-266-5633	64 Old South River Rd	Edgewater	320	Public	www.libertymarina.com
South	River Direct	Pier 7 Marina	DNR 18	36°56.867'	76°33.283'	410-956-2288	48 South River Rd	Edgewater	200	Public	www.piersevenmarina.com
South	Selby Bay	Selby Bay Yacht Basin	196	38 54' 29.0"	76 30' 48.9"	410-798-0332	930 Selby Bay Rd	Edgewater	100	Public	www.selbybaymarina.com
South	Selby Bay	Holiday Point Marina	197	38 54' 16.8"	76 30' 41.0"	400-956-2208	3374 Beach Dr. Blvd	Edgewater	171	Public	www.holidaypointmarina.com

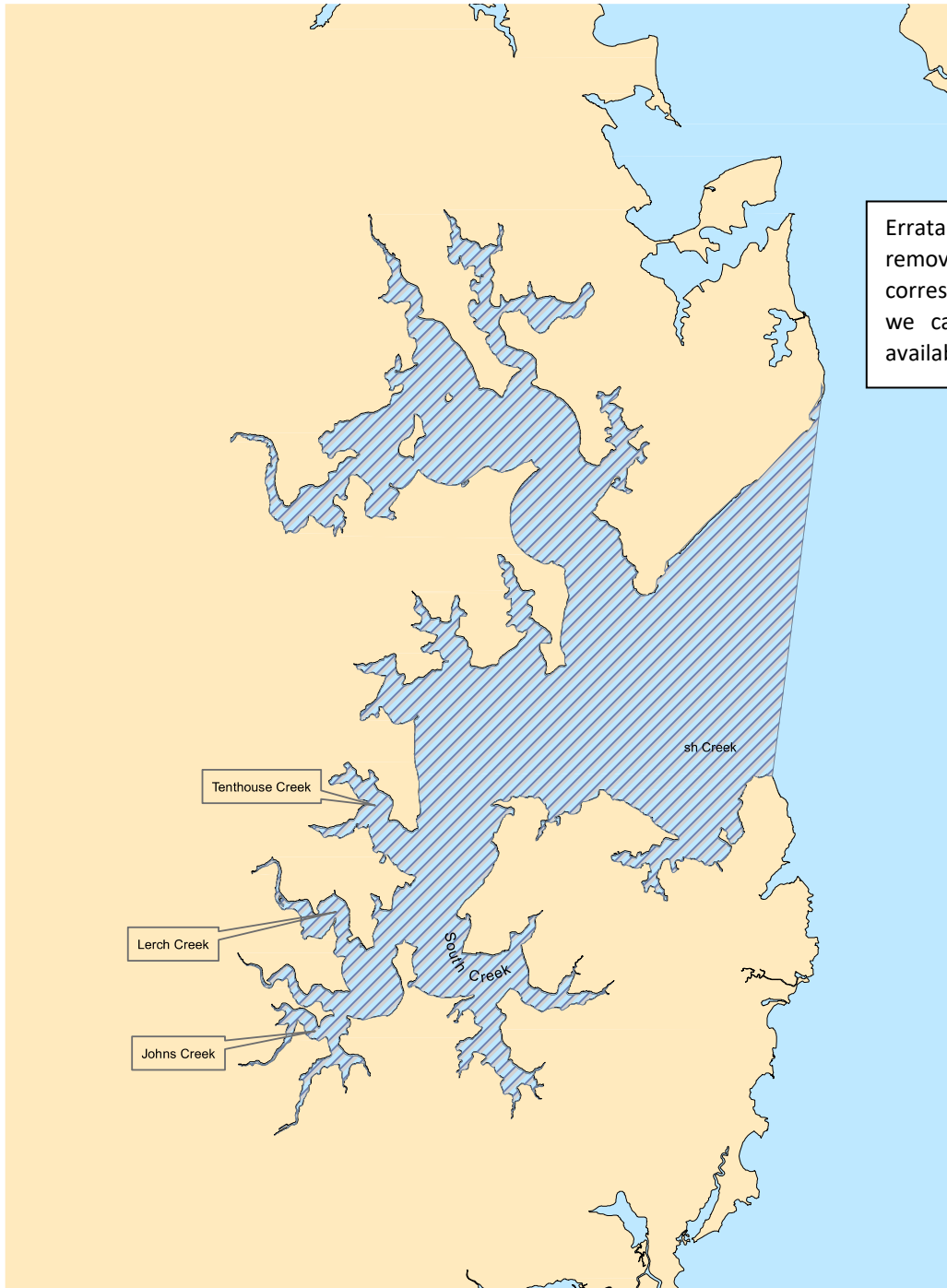
Map 6: South River Area



Marinas with Pump-outs: MAP 6

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone	Address	City	Slips	Public/Private	Website
South	Duwall	Fishing Creek Farms Community	183	38 55' 38.9"	76 28' 47.0"		1222 Cherry Tree Ln	Annapolis	26	Public	www.fishingcreekfarm.org
South	Fishing	Arundel on the Bay Community	195	38 55' 08.6"	76 27' 48.9"	443-253-0596	PO Box 4665	Annapolis	12	Public	www.arundelonthebay.org
South	Oyster	Oyster Harbor Community	188	38 53' 33.6"	76 27' 56.0"	410-280-8999	PO Box 3174	Annapolis	5	Public	www.oysterharbor.org
South	Ramsay Lake	Turkey Point Marina	203	38 54' 04.7"	76 30' 23.4"	410-798-1369	1107 Turkey Point Rd	Edgewater	100	Public	www.turkeypointmarina.com
South	Ramsay Lake	Mayo Ridge Marina	208	38 53' 49.7"	76 30' 29.4"	410-798-1952	1293 Mayo Ridge Rd	Edgewater	68	Public	
South	Ramsay Lake	Norris Marina	DNR12	38 54' 04.7"	76 30' 22.4"	410-320-1628	1111 Turkey Point Rd	Edgewater	55	Public	www.norrismarinaslips.com
South	Selby Bay	Selby Bay Marina	196	38 54' 29.0"	76 30' 48.9"	410-798-0232	930 Selby Blvd	Edgewater	100	Public	www.selbybaymarina.com
South	Selby Bay	Holiday Point Marina	197	38 54' 16.8"	76 30' 41.0"	410-956-2208	3374 Beach Dr Blvd	Edgewater	171	Public	www.holidaypointmarina.com
South	Selby Bay	Anchor Yacht Basin	201	38 54' 05.2"	76 30' 36.1"	410-296-6674	1048 Turkey Pt. Rd	Edgewater	110	Public	www.anchor-yacht-basin.com
Rhode	Cadle	Cadle Creek Marina	219	38 52' 59.1"	76 30' 52.7"	410-798-1915	4159 Cadle Creek Rd	Edgewater	40	Public	
Rhode	Cadle	Casa Rio Marina	216	38 53' 13.8"	76 31' 00.7"	410-798-4731	4079 Cadle Creek Rd	Edgewater	39	Public	www.casariomarina.com

Map 7: West/Rhode/South

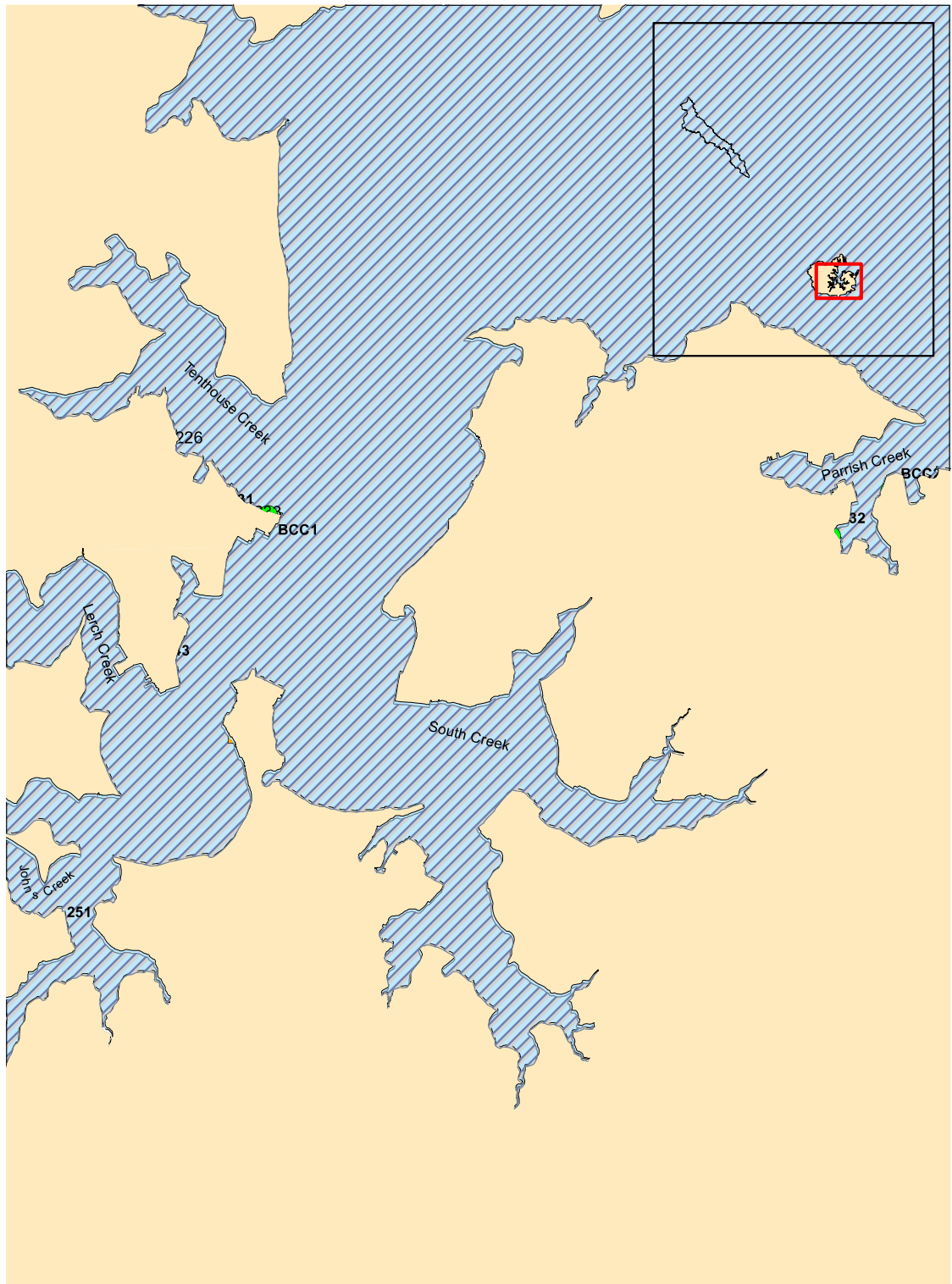


Errata: #205 has been removed from the corresponding table as we cannot confirm its availability.

Marinas with Pump-outs: MAP 7

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone #	Address	City	Slips	Public/Private	Maina Website
South	Ramsay Lake	Turkey Point Marina	203	38°54'04.7"	76°30'23.4"	410 798 1369	1107 Turkey Point Rd	Edgewater	100	Public	www.turkeypointmarina.com
South	Ramsay Lake	Mayo Ridge Marina	208	38°53'49.7"	76°30'29.4"	410 798 1952	1293 Mayo Ridge Rd	Edgewater	68	Public	
South	Ramsay Lake	Norris Marina	DNR12	38°54'04.7"	76°30'22.4"	410 320 1628	1111 Turkey Point Rd	Edgewater	55	Public	www.norrismarinaslps.com
South	Ramsay Lake	South River Marina	205	38°54'02.7"	76°30'55.6"	410 798 6060	1061 Turkey Point Rd	Edgewater	48	Private	www.southrivermarina.com/home2.html
South	Selby Bay	Selby Bay Yacht Marina	196	38°54'29.0"	76°30'48.9"	410 798 0232	930 Selby Blvd	Edgewater	100	Public	www.selbybaymarina.com
South	Selby Bay	Holiday Pt. Marina #1	197	38°54'16.8"	76°30'41.0"	410 956 2208	3774 Beach Dr Blvd	Edgewater	171	Public	www.holidaypointmarina.com
South	Selby Bay	Anchor Yacht Basin	201	38°54'05.2"	76°30'36.1"	410 269 6674	1048 Turkey Pt Rd	Edgewater	110	Public	www.anchorbayyachtbasin.com
West	Parish	Backyard Boats	232	38°50'36.0"	76°30'41.1"	410 867 4800	4819 Woods Wharf Rd	Shady Side	59	Public	www.backyardboats.com
West	Parish	Parish Creek Marina	224	38°50'30.7"	76°30'43.9"	410 867 9550	1442 Ford Rd	Shady Side	141	Private	www.clarkslanding.com
West	River Direct	West Rhode Riverkeeper Pumpout Boat	BCC2	38°50'39.3"	76°30'30.8"	443 221 5104	4800 Atwell Rd	Shady Side	0	Public	www.westrhoderiverkeeper.org
Rhode	Cadle	Cadle Creek Marina	219	38°52'59.1"	76°30'52.7"	410 798 1915	4159 Cadle Creek Rd	Edgewater	40	Public	
Rhode	Cadle	Casa Rio Marina	216	38°53'13.8"	76°31'00.7"	410 798 4731	4079 Cadle Creek Rd	Edgewater	39	Public	www.casariomarina.com
Rhode	Whitemarsh	Rhode River Marina	211	38°53'32.1"	76°31'30.2"	410 798 1658	3932 Germantown Rd	Edgewater	108	Public	www.rhoderivermarina.com
Rhode	Whitemarsh	Holiday Hill Marina	210	38°53'37.0"	76°31'17.6"	410 798 9499	3910 Calawassee Rd	Edgewater	68	Public	www.holidayhillmarina.com
Rhode	Whitemarsh	Bluewater Marina	212	38°53'21.4"	76°31'20.2"	410 798 6968	1024 Carrs Wharf Rd	Edgewater	52	Public	

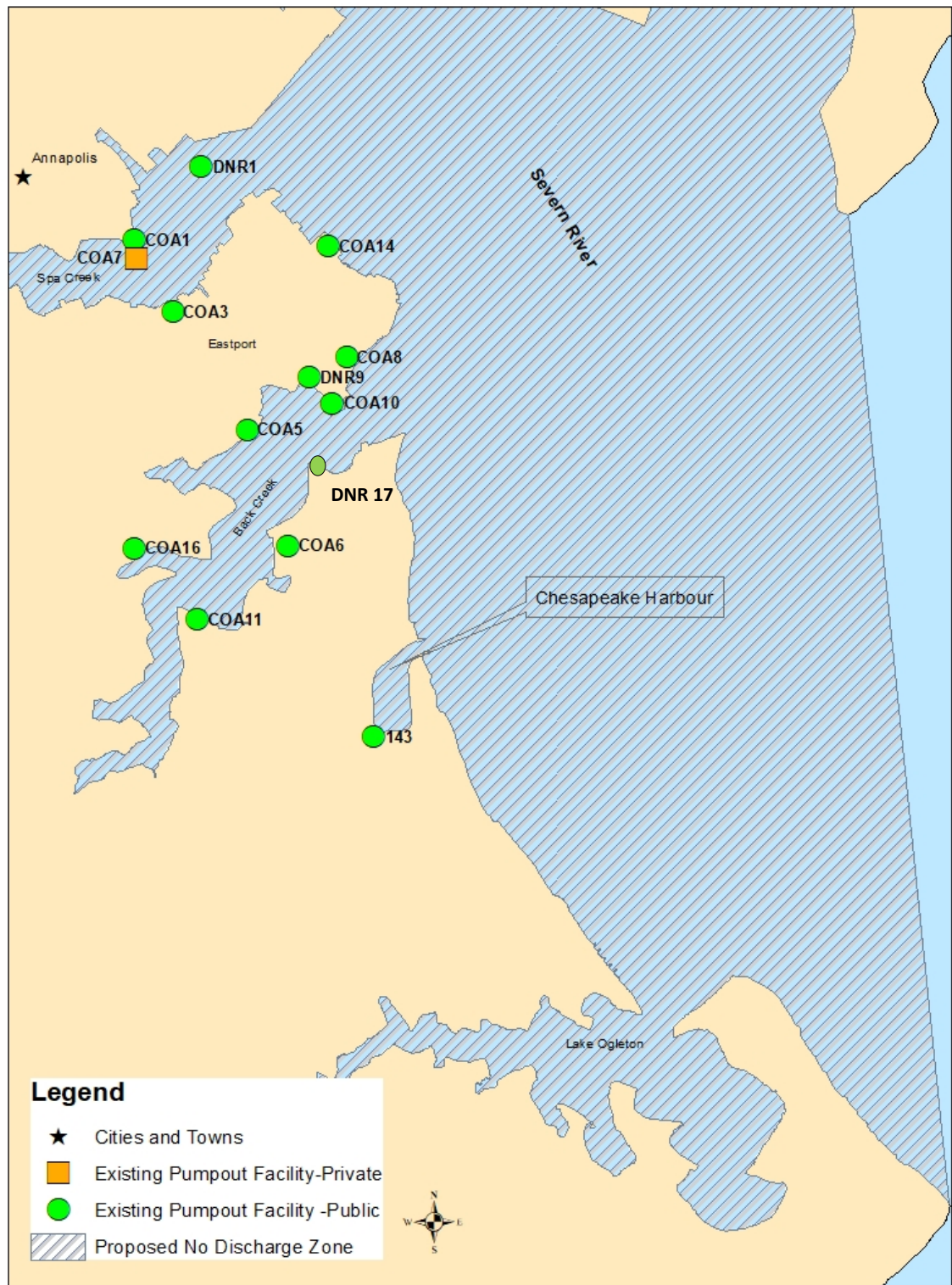
Map 8: West River Area



Marinas with Pump-outs: MAP 8

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone #	Address	City	Slips	Public/Private	Marina Website
West	Johns	Shady Oaks Marina	251	38°49'44.9"	76°32'52.9"	410 867 7700	846 Shady Oaks Rd	West River	45	Public	
West	Parish	Backyard Boats	232	38°50'36.0"	76°30'41.1"	410 867 4800	4819 Woods Wharf Rd	Shady Side	59	Public	www.backyardboats.com
West	Parish	Parrish Creek Marina	224	38°50'30.7"	76°30'43.3"	410 867 9550	1442 Ford Rd	Shady Side	141	Private	www.clarkslanding.com
West	River Direct	West River Fuel Dock	BCC1	38°50'35.4"	76°32'10.4"	410 867 1444	4801 Riverside Dr	Galesville	0	Public	
West	River Direct	WestRhode Riverkeeper Pumpout Boat	BCC2	38°50'39.3"	76°30'30.8"	443 221 5104	4800 Atwell Rd	Shady Side	0	Public	www.westrhoderiverkeeper.org
West	River Direct	Chalk Point Marine	246	38°50'10.3"	76°32'23.0"	410 991 9660	4916 West Chalk Pt Rd	West River	30	Private	www.chalkpointmarinewestriver.com
West	River Direct	Pirate's Cove Marina	233	38°50'35.7"	76°32'20.1"	410 867 3600	4817 Riverside Dr	Galesville	86	Private	www.piratescove.md.com/marina.html
West	South	Chesapeake Yacht Club	245	38°50'15.5"	76°31'52.6"	410 867 1500	4943 Hime Ave	Shady Side	150	Public	www.chesapeakeyachtclub.org
West	Tenthouse	West River Yacht Harbor	231	38°50'37.5"	76°32'15.9"	301 672 3473	4801 Riverside Dr	Galesville	178	Public	www.westriveryachtclub.org
West	Tenthouse	Hartge Yacht Harbour	243	38°50'16.0"	76°32'35.3"	443 607 6306	4883 Church Ln	Galesville	250	Public	www.hartgeyachtclub.com
West	Tenthouse	Hartge Yacht Yard	226	38°50'53.2"	76°32'36.3"	410 867 2188	4701 Woodfield Rd	Galesville	20	Private	www.hartgeyard.com

Map 9: Severn Area



Marinas with Pump-outs: MAP 9

River	Creek	Marina	Map Code	Lat (N)	Long (W)	Phone	Address	City	Slips	Public/Private	Website
Severn	Back	Mears Marina Annapolis	COA 5	38°58'04.8"	76°28'53.1"	410-268-519	519 Chestnut	Annapolis	186	Public	www.mearsmarina.com
Severn	Back	Port Annapolis Marina	COA 6	38°57'49.0"	76°28'43.6"	410-269-7074	Bentley	Annapolis	225	Public	www.portannapolis.com
Severn	Back	Horn Point Harbor Marina	COA 8	38°58'11.8"	76°28'34.4"	410-263-105	Easter	Annapolis	56	Public	www.horpointharbor.com
Severn	Back	Eastport Yacht Center	COA 10	38°58'06.1"	76°28'36.7"	410-280-726	Secon	Annapolis	101	Public	www.eyc.etem.com
Severn	Back	Bert Labin Yacht Yard	COA 11	38°57'37.2"	76°28'53.2"	410-268-7310	Edge	Annapolis	220	Public	www.bjvy.com
Severn	Back	Watergate Pointe Marina	COA 16	38°57'48.6"	76°29'07.6"	443-926-655	Ameri	Annapolis	160	Public	www.livewatergatemarina.com
Severn	Back	Jport Marina	DNR 9	38°58'09.6"	76°28'39.9"	410-280-213	Easter	Annapolis	22	Public	www.jworldannapolis.com
Severn	Back	Annapolis Landing Marina	DNR 17	38°57'57"	76°28'37"	410-263-980	Awald	Annapolis	124	Public	http://annapolislndingmarina.com
Severn	River Direct	Chesapeake Harbour Marina	143	38°57'34.3"	76°28'30.8"	410-268-2030	Ches	Annapolis	198	Public	www.chesapeakeharbourmarina.com
Severn	Spa	City of Annapolis Pumpout Boat	DNR 1	38°58'39.4"	76°29'09.5"	410-320-1	Dock St	Annapolis	18	Public	www.annapolis.gov
Severn	River Direct	Chesapeake Harbour Marina	143	38°57'34.3"	76°28'30.8"	410-268-2030	Ches	Annapolis	198	Public	www.chesapeakeharbourmarina.com
Severn	River Direct	Annapolis MD Capital Yacht Club	COA 14	38°58'24.9"	76°28'37.4"	410-269-16	Chesap	Annapolis	82	Public	www.amscyc.com
Severn	Spa	Annapolis Yacht Club	COA 7	38°58'37.7"	76°29'05.7"	410-263-510	Sever	Annapolis	75	Private	www.annapoliscyc.com
Severn	Spa	The President Point Marina	DNR 16	38°58'17.2"	76°29'37.7"	410-991-	President	Annapolis	50	Public	
Severn	Spa	Yacht Basin Co.	COA 16	38°58'29.7"	76°29'04.1"	410-263-2	Comprol	Annapolis	107	Public	www.yachtbasin.com
Severn	Spa	Annapolis City Marina	COA 3	38°58'29.7"	76°29'01.0"	410-268-410	Sever	Annapolis	89	Public	www.annapoliscitymarina.com

2.2 Description of Facility Locations and Types

Of the 73 marinas identified in Anne Arundel County offering pump-out and/or dump station facilities, 63 are identified as “public” and 10 as “private.” The distinction is not entirely clear-cut. In most cases, the private facilities are available only on a restricted basis, such as to members of a private club or community, but in other instances the “private” marinas may service transient boats on an *ad hoc* basis. The 10 “private” facilities are recognized as serving private needs, and they are not counted toward meeting adequate pump-out and dump station requirements.

Among the 63 marinas offering public pumpout service there are 60 stationary units, 9 portable and three mobile pumpout boats open to the boating public. *Portable* units are cart-mounted pumps that can be moved about in a marina. The *mobile* pumpouts are pumpout boats operated by the City of Annapolis Harbormaster and Arundel Rivers in the West and Rhode Rivers.

1. Stony Creek

Stony Creek, off the Patapsco River, is shown on Map 1. The proposed outer limit of the no discharge zone extends from lat. 39.1723°N -76.5171°W to lat. 39.1725°N long. -76.5126°W covering an area of 677 acres. throughout, averaging about 15’.

Public marina: Nabbs Creek Marina (8) This marina is on Anne Arundel County sewerage.

2. Rock Creek

Rock Creek, off the Patapsco River, is shown on Map 1. The proposed outer limit of the no discharge zone extends from lat. 39.1614°N long. -76.5004°W to lat. 39.1625°N long. -76.4862°W, covering an area of 524 acres.

Public marinas: Blake’s Bar Harbor Marina (11) (county sewer service). Maryland Yacht Club (12)—although this is a private club, they operate a fuel dock with a grant funded pumpout station that is open to the public (county sewer service). Fairview Marina (13) (county sewer service). White Rocks Marina (14) (county sewer service). Oak Harbor Marina (19) (on-site septic system). Pasadena Yacht Yard (DNR14) (county sewer service.)

3. South Shore, Patapsco River

Off the Patapsco River, shown on Map 1. The opening of the marina on the Patapsco River is located between lat. 39.1472°N long. -76.4589°W and lat. 39.1471°N long -76.4588°W an area of 2 acres.

Public Marinas: Atlantic Marina Resort (18) (Onsite septic service)

4. Bodkin Creek

Bodkin Creek, off the Patapsco River, is shown on Map 1. The proposed outer limit of the no discharge zone extends from lat. 39.1346 °N long. -76.4398°W to lat. 39.1320°N long. -76.4384°W, covering an area of 609 acres.

Public marinas: Pleasure Cove Marina (26) Ventnor Marina Service (27)

Hammock Island Marina (29) All three of these marinas have on-site septic and use separate holding tanks for boat waste.

5. Magothy and Little Magothy Rivers

The Magothy River is shown in Maps 1, 2 and 3, together proposed as a single no discharge zone with an outer limit that extends from lat. 39.0592°N long. -76.4332°W to lat. 39.0462°N long. -76.4295°W, covering an area of 5,879 acres, of which 5,790 acres are in the Magothy River and 89 acres in the Little Magothy.

Private marinas: Gibson Island Boat Works (48) This marina is on septic service.

Public marinas: Atlantic Marina on the Magothy (38) Hamilton Harbor Marina & Boatworks (39) Cypress Marine (66) Magothy Marina (70) Atlantic Marina at Ferry Point (73) (Note: In the December 2019 draft of this application, this marina was named Ferry Point Marina under previous ownership.) Fairwinds Marina (91)

Private marina No. 48 and public marina No. 38 are on septic. Public marinas Nos. 39, 66, 70, 73, and 91 are on sewerage.

6. Podickory Creek

Podickory Creek, directly off the Chesapeake Bay, is shown on Map 3. The proposed outer limit of this no discharge zone extends from lat. 39.0328°N long. -76.4040°W to lat. 39.0318°N long. -76.4049°W, covering an area of 9 acres.

Public marinas: Podickory Point Yacht & Beach Club (102) This marina is on Anne Arundel County sewerage.

7. Sandy Point/Mezick Ponds

Sandy Point/Mezick Ponds, directly off the Chesapeake Bay, is shown on Map 3. The proposed outer limit of the no discharge zone extends from lat. 39.0087°N long. -76.4032°W to lat. 39.0086°N long. -76.4037°W, covering an area of 47 acres.

Public marina: Sandy Point Marina (116) Sandy Point State Park operates an on-site waste water treatment plant.

8. Whitehall Bay

Whitehall Bay, directly off the Chesapeake Bay, is shown on Map 3. The proposed outer limit of the no discharge zone extends from lat. 38.9748°N long. -76.4547°W to lat. 38.9871°N long. -76.4268°W, covering an area of 1,599 acres.

Public marinas: Hinckley Yacht Services (111) (Note: In the December 2019 draft of this application, this marina was named Scandia Yacht Service under prior ownership.) John L. Dunning Memorial Pier (DNR8)

Both marinas are on sewerage. As indicated in the public comments, boaters want more pumpouts in this area. However, the waters here are bounded by residences and DNR has not identified any suitable locations (marinas, public landing) where another pumpout could be installed. DNR will continue to try to identify possible locations for new pumpout stations.

Severn River

The Severn River is shown on Maps 2, 3, and 4. The proposed outer limit of the no discharge zone extends from lat. 38.9747°W long. -76.4547°N to lat. 38.9411°N long. -76.4504°W, covering an area of 7,497 acres.

Brewer Creek

Private marina with grant funded pumpout open to public: Little John Marina (DNR10)

Brown's Cove

Private marina with grant funded pumpout open to public: Pines on the Severn (107)

Public marina: Smith's Marina (99)

Public marina No. 99 and private marina No. DNR10 are on septic. All others are on sewerage.

Annapolis Harbor

Public marinas:

Annapolis City Marina (COA3) Despite its name, this marina is not owned by the City of Annapolis. The President Point Marina (DNR16) This is a private townhome community but they have a grant funded pumpout available to the public. The Yacht Basin Co. (COA1) has a privately funded pumpout that is open to the public at their fuel dock.

City of Annapolis Pump-out Boat (DNR1). The City pump-out boat serves boats on *four creeks* in city waters (Back, Spa, College, and Weems creeks). Visitors and locals alike enjoy this convenient service. The city waters are popular anchorages and have dozens of moorings. During 2019 the pump-out boat emptied over 42,800 gallons of waste from over 2,180 boats.

Private marina: Annapolis Yacht Club (COA7)

Back Creek:

Public marinas: Port Annapolis Marina (COA6), Bert Jabin Yacht Yard (COA11), Watergate Pointe Marina (COA16), Mears Marina (COA5), JPort Marina (DNR9), Eastport Yacht Center (COA10), Horn Point Harbor Marina (COA8), Annapolis Landing Marina (DNR 17), Annapolis Maryland Capital Yacht Club (COA14). Back Creek is also served by the Annapolis Pumpout boat (DNR1).

Chesapeake Harbour (harbor just south of Back Creek entrance)

Public marina: Chesapeake Harbour Marina (143)

9. Oyster Creek

Oyster Creek, directly off the Chesapeake Bay, is shown on Map 6. The proposed outer limit of the no discharge zone extends from lat. 38.9274°N long. -76.4638°W to lat. 38.9273°N long. -76.4634°W, covering an area of 34 acres.

Private marina with grant funded pumpout open to public: Oyster Harbor (188)

This marina is on sewerage.

10. Fishing Creek

Fishing Creek, directly off the Chesapeake Bay, is shown on Map 6. The proposed outer limit of the no discharge zone extends from lat. 38.9148°N long. -76.4591°W to lat. 38.9073°N long. -76.4602°W, covering an area of 228 acres.

Private marina with grant funded pumpout open to public: Arundel on the Bay (195)

This marina is on sewerage.

11. South River

The South River is shown on maps 5, 6, and 7. The proposed outer limit of the no discharge zone extends from lat. 38.9073°N long. -76.4602°W to lat. 38.8850°N long. -76.4910°W, covering an area of 5,904 acres.

Private marina with grant funded pumpout open to public: Fishing Creek Farms (183)

Public marinas: Mayo Ridge Marina (208), Turkey Point Marina (203), Norris Marina (DNR12), Anchor Yacht Basin (201), Holiday Point Marina (197), Selby Bay Yacht Basin (196), Pocahontas Marina (189), Pier Seven Marina (DNR18), Liberty Marina (150), and Oak Grove Marina (145).

All of these marinas are on sewerage.

12. West and Rhode Rivers

The West and the Rhode rivers are shown in maps 7 and 8. These rivers are separate and distinct but meet at their mouths with the Chesapeake Bay and are commonly treated as a single river system. The proposed outer limit of the no discharge zone extends from lat. 38.8850°N long. -76.4910°W to lat. 38.8531°N long. -76.4959°W, covering a combined area of 4,370 acres.

West River

Public marinas: Casa Rio Marina (216), Rhode River Marina (211), Cadle Creek Marina (219), Bluewater Marina (212), and Holiday Hill Marina (210).

Rhode River

Private marinas: Parrish Creek Marina (224), Hartge Yacht Yard (226), Chalk Point Marine (246), Pirate's Cove Marina (233)

Public marinas: West and Rhode Riverkeeper Pump-out Boat (BCC2), Backyard Boats (232), West River Yacht Harbor (231), Hartge Yacht Harbour (243), Shady Oaks Marina (251), Chesapeake Yacht Club (245), West River Fuel Dock (BCC1)

All are on sewerage.

Arundel Rivers Federation Pumpout Boat (BCC 2): This boat is operated from approximately May through October on weekends and holidays and serves *both West and Rhode Rivers*. In the 2019 boating season, the boat offloaded nearly 30,000 gallons of waste from recreational vessels in the West and Rhode rivers. These rivers are popular destinations for visiting boaters who often take a mooring or anchor and the pumpout boat is a great convenience for them. Many resident boaters also enjoy this convenience.

Of the marinas identified in Anne Arundel County offering pumpout and/or dump station facilities, 63 are identified as “public” and 10 as “private.” In most cases, the private facilities are available just to members (e.g., yacht club or a community marina) but they may serve transient boats on

occasion. These “private” facilities are recognized as serving the needs of their members and are not counted toward meeting adequate pumpout-out and dump station requirements.

Table 2.2.1 shows what type of pump-out and dump station facilities each public marina offers. The types of pump-out facilities are: stationary, portable, and mobile. “*Stationary*” means a pumpout affixed to a dock or pier that boats come to use. “*Portable*” means a pump mounted on a cart that can be brought to boats. It has a small holding tank which is then offloaded at a marina sewage tie-in or via a fixed pumpout. “*Mobile*” means a pumpout boat that transits certain area waterways offering pumpouts to boats. These too, have holding tanks aboard which must be offloaded ashore.

Table 2.2.1 Marinas with Public Pump-out Facilities

River	Creek	Marina	Map Code	Portable	Mobile	Stationary	Dump	Restroom
Patapsco	Bodkin	Pleasure Cove Marina	26			1		1
Patapsco	Bodkin	Ventnor Marine Service	27			1		1
Patapsco	Bodkin	Hammock Island Marina	29			1	1	1
Patapsco	River Direct	Atlantic Marina Resort	18			1		1
Patapsco	Rock	Blake's Bar Harbor Marina	11			1		1
Patapsco	Rock	Maryland Yacht Club	12	1		1		1
Patapsco	Rock	Fairview Marina	13	1		1		1
Patapsco	Rock	White rocks Marina	14			1		1
Patapsco	Rock	Oak Harbor Marina	19			1		1
Patapsco	Rock	Pasadena Yacht Yard (PPY Marine)	DNR14			1		1
Patapsco	Rock	Nabbs Creek Marina	8			1		1
Patapsco	Stoney	Cypress Marina, Inc.	66	1				1
Magothy	Cypress	Magothy Marina, Inc	70			1	1	1
Magothy	Deep	Fairwinds Marina	91			1		1
Magothy	Gray's	Atlantic Marina on the Magothy	38			1		1
Magothy	Mill	Ferry Point Marina and Yachtyard	73			1		1
Magothy	River Direct	Hamilton Harbor Marina and Boatworks	39			1	1	1
Chesapeake Bay	Mezick Ponds	Sandy Point Marina	116			1		1
Chesapeake Bay	Mill	John L. Dunning Memorial Pier	DNR8			1		
Chesapeake Bay	Podickory	Podickory Point Yacht and Beach Club	102			1	1	1
Chesapeake Bay	Whitehall	Hinckley Yacht Service	111					1
Severn	Back	Mears Marina Annapolis	COA5			1		1
Severn	Back	Port Annapolis Marina	COA6	1		1		1
Severn	Back	Horn Point Harbor Marina	COA8			1		1
Severn	Back	Eastport Yacht Center	COA10			1		1
Severn	Back	Bert Jabin Yacht Yard	COA11	1		1		1
Severn	Back	Watergate Pointe Marina	COA16			1		1
Severn	Back	J Port Marina	DNR9			1		1
Severn	Back	Annapolis Landing Marina	DNR17			1		1
Severn	Browns Cove	Smith's Marina	99			1		1
Severn	Brewer	Little John Marina	DNR 10			1		
Severn	Chase	Pines on the Severn	107			1		
Severn	Chesapeake H	Chesapeake Harbor Marina	143				1	1
Severn	Ego Alley	City of Annapolis Pumpout Boat	DNR1		1			
Severn	River Direct	Annapolis Maryland Capitol Yacht Club	COA14			1		1
Severn	Spa	The President Point Marina	DNR16			1	1	
Severn	Spa	The Yacht Basin Co.	COA1		1	2		1
Severn	Spa	Annapolis City Marina	COA3			2	1	1
South	Brewer	Pocahontas Marina	189					1
South	Gingerville	Oak Grove Marina	145			1		1
South	Ramsay Lake	Turkey Point Marina	203	1				1
South	Ramsay Lake	Mayo Ridge Marina	208			1	1	1
South	Ramsay Lake	Norris Marina	DNR12			1		1
South	River Direct	Liberty Marina	150	1		1		1
South	River Direct	Pier Seven Marina	DNR18			1		1
South	Selby Bay	Selby Bay Marina	196			1	1	1
South	Selby Bay	Holiday Pt. Marina	197			1	1	1
South	Selby Bay	Anchor Yacht Basin	201			1		1
South	Fishing	Arundel on the Bay Comm.	195			1		
South	Oyster	Oyster Harbor	188			1		
South	Duval	Fishing Creek Farms Comm.	183			1	0	
West	Johns	Shady Oaks Marina	251			1		1
West	Parish	Backyard Boats	232			1		1
West	River Direct	West River Fuel Dock	BCC1			2		
West	River Direct	Riverkeeper Pumpout Boat	BCC2		1			
West	South	Chesapeake Yacht Club	245			1		
West	Tenthouse	West River Yacht Harbor	231	1		1	1	1
West	Tenthouse	Hartge Yacht Harbor	243			1	1	1
Rhode	Cadle	Cadle Creek Marina	219			1		1
Rhode	Cadle	Casa Rio Marina	216			1		1
Rhode	Whitemarsh	Rhode River Marina	211			1		1
Rhode	Whitemarsh	Holiday Hill Marina	210	1		1		1
Rhode	Whitemarsh	Bluewater Marina	212			1		
			Total	9	3	60	12	51

2.3 Facility Operations: Off-Season Availability and General Hours and Fees

Marinas in the proposed NDZ are subject to freezing temperatures in the winter months and, therefore, most winterize and close their pumpouts. Most pumpouts are closed from approximately mid-November until mid-April. Exceptions are the Annapolis City pumpout boat and a few marinas with portable pumpouts (who also have an indoor/heated storage area). Information provided by marinas to the Department of Natural Resources show six marinas and the City pumpout boat are available (by appointment in most cases) for winter pumpouts.

Marinas offering winter pumpouts to the public:

1. Maryland Yacht, Patapsco River, Rock Creek
2. Hinckley Yachts Service, Whitehall Creek
3. Eastport Yacht Center, Severn River, Back Creek
4. Smith's Marina, Severn River, Browns Cove
5. Selby Bay Yacht Marina, South River, Selby Bay
6. Rhode River Marina, Rhode River, Whitemarsh Creek

There is no exact data on boat activity during winter months but it's reasonable to assume very few—perhaps five percent—of resident recreational boats are used during the winter and these are very short day trips. Commercial tour boats stop running in the winter months

Pumpout Hours and Fees

Table 2.3.1 summarizes the hours of operation for each marina pump-out, their schedule during the off season—if they have one—and the amount they charge per pump-out. (In the “off season” column, “N” means none). **The summary of hours in this table is used in Section 3.3 to determine adequate pumpout facilities.**

Table 2.3.1 Public Pump-out Operation Hours and Fees

	River	Creek	Marina Name	Map Code	Hours	Fee	Weekend Daily	Weekend Total
1	Patapsco	Bodkin	Pleasure Cove	26	M -Thu 9-6; Friday - Sun 9-8	\$ 5.00	11	22
2	Patapsco	Bodkin	Ventnor Marine	27	800- 1630 7 days	\$ 5.00	8.5	17
3	Patapsco	Bodkin	Hammock Island	29	By appointment	\$ 5.00	2	4
4	Patapsco	River Direct	Atlantic Marina Resort	18	9-5 Mon - Sun	\$ 5.00	8	16
5	Patapsco	Rock	Blake's Bar Harbor Marina	11	8-6 Mon - Sun	\$ 5.00	9	18
6	Patapsco	Rock	Maryland Yacht Club	12	8-4 daily	\$ 5.00	8	16
7	Patapsco	Rock	Fairview Marina	13	Sat 9-4 Sun 9-12	\$ 5.00		10
8	Patapsco	Rock	White Rocks Marina	14	M - F 9-3, Sat 11-2	\$ 5.00	3	3
9	Patapsco	Rock	Oak Harbour Marina	19	Mon - Fri 8 - 4	\$ 5.00	8	16
10	Patapsco	Rock	Pasadena Yacht Yard	DNR 14	Daily 9-5	\$ 10.00	8	16
11	Patapsco	Stony	Nabbs Creek Marina	8	8:30 -5 Daily	\$ 5.00	8.5	17
12	Magothy	Cypress	Cypress Marina	66	Fri- Sun by appt	\$ 50.00	2	4
13	Magothy	Cypress	Magothy Marina	70	8-8 Fri - Sun and 8;30 - 4:30 Mon -	\$ 10.00	12	24
14	Magothy	Deep	Fairwinds Marina	91	M -S 8-8, Sun 8-4:45	\$ 5.00	12 and 8.75	20.75
15	Magothy	Gray's	Atlantic Marina on the Mag	38	M - S 9-5 closed T	\$ 5.00	8	16
16	Magothy	Mill	Ferry Point Marina	73	8 - 5 7 days	\$ -	9	18
17	Magothy	River Direct	Hamilton Harbour Marina	39	M - S 9-5 closed W	\$ 5.00	8	16
18	Chesapeake Bay	Mezick Point	Sandy Point Marina	116	M - S 8-5	\$ -	9	18
19	Chesapeake Bay	Mill	John L. Dunning Memorial	DNR8	9-5 Mon - Sun	\$ -	8	16
20	Chesapeake Bay	Podickory	Podickory Point Yacht and	102	Sat Sun 9-7	\$ 5.00	10	20
21	Chesapeake Bay	Whitehall	Hinckley Yachts (formerly	111	M -F 8-9 Weekends by appointment	\$ 5.00	2	4
22	Severn	Back	Mears Marina Annapolis	COA 5	830-5, 7 Days	\$ 10.00	8.5	17
23	Severn	Back	Port Annapolis Marina	COA6	M -Th 8-5; Fri - Sun 9 - 4:30	\$ 5.00	7.5	15
24	Severn	Back	Horn Point Harbor Marina	COA8	9- 5 7 days	\$ 5.00	8	16
25	Severn	Back	Eastport Yacht Center	COA10	Mon - Sat.	\$ 5.00	8	8
26	Severn	Back	Bert Jabin Yacht Yard	COA11	8-5 daily	\$ 5.00	9	18
27	Severn	Back	Watergate Pointe Marina	COA16	8-5 7 days	\$ 5.00	9	18
28	Severn	Back	J Port Marina	DNR9	9-5 M - F	\$ -	0	0
29	Severn	Back	Annapolis Landing Marina	DNR17	10 - 5 daily	\$10	7	14
30	Severn	Brown's Co	Smith's Marina	99	8-7 M- Sun	\$ 5.00	11	22
31	Severn	Brewer	Little John Marina	DNR 10	9-5 daily	\$ -	8	16
32	Severn	Chase	Pines on the Severn	107	24/7 free with token	\$ -	12	24
33	Severn	Chesapeake	Chesapeake Harbour Mar	143	9-5 Daily	\$ 5.00	8	16
34	Severn	Spa	City of Annapolis Pumpou	DNR1	M - Sun 9-5	\$ 5.00	8	16
35	Severn	River Direct	Annapolis Maryland Capit	COA14	8:30 5 7 days	\$ -	8.5	17
36	Severn	Spa	The President Point Marin	DNR16	8-5 Mon - Sun	\$ -	9	18
37	Severn	Spa	The Yacht Basin Co.	COA1	7-7 Mon - Sun	\$ 10.00	12	24
38	Severn	Spa	Annapolis City Marina	COA3	M-Sun 8-8	\$ 5.00	12	24
39	South	Brewer	Pocahontas Marina	189	Sat 8:30 - 1 M-F 830-5	\$ -		4.5
40	South	Gingerville	Oak Grove Marina	145	M - Th 10-6, Fri 10 -7:30, Sat/Sun 8	\$ 5.00	11.5	23
41	South	Ramsey lak	Turkey Point Marina	203	T - Sun 9-5	\$ 3.00	8	16
42	South	Ramsey lak	Mayo Ridge Marina	208	Th - Tu 9-5	\$ 5.00	8	16
43	South	Ramsey lak	Norris Marina	DNR12	Tues - Sun 8-5	\$ -	9	18
44	South	River Direct	Liberty Marina	150	9-5 7 days	\$ 5.00	8	16
45	South	River Direct	Pier Seven Marina	DNR18	10 - 6 Daily	\$ 5.00	7	14
46	South	Selby Bay	Selby Bay Yacht Marina	196	M- F 8-7, Sat 7-5, Sun 7-7	\$ 5.00		22
47	South	Selby Bay	Holiday Pt. Marina #1	197	M - F 7:30 - 4	\$ -	0	0
48	South	Selby Bay	Anchor Yacht Basin	201	M - Sun 8-5	\$ 15.00	9	18
49	South	Fishing	Arundel on the Bay Cym	195	dawn till dusk daily	\$ -		24
50	South	Oyster	Oyster Harbor	188	24/7	\$ -		24
51	South	Duwall	Fishing Creek Farms Cym	183	24/7	\$ -		24
52	West	Johns	Shady Oaks Marina	251	M - Sun 8-5	\$ 5.00	9	18
53	West	Parish	Backyard Boats	232	M - Sun 8-4	\$ 5.00	8	16
54	West	River Direct	West River Fuel Dock	BCC1	M -th 9-5, S/S 8-6, Fri9-6	\$ 5.00	10	20
55	West	River Direct	West/Rhode Riverkeeper	BCC2	Fr - Mon 9-5	\$ 5.00	8	16
56	West	South	Chesapeake Yacht Club	245	W - M 8-4	\$ 5.00	8	16
57	West	Tenthouse	West River Yacht Harbour	231	M - S 8-8	\$ 5.00	12	24
58	West	Tenthouse	Hartge Yacht Harbour	243	M -F 8-5, Sat/Sun 9-5	\$ 5.00	8	16
59	Rhode	Cadle	Cadle Creek Marina	219	M-F 8- 5; Sat 9-5, Sun 9-5 for sliph	\$ 5.00	8	16
60	Rhode	Cadle	Casa Rio Marina	216	M-F 8-4	\$ 5.00	0	0
61	Rhode	Whitemars	Rhode River Marina	211	M - Sat 8-5	\$ 15.00		9
62	Rhode	Whitemars	Holiday Hill Marina	210	M - Sun 8-5	\$ -	9	18
63	Rhode	Whitemars	Bluewater Marina	212	9-5 7 days	\$ 5.00	8	16
								999.25
							Average hours per weekend	16.381148

2.3.1 Facility Accessibility

As shown in appendix tables A.1.1 and A.1.2, 63 marinas (including two pumpout boats) offer pump-out facilities to the public and 10 marinas offer these privately. Anne Arundel County also receives a large number of transient vessels annually, most of which are serviced by the public marinas.

2.3.2 Facility Maintenance Plans

As far as could be determined, all the public marinas included in this application have a maintenance plan of some sort. Noted in surveys to prepare this application, dredging was among the most common (and expensive) maintenance activity since adequate water depth at the dock is critical to the success of the business.

2.4 Facility Draft and Height Limitations

The Chesapeake Bay system is a shallow water system but the waters of Anne Arundel County have either natural or maintained channels to allow boats to safely transit the area—as shown by the approximately 21,000 boats registered in the county. The marinas offering pumpout service to the boating public have controlling depths ranging from four to 50 feet. Most of these marinas have controlling depths around ten feet. Therefore, any boat with a draft over ten feet will be limited in which marinas they can use for pumpouts in Anne Arundel County. Likewise, any boat with a draft less than 10 feet should have no trouble accessing a public pumpout in the NDZ.

The Department of Natural Resources has logged no complaints from boaters unable to reach pumpouts described in section 2.1 due to draft. The department also screens all pumpout grant applications it receives to ensure the pumpout will be in water accessible to vessels typical for the area. A description of vessel population follows in Section 3.0.

Only one of the 63 public marinas had a meaningful height limit: Oak Grove Marina, upstream from the 53' clearance on the fixed Route 2 bridge over the South River. However, this restricts no boats as there are eight marinas with pump-out facilities sit downstream of the bridge. Table 2.4.1 estimates that two percent of boats in the proposed NDZ would be unable to access Oak Grove Marina's public pumpout due to the fixed Route 2 bridge.

Vessels traveling to Little John Marina, Pines on the Severn, and Smith's Marina, all upstream from the Route 450 bridge over the Severn River, are limited to the bridge's 75' clearance. Likewise, this has no practical limitation on the availability of pump-outs because 13 marinas with public pumpouts are downstream of the Severn River bridge. Table 2.4.1 estimates that two percent of boats in the proposed NDZ would be able to access the pumpouts upstream of the fixed Route 450 bridge.

Two of the proposed no discharge zone waterbodies—Stony Creek and Spa Creek— have drawbridges near their mouths with the Patapsco River and the Severn River, respectively. Both drawbridges operate year-round on well-publicized schedules and, when open, pose height limitations to no vessels.

Table 2.4.1: Draught and Height Requirements for Marinas with Public Pump-outs

River	Creek	Marina Name	Map Code	MLW	Height Limit	% Vessels excluded by height
Patapsco	Bodkin	Pleasure Cove	26	6'	none	0
Patapsco	Bodkin	Ventnor Marine	27	6'	none	0
Patapsco	Bodkin	Hammock Island	29	6'	none	0
Patapsco	River Direct	Atlantic Marina Resort	18	5'	none	0
Patapsco	Rock	Blake's Bar Harbor Marina	11	4'	none	0
Patapsco	Rock	Maryland Yacht Club	12	16'	none	0
Patapsco	Rock	Fairview Marina	13	6'	none	0
Patapsco	Rock	White Rocks Marina	14	11'	none	0
Patapsco	Rock	Oak Harbour Marina	19	12-15'	none	0
Patapsco	Rock	Pasadena Yacht Yard	DNR 14	4'	none	0
Patapsco	Stony	Nabbs Creek Marina	8	6'	19' drawbridge	0
Magothy	Cypress	Cypress Marina	66	8.5'	none	0
Magothy	Cypress	Magothy Marina	70	16'	none	0
Magothy	Deep	Fairwinds Marina	91	5'	none	0
Magothy	Gray's	Atlantic Marina on the Magothy	38	6.5'	none	0
Magothy	Mill	Ferry Point Marina	73	8'	none	0
Magothy	River Direct	Hamilton Harbour Marina	39	12'	none	0
Chesapeake Bay	Mezick Pond	Sandy Point Marina	116	varies	none	0
Chesapeake Bay	Mill	John L. Dunning Memorial Pier	DNR8	15'	none	0
Chesapeake Bay	Podickory	Podickory Point Yacht and Beach Club	102	6'	none	0
Chesapeake Bay	Whitehall	Hiinckley Yachts (formerly Scandia)	111	11'	none	0
Severn	Back	Mears Marina Annapolis	COA 5	6'	none	0
Severn	Back	Port Annapolis Marina	COA6	9'	none	0
Severn	Back	Horn Point Harbor Marina	COA8	8'	none	0
Severn	Back	Eastport Yacht Center	COA10	5-6'	none	0
Severn	Back	Bert Jabin Yacht Yard	COA11	7'	none	0
Severn	Back	Watergate Pointe Marina	COA16	6'	none	0
Severn	Back	J Port Marina	DNR9	10'	none	0
Severn	Brown's Cove	Smith's Marina	99	7'	75'	2%
Severn	Brewer	Little John Marina	DNR 10	15'	75'	2%
Severn	Chase	Pines on the Severn	107	10'	75'	2%
Severn	Chesapeake	Chesapeake Harbour Marina	143	7-8'	none	0
Severn	Spa	City of Annapolis Pumpout Boat	DNR1	N/A	none	0
Severn	River Direct	Annapolis Maryland Capitol Yacht Club	COA14	7'	none	0
Severn	Spa	The President Point Marina	DNR16	7'	17' drawbridge	0
Severn	Spa	The Yacht Basin Co.	COA1	11'	none	0
Severn	Spa	Annapolis City Marina	COA3	18'	none	0
South	Brewer	Pocahontas Marina	189	6.5'	none	0
South	Gingerville	Oak Grove Marina	145	12'	53'	2%
South	Ramsey lake	Turkey Point Marina	203	9'	none	0
South	Ramsey lake	Mayo Ridge Marina	208	2'	none	0
South	Ramsey lake	Norris Marina	DNR12	7'	none	0
South	River Direct	Liberty Marina	150	50'	none	0
South	Selby Bay	Selby Bay Yacht Marina	196	7'	none	0
South	Selby Bay	Holiday Pt. Marina #1	197	6'	none	0
South	Selby Bay	Anchor Yacht Basin	201	5'	none	0
South	Fishing	Arundel on the Bay Cym	195	4-6'	none	0
South	Oyster	Oyster Harbor	188	6'	none	0
South	Duvall	Fishing Creek Farms Cym	183	7'	none	0
West	Johns	Shady Oaks Marina	251	3.5'	none	0
West	Parish	Backyard Boats	232	7'	none	0
West	River Direct	West River Fuel Dock	BCC1	8'	none	0
West	River Direct	West/Rhode Riverkeeper Pumpout	BCC2	N/A	none	0
West	South	Chesapeake Yacht Club	245	7'	none	0
West	Tenthouse	West River Yacht Harbour	231	10'	none	0
West	Tenthouse	Hartge Yacht Harbour	243	5'	none	0
Rhode	Cadle	Cadle Creek Marina	219	7'	none	0
Rhode	Cadle	Casa Rio Marina	216	6'	none	0
Rhode	Whitemarsh	Rhode River Marina	211	5'	none	0
Rhode	Whitemarsh	Holiday Hill Marina	210	5'	none	0
Rhode	Whitemarsh	Bluewater Marina	212	10'	none	0

2.5 Facility Waste Treatment Methods

The marinas that use septic systems are managed by Onsite Sewage Disposal System (OSDS). Each marina with an OSDS has site-specific parameters, meaning that its OSDS is designed specifically for that area. All marinas with OSDSs will require septic tanks to be pumped out periodically; the schedule is dependent upon the site-specific size of the holding tanks.

Due to its concentrated nature, boat sewage from *pumpout stations* is required to be contained in a separate holding tank from the marina's OSDS. These holding tanks are regularly emptied by haulers and delivered to a wastewater treatment plant licensed to operate in Maryland.

Table 2.5.1 shows whether the marinas with public pump-outs use the public sewer or holding tanks. If the marina is served by the public sewer, its waste is simply discharged directly into the public sewer system. Public sewer systems comply with current Federal, state, and local regulations.

Table 2.5.1: Marina Disposal Methods

	River	Creek	Marina	Map Code	Disposal
1	Patapsco	Bodkin	Pleasure Cove Marina	26	Holding Tank
2	Patapsco	Bodkin	Ventnor Marine Service	27	Holding Tank
3	Patapsco	Bodkin	Hammock Island Marina	29	Holding Tank
4	Patapsco	River Direct	Atlantic Marina Resort	18	Holding Tank
5	Patapsco	Rock	Blake's Bar Harbor Marina	11	Direct Sewer
6	Patapsco	Rock	Maryland Yacht Club	12	Holding Tank
7	Patapsco	Rock	Fairview Marina	13	Holding Tank
8	Patapsco	Rock	White rocks Marina	14	Holding Tank
9	Patapsco	Rock	Oak Harbor Marina	19	Holding Tank
10	Patapsco	Rock	Pasadena Yacht Yard (PPY Marine)	DNR14	Direct Sewer
11	Patapsco	Rock	Nabbs Creek Marina	8	Direct Sewer
12	Patapsco	Stoney	Cypress Marina, Inc.	66	Direct Sewer
13	Magothy	Cypress	Magothy Marina, Inc	70	Direct Sewer
14	Magothy	Deep	Fairwinds Marina	91	Holding Tank
15	Magothy	Gray's	Atlantic Marina on the Magothy	38	Direct Sewer
16	Magothy	Mill	Ferry Point Marina and Yachtyard	73	Direct Sewer
17	Magothy	River Direct	Hamilton Harbor Marina and Boatworks	39	Direct Sewer
18	Chesapeake	Mezick Ponds	Sandy Point Marina	116	Direct Sewer
19	Chesapeake	Mill	John L. Dunning Memorial Pier	DNR8	Direct Sewer
20	Chesapeake	Podickory	Podickory Point Yacht and Beach Club	102	Direct Sewer
21	Chesapeake	Whitehall	Hinckley Yacht Service	111	Direct Sewer
22	Severn	Back	Mears Marina Annapolis	COA5	Direct Sewer
23	Severn	Back	Port Annapolis Marina	COA6	Direct Sewer
24	Severn	Back	Horn Point Harbor Marina	COA8	Direct Sewer
25	Severn	Back	Eastport Yacht Center	COA10	Direct Sewer
26	Severn	Back	Bert Jabin Yacht Yard	COA11	Direct Sewer
27	Severn	Back	Watergate Pointe Marina	COA16	Direct Sewer
28	Severn	Back	J Port Marina	DNR9	Direct Sewer
29	Severn	Back	Annapolis Landing Marina	DNR17	Direct Sewer
30	Severn	Browns Cove	Smith's Marina	99	Holding Tank
31	Severn	Brewer	Little John Marina	DNR 10	Holding Tank
32	Severn	Chase	Pines on the Severn	107	Direct Sewer
33	Severn	Chesapeake Har	Chesapeake Harbor Marina	143	Direct Sewer
34	Severn	Spa	City of Annapolis Pumpout Boat	DNR1	Direct Sewer
35	Severn	River Direct	Annapolis Maryland Capitol Yacht Club	COA14	Direct Sewer
36	Severn	Spa	The President Point Marina	DNR16	Direct Sewer
37	Severn	Spa	The Yacht Basin Co.	COA1	Direct Sewer
38	Severn	Spa	Annapolis City Marina	COA3	Direct Sewer
39	South	Brewer	Pocahontas Marina	189	Direct Sewer
40	South	Gingerville	Oak Grove Marina	145	Direct Sewer
41	South	Ramsay Lake	Turkey Point Marina	203	Direct Sewer
42	South	Ramsay Lake	Mayo Ridge Marina	208	Direct Sewer
43	South	Ramsay Lake	Norris Marina	DNR12	Direct Sewer
44	South	River Direct	Liberty Marina	150	Direct Sewer
45	South	River Direct	Pier Seven Marina	DNR18	Direct Sewer
46	South	Selby Bay	Selby Bay Marina	196	Direct Sewer
47	South	Selby Bay	Holiday Pt. Marina	197	Direct Sewer
48	South	Selby Bay	Anchor Yacht Basin	201	Direct Sewer
49	South	Fishing	Arundel on the Bay Comm.	195	Direct Sewer
50	South	Oyster	Oyster Harbor	188	Direct Sewer
51	South	Duvall	Fishing Creek Farms Comm.	183	Direct Sewer
52	West	Johns	Shady Oaks Marina	251	Direct Sewer
53	West	Parish	Backyard Boats	232	Direct Sewer
54	West	River Direct	West River Fuel Dock	BCC1	Direct Sewer
55	West	River Direct	Riverkeeper Pumpout Boat	BCC2	Direct Sewer
56	West	South	Chesapeake Yacht Club	245	Direct Sewer
57	West	Tenthouse	West River Yacht Harbor	231	Direct Sewer
58	West	Tenthouse	Hartge Yacht Harbor	243	Direct Sewer
59	Rhode	Cadle	Cadle Creek Marina	219	Direct Sewer
60	Rhode	Cadle	Casa Rio Marina	216	Direct Sewer
61	Rhode	Whitemarsh	Rhode River Marina	211	Direct Sewer
62	Rhode	Whitemarsh	Holiday Hill Marina	210	Direct Sewer
63	Rhode	Whitemarsh	Bluewater Marina	212	Direct Sewer

3.0 VESSEL POPULATION AND USAGE INFORMATION

3.1 Vessel Population

An estimate of the number of boats in Anne Arundel County waters must encompass three types of information. First, and most common, are vessels *registered* in the State of Maryland through the Department of Natural Resources (DNR). Second, some vessels located in the proposed no discharge zone are *documented by the U.S. Coast Guard and reported to be in Anne Arundel waters*. Finally, at any given time, *vessels are in transit through these waters*, but are not registered in Maryland or documented as “local” by the Coast Guard.

A separate source of information was used for each of these three categories of vessels.

First, the Department of Natural Resources provided data, shown in Table A.2.1 of the Appendix, giving the count of boats registered in Maryland by zip code and by size. The data were requested for all 42 zip codes in Anne Arundel County. Although some vessels registered to owners in Anne Arundel County are operated elsewhere and some registered to owners in other counties are operated in Anne Arundel, using zip codes is the most objective basis for estimation of special distribution of both boats and, perhaps, pumpout stations.

The DNR data separate vessels by four length categories consistent with the requirements of this application. The results of this category provide an estimate of 21,712 registered vessels in the county.

Second, the website www.BoatInfoWorld.com⁵ provided the number of documented boats in the Anne Arundel County area by zip code and size. The appendix (Table A.2.2) provides the raw data. As with the data for registered vessels, this information is broken down into four consistent lengths. The total number of documented vessels is estimated at 4,990.

The estimated number of transient vessels is derived from manipulating the number from Douglas Lipton’s 2005 study of transient vessels in Maryland.⁶

First, the relationship between total Anne Arundel County-registered boats and total Maryland-registered boats was calculated from the Coast Guard’s 2011 National Recreational Boating Survey,⁷ which found a total of 184,796 registered vessels in Maryland. Equation E.1 shows this process.

$$\frac{\text{Total AA County Registered}}{\text{Total MD Registered}} = \frac{21,712}{184,796} \approx 0.117497 \sim 11.8\% \text{ MD boats are AA County} \quad \text{E.1}$$

Next, this ratio was applied to the data for transient vessels in Maryland in 2011⁷, by multiplying each number by the fraction determined above. Table A.2.3 in the appendix list the raw data from the Lipton⁶ study. From the table in the study, the total number of transients over 40’ long was used, while the number of transients in any other size category was estimated because the data given were not sufficiently specific. For example, the number of transient sailboats was split into two categories: those longer than 40’ and those shorter or equal to 39’. It was estimated that this

number would fall into the category of boats ranging from 26 to 40' long. Table 3.1 shows the placement of each length category.

Table 3.1: Length Categories Transferred from Study to Report

Length Category from Study⁶ (in feet)	Put into which category (in feet)
Power Boats < 29	16 to < 26
Power Boats 30 – 39	26 to < 40
Power Boats 40 – 49	> 40
Power Boats 50 – 59	> 40
Power Boats 60+	> 40
Sailboats ≤ 39	26' to < 40
Sailboats 40+	> 40

After these decisions were made, 11.8 percent of each category was found, shown in Table 3.2 below.

Table 3.2: Final Transient Count

Length in feet	Maryland Transients	AA County Transients
> 40	8,691	1,026
26 to < 40	13,298	1,569
16 to < 26	4,168	492
< 16	0	0
TOTAL	26,157	3,087

Table 3.3 shows all of the data gathered for estimating the total number of vessels in the Anne Arundel County.

Table 3.3: Vessel Population Estimates for Anne Arundel County

Vessel Length	Number of Registered Vessels	Number of Documented Vessels⁵	Estimated Number of Transient Vessels	Total Estimated Number of Vessels
> 40'	736	1,466	1,026	3,228
26' to < 40'	4,070	3,433	1,569	9,072
16' to < 26'	9,724	91	492	10,307
< 16'	7,182	0	0	7,182
TOTAL	21,712	4,990	3,087	29,789

3.2 Vessel Usage: Recreational and Commercial

The methods used above to estimate the vessel population of Anne Arundel County does not distinguish between vessels used for purely recreational versus commercial purposes. However, recognizing the special requirements of certain types of commercial vessels with regards to marine sanitation, a telephone- and internet-based survey was conducted to identify commercial vessels in each of the 13 waterbodies in the proposed no discharge zone.

To summarize the survey findings, commercial vessels that operate within the proposed no discharge zone can be categorized into four broad classes.

Category I: Working watermen's vessels dedicated to commercial fishing, shell-fishing, and crabbing. According to Department of Natural Resources data, there are 68 commercially registered fishing vessels registered to residents of Anne Arundel County. No data is available concerning toilets aboard these vessels.

Category II: Boat rental companies or boat sharing clubs typically located in marinas. Generally, these are small recreational vessels available through a club membership and are piloted by the member. These boats are essentially the same as privately owned equivalents with respect to marine sanitation devices. Fourteen such locations have been identified in the proposed NDZ. Leaving aside four paddle vessel operators, there are ten locations with 88 boats available for rental. Of these, using information available on company websites, 24 boats have installed toilets and holding tanks and the remainder have no installed toilets. None have Type I or II MSDs.

Category III: Public charter boats comprised of USCG inspected vessels piloted solely by licensed captains and professional crew. These boats generally operate a schedule of publicly available cruises accessed via ticketing. They are also available for private group charters. Research finds 10 public charter boats operating in the proposed NDZ. All but one have holding tanks (Type III MSD).

Category IV: Small cruise ships operated by out of state companies that offer multi day cruises through Chesapeake Bay, with stopovers in Annapolis. These ships are comprised of USCG inspected vessels piloted solely by licensed captains and professional crew. Four such vessels operated by two companies are known to visit Annapolis. All have holding capacity sufficient to be able to operate in this proposed NDZ.

Notes below provide more detail for each vessel or company and were confirmed by Maryland DNR staff in April 2020. Notes are grouped by waterbody from North to South.

1. Stony Creek

No commercial operations identified.

2. Rock Creek

No commercial operations identified.

3. Patapsco River, River Direct

Annapolis Boat Club, <https://annapolisboatclub.com> Category II boat club with access to four small open power boats with no installed toilets. Located at Atlantic Marina Resort, 210 Knollwood Dr., Pasadena, MD 21122 Phone 443-261-0741

4. Bodkin Creek

No commercial operations identified.

5. Magothy and Little Magothy Rivers

- Down Time Charters <https://downtimecharters.com> Category III Charter vessel with installed toilet and holding tank (Type III MSD) aboard. Phone 443-995-8666 29' C-Hawk boat Fishing w/Captain- Operations out of Fairwinds Marina, Annapolis MD 21409.
- Freedom Boat Club also located at Fairwinds Marina, Annapolis MD 21409. Offers six small power boats with no installed toilets.
- Annapolis Boat Club located at Atlantic Marina at Ferry Point, Arnold, MD. Offers four small open power boats with no installed toilets.

6. Podickory Creek

There are no commercial boating operations in Podickory Creek.

7. Sandy Point/Mezick Ponds

Small boats with no installed toilets are rented from this marina.

8. Whitehall Bay

There are no commercial boating operations in Whitehall Bay.

9. Severn River

- American Cruise Lines
741 Boston Post Rd Suite 200
Guilford, CT 06437
<https://www.americancruiselines.com/>

Category IV: By far the largest ships that enter the proposed No Discharge Zone in the Severn River are three passenger ships of American Cruise Lines: the 100-guest *American Star* and *Independence* and the 175-guest *American Constitution*. Under normal operations, these ships make a seven-day round-trip “Chesapeake Cruise” from Baltimore to Yorktown/Williamsburg, stopping at Annapolis on day six. The ships normally arrive at approximately 6:30- 7:00 a.m.

and depart for Baltimore about 12 hours later, anchoring in the outer reaches of the outer harbor of Annapolis. The Director of Operations indicated in April 2020 that their ships have both Type II and Type III MSDs. Both ships have sufficient holding capacity to operate in Annapolis for the duration of their trips.

- Blount Small Ship Adventures
Warren, RI, Phone 401 247 0955

Category IV: In 2019 Blount began a 10-day Chesapeake Bay cruise using the 84-passenger *Grande Mariner*. The cruise includes a one-day stopover in Annapolis. Blount ships have holding tanks (Type III MSDs) large enough to allow them to comply with the No Discharge Zone proposed. The operator reports in April 2020 that upon arrival in Annapolis they contract with a sewage hauler to offload the boat waste into a truck for transport to a waste water treatment plant that meets local, state, and federal treatment requirements.

9.1 Severn River, Spa Creek

Category II Commercial Operators

- Annapolis Electric Boat Rentals, <http://aebrentals.com> Category II boat rentals. Electric boats, 22' 1-5-hour rental. No installed toilets.
- Freedom Boat Club located at Annapolis Maryland Capital Yacht Club, Annapolis 21403. Offers three small power boats and one small sailboat with no installed toilets.
- Capital SUP (Stand up Paddleboards) No installed toilets. Category II boat rentals.
- Kayak Annapolis, www.kayakannapolistours.com
 - 900 Truxton Park Road, Annapolis, MD 21403, Phone 443-949-0773
 - Category II boat rentals, some group tours. No installed toilets.
- Annapolis Canoe and Kayak, www.annapoliscanoeandkayak.com
 - Phone 443-262-2303. No installed toilets. Category II boat rentals.

Category III Commercial Vessels

The marine sanitation devices for the following vessels were confirmed by Maryland DNR staff April 2020.

- **Watermark Journeys**
Annapolis, MD 21403, www.watermarkjourney.com

Watermark regularly operates six Category III vessels in and around Annapolis that have installed toilets. (Watermark also operates several water taxis and small tour boats that do not have toilets.)

Harbor Queen—Built in 1972, this tour boat offers 40-minute tours for up to 286 passengers hourly, seven days a week from April to October. Also available for charter for special events, school field trips, and more, this boat operates with a **Type II** treatment system and is the only known commercial boat that would be impacted by this proposed NDZ.

Watermark Journeys president has indicated a willingness to install a holding tank (Type III) in *Harbor Queen* should this NDZ be approved. However, due to the very tight schedule they run (with just 20 minutes to offload and reload up to 286 passengers between tours) they would

need a commercial pumpout station installed near their berth at City Dock (there currently is not one in this location). It would not be prudent for this large volume boat to rely on the City Pumpout Boat which serves many others throughout City waters, and might not be able to respond in a timely manner.

Watermark Journeys does not control the City Dock and cannot install a pumpout independently. Installation of a commercial pumpout is part of [the Annapolis City Dock redevelopment plan](#) (pg. 78) that is expected to be completed by spring/summer 2024.

As *Harbor Queen* is the only commercial vessel that would be impacted by the proposed NDZ, and as the City Dock is not under the company's control, Maryland DNR would accept an exemption for *Harbor Queen* to operate with its Type II MSD in the proposed NDZ from EPA, until a commercial pumpout is available at City Dock. We prefer to see this application move forward until this accommodation can be made.

Cabaret II—65' vessel that provides tours from Annapolis into the Bay to see points of interest during weekends and holidays and is also available for private charter. A holding tank (Type III MSD) is installed. The tank is offloaded at various marinas.

Lady Sarah—65' catamaran vessel that provides full-day trips from Annapolis to St. Michaels and back on weekends and holidays and is also available for charter. A holding tank (Type III MSD) is installed. The tank is offloaded at various marinas.

Catherine Marie— 95' vessel available for private charter. A holding tank (Type III MSD) is installed. The tank is offloaded at various marinas.

Annapolitan II—Primarily operated in Baltimore, this vessel occasionally has charters in Annapolis. It is certified for 102 passengers and has a holding tank (Type III) installed. The tank is emptied at various marinas.

Raven-- Primarily operated in Baltimore, this vessel occasionally has charters in Annapolis. It is certified for 104 passengers and has a holding tank (Type III) installed. The tank is emptied at various marinas.

▪ **Schooners *Woodwind and Woodwind II***

80 Compromise St, Annapolis MD 21401

Phone 410-262-7837 schoonerwoodwind.com

Two 74' schooners offering public sailing tours and private charters for up to 48 passengers. In peak summer season at least one boat operates four trips per day; often both boats are in operation. Spring and fall they have reduced schedules. Both vessels have holding tanks (Type III) installed that are emptied at Annapolis marinas or via the Annapolis City pumpout boat.

- **Schooner *Liberté***
Capt. Chris & Jane Tietje, theliberte@gmail.com Phone 410-262-8234
70' schooner operates in Annapolis from April through June and mid-September through October. (They operate in Cape Cod during the peak summer season.) She is licensed for 49 passengers and operates for private charters only, averaging four per week. She has a holding tank sufficient for regular use and is emptied by the Annapolis pumpout boat or at a fuel dock near her berth in Annapolis harbor.
- **Pirate Adventures on the Chesapeake**, chesapeakepirates.com
311 3rd St., Annapolis MD 21403 Phone 410-262-0002
Owner: Mike Tomasini Sailing vessel offering “pirate adventures” to the public and private groups. No toilet installed on board.

9.2 Severn River, Back Creek

- **Annapolis Boat Club** <https://annapolisboatclub.com> Category II boat club.
Located at Port Annapolis Marina, 7082 Bembe Beach Rd., Annapolis, MD 21403
Phone 443-262-0741 Four small power boats available with no installed toilets.
- **J-World and Chesapeake Boating Club** <http://chesapeakeboatingclub.com/> Category II boat club. 213 Eastern Avenue, Annapolis, MD 21403 410-280-8692. Nine day-sailors without installed toilets. Seven cruising sailboats with installed toilets/holding tanks. Four small powerboats with no installed heads and four cabin cruisers with installed toilets/holding tanks (Type III).

10. Oyster Creek

No commercial operations identified.

11. Fishing Creek US Coast Guard Station Annapolis is located on Fishing Creek.

No commercial operations identified.

12. South River

- South River Boat Rentals, www.southriverboatrentals.com Category II boat rentals and Category III professional charters. Fourteen power boats, of which three have installed toilets/holding tanks. Five sailing vessels all of which have installed toilets/holding tanks.
- Quiet Waters Park, Bike and Boat Rental, Category II boat rentals. Several kayaks, no installed toilets.
- Pier 7 Resort Marina, www.piersevenmarina.com 48 South Severn Road., Edgewater, MD 20732, Phone 410-956-2288. Rental of three vessels with or without crew. All with installed toilets/holding tanks. Paddleboard rentals. Category II and III.
- CareFree Boat Club, <https://carefreeboats.com> Category II boat club. Located at Oak Grove Marina, Edgewater, MD 21037, Phone 866-332-9048. Boat club offering access to a fleet of 17 boats from 22 – 28' long. Two have installed toilets and holding tanks.

13. West and Rhode Rivers

No commercial operations identified.

3.3 Adequate Pumpout Facilities

Table 3.4 shows the process in determining the estimated number of pump-out facilities required, following the instructions on page 4-34 of the EPA’s no discharge zone application guide.⁸ The estimated number of required pump-out facilities rounds to 46. The total number of pump-out facilities available to the public is 63—17 more than the number of required pump-out facilities. There are an additional 11 pump-out facilities available to boaters with slips at private marinas.

Table 3.4: Estimate of Required Pump-out Facilities

Step	Direction	Answer
1	Enter # of vessels 26' to < 40' long	9,072
2	Enter percent of 26' to < 40' vessels with holding tanks	45% ⁸
2a	Calculate estimated no. of 26' to < 40' vessels with holding tanks (multiply 1 by 2)	4,082.4
3	Enter # of vessels > 40' long	3,228
3a	Calculate estimated total no. vessels with holding tanks (add 2a with 3)	7,310.4
4	Enter estimated peak occupancy rate (if unknown, use 40%)	40%
4a	Calculate estimated no. of vessels requiring pump-out facilities (multiply 3a by 4)	2,924.1
5	Enter average no. of vessels served per hour at pump-out (in unknown, use 4)	4
6	Enter average no. of hours of operation per weekend <u>999.25 total weekend hours (Table 2.3.1)/63 marinas</u> (in unknown, use 24)	15.9
6a	Calculate estimated no. of vessels served per pump-out facility (multiply 5 by 6)	63.4
6b	Calculated estimated no. of required pump-out facilities (divide 4a by 6a)	46.1

Table 3.5 shows the process to determine the estimated number of dump stations required, following the instructions on page 4 – 35 of the EPA’s no discharge zone application guide.⁸ The estimated number of required dump stations rounds to 5. The number of dump stations available to the public is 12—more than two times the required number.

The marinas with dump stations for portable toilets include: Hammock Island Marina on Bodkin Creek; Magothy Marina, and Hamilton Harbour Marina and Boatworks on the Magothy; Podickory Point Yacht Club on the Chesapeake Bay; Chesapeake Harbour Marina, President Point Marina, and Annapolis City Marina on the Severn; Mayo Ridge Marina, Selby Yacht Basin, and Holiday Point Marina on the South; and West River Yacht Harbor and Hartge Yacht Harbour on the West.

Table 3.5: Estimate of Required Dump Stations

Step	Direction	Answer
1	Enter # of vessels 16' to < 26' feet long	10,307
2	Enter percent of 16' to < 26' vessels with portable toilets	24% ⁸
2a	Calculate estimated total no. of vessels with portable toilets (multiply 1 by 2)	2,473.6
3	Enter estimated peak occupancy rate (if unknown, use 40%)	40%
3a	Calculate estimated no. of vessels requiring dump stations (multiply 2a by 3)	989.4
4	Enter average no. of vessels served per hour at dump station (in unknown, use 12)	12
5	Enter average no. of hours of operation per weekend <u>999.25 total weekend hours (Table 2.3.1)/63 marinas (if unknown, use 24)</u>	15.9
5a	Calculate estimated no. of vessels served per dump station (multiply 4 by 5)	191
5b	Calculate estimated no. of dump stations required (divide 3a by 5a)	5.2

4.0 OTHER INFORMATION

This section provides additional information on the public education program (Section 4.1), a summary of the City of Annapolis’s ordinance concerning its harbor (Section 4.2), and how the no discharge zone will be enforced after the application is approved by the EPA (Section 4.3).

4.1 Public Education Plan

The successful partnership between EPA and Maryland DNR has created the conditions which have made this no discharge zone application possible. First, DNR administers grants to marinas—comprised of 75 percent Clean Vessel Act funds awarded to the state by the U.S. Fish & Wildlife Service and 25 percent state special funds—to install marine sewage pump-out facilities. These grants have resulted in 36 marinas in Anne Arundel County that currently operate grant-funded pump-out facilities. Second, among these marinas with pump-out facilities, 30 have received certification as Clean Marinas. Third, the DNR Clean Boating program has produced a wide array of boater education materials disseminated throughout the state.

4.1.1 Anne Arundel County

Anne Arundel County has fully embraced the Clean Boating program and promotes it through the county’s website at <http://www.aacounty.org/departments/public-works/wprp/clean-boating/index.html>. These pages are found in the Watershed Protection and Restoration Program (WPRP), a unit of the Public Works Department.

Although no WPRP staff have direct responsibility for promoting the Clean (or “Responsible”) Boating program, the primary responsibility falls to the Anne Arundel Economic Development Corporation (AAECD), which has one staff member who serves as liaison to a citizen advisory body, the Maritime Industry Advisory Board.

Separately, Anne Arundel County is served by the Severn River Commission, established to advise the county and City of Annapolis on measures to preserve the Severn as a “Scenic” River. Both of these advisory bodies have played active roles in supporting the development of this application, and they will play important roles in developing educational materials to implement the no discharge zones.

4.1.2 City of Annapolis

The City of Annapolis occupies about half of the Annapolis Neck Peninsula between the South and the Severn rivers, with its waterfront along four creeks on the Severn River.

Recent city-county cooperation on Weems Creek has enabled the Annapolis Harbormaster’s office to clean up the abandoned derelict vessels in the county’s half of the waterway. It is expected that the city and county will set up mutual institutional arrangements to manage the no discharge zone.

The City of Annapolis is served by two relevant citizens' advisory groups: the Annapolis Maritime Advisory Board and the Annapolis Environmental Commission. The Maritime Advisory Board provides advice to the Department of Planning and Zoning through the Economic Development section. The Environmental Commission provides advice to the Office of Environmental Policy in the city manager's office.

The city is also home to the only harbormaster in Maryland, an office that operates one pump-out vessel and enforces ordinances on city waters. The harbormaster will be the primary source of educational materials and enforcement on the no discharge zones in the four creeks—Back, Spa, College, and Weems—in the city. The Annapolis Mayor's office is also requesting funding from the City Council to produce educational materials needed for public outreach by the harbormaster.

It is clear that a commercial-grade pump-out facility is needed at Annapolis City Dock, a recommendation made by the Severn River Association and endorsed by the City Dock Action Committee. The pump-out would serve the *Harbor Queen*, which docks at City Dock, and visiting commercial vessels, including tall ships, that visit Annapolis. It would be an amenity that serves visiting vessels and the City.

Annapolis and Anne Arundel County will promote clean boating principles that are already well-established. The website <http://dnr.maryland.gov/boating/Pages/cleanmarina/resources.aspx> provides all of the information and goes well beyond sewage to include management of trash, fuel, oil (including oily bilge), fish waste, and habitat protection. This compilation of educational materials includes complete lesson plans and PowerPoint slides.

4.1.3 Maritime Businesses

The existence of the Maritime Industry Advisory Board (advising the County) and the Maritime Advisory Board (in Annapolis) is evidence of the attention both jurisdictions give to recreational boaters and the hundreds of businesses that support recreational boating. Among these businesses, the 63 commercial marinas with public pump-out facilities are obviously on the front lines of any effort to create a successful county-wide no discharge zone. The fact that 27 of these marinas are already certified by MD DNR as Clean Marinas indicates that these frontline businesses willingly and voluntarily subject themselves to the highest standards of siting considerations, design and maintenance, stormwater management, vessel repair, petroleum control, sewage handling, and waste disposal. All of them currently communicate with their slip holders and other customers on a wide range of subjects, including clean boating and pump-outs. While participation in the Clean Marina Program is voluntary, the free boater education materials are available to all marinas upon request and at annual workshops.

With such a well-established pump-out infrastructure already in place, the marinas in Annapolis and Anne Arundel County are already actively working to improve service delivery and reduce down-time, especially for system repair and maintenance. Best management practices disseminate quite rapidly through the Marine Trades Association of Maryland and other bodies. For instance, an increasing number of marinas are building “free” weekly or other regular pump-outs into their standard slip contracts. As awareness of boaters' valuation of clean water grows among marina

operators, a small but growing number are adding no-discharge clauses into annual and transient contracts with slip holders.

4.1.4 Environmental Nonprofits

At the time of this application, at least seven local nonprofit organizations are directly involved in promoting clean boating in a variety of ways, both formal and informal.

The Arundel Rivers Federation's operates a pump-out boat that services all of the West and Rhode rivers and provides educational materials. They are also active in water quality monitoring and environmental education. See <https://arundelrivers.org>

The Back Creek Conservancy prepared the first draft of this application. At the end of 2018, the Back Creek Conservancy consolidated with the Severn River Association, the nation's oldest river group, which formally incorporated the No Discharge Zone application into its mission.

The Severn River Association conducts water and habitat quality monitoring and education programs. See <https://www.severnriver.org>

The Spa Creek Conservancy conducts water quality monitoring in Annapolis harbor and Spa Creek. See www.spacreek.net .

The Magothy River Association: see <http://www.magothyriver.org/>

Restore Rock Creek: see <http://www.restorerockcreek.org/site/>

4.2 Local Discharge Ordinances

City of Annapolis code 15.06.090 – Vessel Toilets⁹

A person may not operate the toilet fixtures of a vessel within City waters at any time so as to cause or permit to pass or be discharged into City waters any sewage or other waste matter or contaminate of any kind which does not meet State, County, and Federal requirements for water quality discharged by such devices. A person may not operate incinerating toilets in a vessel within City waters at any time.

(Ord. O-31-02 § 1 (part))

(Ord. No. O-41-08, § I, 5-11-2009)

4.3 Enforcement Plan

Law enforcement in the form of citations, fines, and other criminal penalties is the final option for creating an effective No Discharge program—a distant fourth to (1) education and outreach, (2) expanded service availability, and (3) warnings. The law enforcement organizations are the U.S. Coast Guard, the Maryland Department of Natural Resources (DNR) Police, and the City of Annapolis harbormaster.

The U.S. Coast Guard Station Annapolis is located in Fishing Creek, which is an area of water included in this application. The station covers the entire territory from Curtis Bay (on the Patapsco River in the north) to south of Chesapeake Beach in Herring Bay (at the southern end of Anne Arundel County). The station operates three small vessels: one 45' long and two 29' long. The station's primary responsibilities are homeland security, search and rescue, and marine safety. Although the Coast Guard has authority to board vessels for any reason, they do not presently inspect MSDs and do not expect to issue citations for marine discharges.

4.3.1 State Enforcement

By state regulation, the Maryland Department of the Environment (MDE) has primary responsibility for enforcement of no discharge zone regulations. Since MDE does not patrol waterways, it is anticipated that most of its enforcement actions will come from reported violations. Violators may be reported by several sources, including the Natural Resources Police (NRP), local health agencies, marina owners, and boaters.

MDE's enforcement authority is outlined in the Code of Maryland Regulations, Title 26.08.03.01, which prohibits "The discharge of sewage from vessels to the waters of the State, designated as restricted zones. These zones shall be designated:

- (j) whenever greater environmental protection and enhancement is required, and
- (k) according to the procedures outlined in the Federal Act."

The MDE has several enforcement provisions including criminal, civil, and administrative actions. When a no discharge zone citation is necessary, MDE will take an administrative action with fines not to exceed \$10,000 per violation, per day. The NRP will assist MDE in investigating violation reports and will issue citations when necessary.

Both agencies have agreed that a warning will be issued for first violations, with citations issued for subsequent offenses.

The point of contact at MDE for no discharge zone enforcement is the Compliance Program. Its telephone (410-537-3510) is answered during office hours (8:00 a.m. to 5:00 p.m.).

The MD DNR police conduct marine operations at six locations in the proposed no discharge zone:

- (1) Stony Creek Bridge Marina on Stony Creek—proposed no discharge zone site 1;
- (2) Sandy Point Marina (116) at Mezick Ponds in Sandy Point State Park—proposed no discharge zone site 10;
- (3) Magothy Marina (70) on Cypress Creek in the Magothy River—proposed no discharge zone site 5;
- (4) Liberty Marina (150) on the South River—proposed no discharge zone site 12;
- (5) the Smithsonian Environmental Research Center (SERC) on the Rhode River—proposed no discharge zone site 13; and
- (6) Herrington Harbor South marina in the existing no discharge zone at Herring Bay.

In Anne Arundel County, the NRP operate several types of small vessels that routinely patrol Anne Arundel County waterways. They report that they do not have the capacity to perform routine checks on MSDs, checking, for example, to ensure that holding tank Y valves are secured in a closed position.

4.3.2 Annapolis Harbormaster

The only harbormaster in the State of Maryland is in the City of Annapolis. The incumbent, Beth Bellis, took office in 2017 after 20 years as a Natural Resources police officer.

The Annapolis harbormaster operates a very active pump-out vessel and requires periodic pump-outs of all vessels moored in Annapolis waters. The substantial year-round liveaboard population presents an important range of challenges for the harbormaster as well as the marinas at which nearly all of them reside.

5.0 END NOTES

1. Portbook. *Annapolis & Eastern Shore*. Annapolis, MD: Portbook Media, 2017.
2. O'Neill, Donald and Donna Morrow. "No Discharge Zones in Maryland's Waters." MD DNR White Paper, 2007, updated 2014.
3. Chesapeake. *Chesapeake Bay TMDL Tracker*. 2009. Accessed 16 January 2018. <https://tmdl.chesapeakebay.net/>
4. Maryland Department of the Environment. "Water Quality Assessment Reports." 2018. https://mde.maryland.gov/programs/Water/TMDL/Integrated303dReports/Documents/Integrated_Report_Section_PDFs/IR_2018/2018IR_Part_F.4_Final.pdf
5. *BoatInfoWorld*. 9 November 2017. Accessed 19 January 2018. <https://www.boatinfoworld.com/search.asp?type=bt>
6. Lipton, Douglas. "Sea Grant Maryland." May 2005. *University of Maryland*. <http://www.mdsg.umd.edu/sites/default/files/files/transientboat04.pdf>
7. United States Coast Guard. "National Recreational Boating Survey (NRBS)." 2011. *US CG Boating*. http://www.uscgboating.org/assets/1/Page/1520b_USCG_RBS_NationalSurvey_Online_SinglePages.pdf
8. Environmental Protection Agency. *Protecting Coastal Waters From Vessel and Marina Discharges: A Guide For State And Local Officials*. Guide. Washington, DC: Office of Water, 1994. Document. <https://repositories.tdl.org/tamug-ir/handle/1969.3/27783>
9. Annapolis, City of. *Code of Ordinances*. 2009. Accessed 22 February 2018. https://library.municode.com/md/annapolis/codes/code_of_ordinances?nodeId=TIT15HAWAAR_DIVIICIWA_CH15.06RUVPEUSWASH_15.06.090VETO

6.0 APPENDICES

Appendix 1

Marina Pumpout Data

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Anne Arundel County Council No Discharge Zone Resolution 31-18 and supporting Documentation

Appendix 4

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Appendix 5

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Letter from American Waterway Operators

Appendix 1: Marina Pumpout Data

Table A.1.1: Marinas with Public Pump-outs Organized by River then Creek

	River	Creek	Marina	Map Code	Portable	Mobile	Stationary	Dump	Restroom
1	Patapsco	Bodkin	Pleasure Cove Marina	26			1		1
2	Patapsco	Bodkin	Ventnor Marine Service	27			1		1
3	Patapsco	Bodkin	Hammock Island Marina	29			1	1	1
4	Patapsco	River Direct	Atlantic Marina Resort	18			1		1
5	Patapsco	Rock	Blake's Bar Harbor Marina	11			1		1
6	Patapsco	Rock	Maryland Yacht Club	12	1		1		1
7	Patapsco	Rock	Fairview Marina	13	1		1		1
8	Patapsco	Rock	White rocks Marina	14			1		1
9	Patapsco	Rock	Oak Harbor Marina	19			1		1
10	Patapsco	Rock	Pasadena Yacht Yard (PPY Marine)	DNR14			1		1
11	Patapsco	Rock	Nabbs Creek Marina	8			1		1
12	Patapsco	Stoney	Cypress Marina, Inc.	66	1				1
13	Magothy	Cypress	Magothy Marina, Inc	70			1	1	1
14	Magothy	Deep	Fairwinds Marina	91			1		1
15	Magothy	Gray's	Atlantic Marina on the Magothy	38			1		1
16	Magothy	Mill	Ferry Point Marina and Yachtyard	73			1		1
17	Magothy	River Direct	Hamilton Harbor Marina and Boatworks	39			1	1	1
18	Chesapeake Bay	Mezick Ponds	Sandy Point Marina	116			1		1
19	Chesapeake Bay	Mill	John L. Dunning Memorial Pier	DNR8			1		
20	Chesapeake Bay	Podickory	Podickory Point Yacht and Beach Club	102			1	1	1
21	Chesapeake Bay	Whitehall	Hinckley Yacht Service	111					1
22	Severn	Back	Mears Marina Annapolis	COA5			1		1
23	Severn	Back	Port Annapolis Marina	COA6	1		1		1
24	Severn	Back	Horn Point Harbor Marina	COA8			1		1
25	Severn	Back	Eastport Yacht Center	COA10			1		1
26	Severn	Back	Bert Jabin Yacht Yard	COA11	1		1		1
27	Severn	Back	Watergate Pointe Marina	COA16			1		1
28	Severn	Back	J Port Marina	DNR9			1		1
29	Severn	Back	Annapolis Landing Marina	DNR17			1		1
30	Severn	Browns Cove	Smith's Marina	99			1		1
31	Severn	Brewer	Little John Marina	DNR 10			1		
32	Severn	Chase	Pines on the Severn	107			1		
33	Severn	Chesapeake H	Chesapeake Harbor Marina	143			1	1	1
34	Severn	Ego Alley	City of Annapolis Pumpout Boat	DNR1		1			
35	Severn	River Direct	Annapolis Maryland Capitol Yacht Club	COA14			1		1
36	Severn	Spa	The President Point Marina	DNR16			1	1	
37	Severn	Spa	The Yacht Basin Co.	COA1		1	2		1
38	Severn	Spa	Annapolis City Marina	COA3			2	1	1
39	South	Brewer	Pocahontas Marina	189					1
40	South	Gingerville	Oak Grove Marina	145			1		1
41	South	Ramsay Lake	Turkey Point Marina	203	1				1
42	South	Ramsay Lake	Mayo Ridge Marina	208			1	1	1
43	South	Ramsay Lake	Norris Marina	DNR12			1		1
44	South	River Direct	Liberty Marina	150	1		1		1
45	South	River Direct	Pier Seven Marina	DNR18			1		1
46	South	Selby Bay	Selby Bay Marina	196			1	1	1
47	South	Selby Bay	Holiday Pt. Marina	197			1	1	1
48	South	Selby Bay	Anchor Yacht Basin	201			1		1
49	South	Fishing	Arundel on the Bay Comm.	195			1		
50	South	Oyster	Oyster Harbor	188			1		
51	South	Duvall	Fishing Creek Farms Comm.	183			1	0	
52	West	Johns	Shady Oaks Marina	251			1		1
53	West	Parish	Backyard Boats	232			1		1
54	West	River Direct	West River Fuel Dock	BCC1			2		
55	West	River Direct	Riverkeeper Pumpout Boat	BCC2		1			
56	West	South	Chesapeake Yacht Club	245			1		
57	West	Tenthouse	West River Yacht Harbor	231	1		1	1	1
58	West	Tenthouse	Hartge Yacht Harbor	243			1	1	1
59	Rhode	Cadle	Cadle Creek Marina	219			1		1
60	Rhode	Cadle	Casa Rio Marina	216			1		1
61	Rhode	Whitemarsh	Rhode River Marina	211			1		1
62	Rhode	Whitemarsh	Holiday Hill Marina	210	1		1		1
63	Rhode	Whitemarsh	Bluewater Marina	212			1		
			Total		9	3	60	12	51

Table A.1.2: Marinas with Private Pump-outs Organized by River then Creek

	River	Creek	Marina	Map Code	Portable	Stationary	Dump	Restroom
1	Patapsco	Bodkin	Bodkin Yacht Club	M257		1		1
2	Magothy	Magothy Narrows	Gibson Island Marina	48		1		1
3	Severn	Spa	Annapolis Yacht Club	COA 7		1		1
4	Severn	Spa	Easptort Yacht Club	M323		1		1
5	Severn	Lake Ogleton	Bay Ridge Community Marina	M191		1		1
6	Severn	Clements	Saefern Yacht Club/Comm. Marina	M472		1		
7	West	Parrish	Parrish Creek Marina	224		1		1
8	West	River Direct	Chalk Point Marine	246	1			1
9	West	River Direct	Pirate's Cove Marina	233		1		1
10	West	Tenthouse	Hartge Yacht Yard	226		1		1
				Total	1	9		9

Appendix 2 Vessel Population Data

Table A.2.1: DNR Registered Boat Count by Zip Code and Size

Zip	Under_16_Feet	16_to_Under_26_Feet	26_to_Under_40_Feet	Over_40_Feet	Total_Registered_Boats_Per_Zip
20711	58	104	23	9	194
20714	7	5	5	0	17
20724	24	40	5	2	71
20733	62	109	26	7	204
20751	124	144	62	8	338
20754	6	7	7	0	20
20755	4	13	0	0	17
20758	16	26	10	2	54
20764	137	202	78	10	427
20776	53	76	22	8	159
20778	89	103	50	8	250
20779	51	66	40	9	166
20794	11	19	0	0	30
21012	451	545	276	47	1,319
21032	232	342	140	22	736
21035	123	172	78	9	382
21037	686	880	426	69	2,061
21054	74	116	31	7	228
21056	10	20	9	2	41
21060	319	443	116	17	895
21061	246	330	53	4	633
21076	61	59	13	3	136
21077	2	1	1	0	4
21090	86	106	25	3	220
21106	14	12	7	5	38
21108	141	214	75	9	439
21113	69	92	28	4	193
21114	96	102	55	1	254
21122	1,344	1,718	584	80	3,726
21123	6	5	3	1	15
21140	83	133	74	8	298
21144	163	199	33	8	403
21146	514	884	404	47	1,849
21225	69	86	4	2	161
21226	57	107	36	5	205
21240	0	2	1	1	4
21401	579	804	410	98	1,891
21402	11	13	9	1	34
21403	689	783	571	156	2,199
21404	13	8	2	4	27
21405	25	62	27	7	121
21409	377	572	251	53	1,253
TOTALS	7,182	9,724	4,070	736	21,712

Table A.2.2: Documented Boats by Zip Code

Zip	Under_16_Feet	16_to_Under_26_Feet	26_to_Under_40_Feet	Over_40_Feet	Total_Documented_Per_Zip
20711	0	0	19	9	28
20714	0	1	20	17	38
20724	0	1	6	1	8
20733	0	1	25	10	36
20751	0	0	46	22	68
20754	0	1	39	7	47
20755	0	0	0	0	0
20758	0	1	10	8	19
20764	0	1	55	17	73
20776	0	1	18	9	28
20778	0	2	39	11	52
20779	0	1	41	16	58
20794	0	0	7	2	9
21012	0	3	191	63	257
21032	0	4	114	44	162
21035	0	1	63	19	83
21037	0	6	329	99	434
21054	0	0	28	20	48
21056	0	0	4	5	9
21060	0	4	56	53	113
21061	0	2	42	9	53
21076	0	1	14	9	24
21077	0	0	0	0	0
21090	0	0	15	2	17
21106	0	0	8	5	13
21108	0	2	67	16	85
21113	0	0	31	6	37
21114	0	3	70	14	87
21122	0	5	400	107	512
21123	0	0	4	2	6
21140	0	0	45	16	61
21144	0	1	38	11	50
21146	0	8	292	87	387
21225	0	0	6	3	9
21226	0	3	31	166	200
21240	0	0	0	0	0
21401	0	14	520	209	743
21402	0	0	8	5	13
21403	0	15	533	274	822
21404	0	1	5	4	10
21405	0	3	21	8	32
21409	0	5	173	81	259
TOTAL	0	91	3,433	1,466	4,990

Table A.2.3: Maryland Transient Vessels

Length (in feet)	Transients in MD
Power Boats \leq 29	4,168
Power Boats 30 – 39	8,584
Power Boats 40 – 49	4,773
Power Boats 50 – 59	1,294
Power Boats 60+	475
Sailboats \leq 39	4,714
Sailboats 40+	2,149
TOTAL	26,157

Appendix 3 Anne Arundel County Council Resolution 31-18

On 17 September 2018, the Anne Arundel County Council voted 6 to 1 in favor of Resolution 31-18 in support of the establishment of a No Discharge Zone as presented in this application.

Written testimony in support of Resolution 31-18 was submitted to the Council by the South River Federation, the Severn River Commission, the Severn River Association, the Magothy River Association, Back Creek Conservancy, West/Rhode Riverkeeper, and the Anne Arundel County Maritime Advisory Board.

Resolution 31-18 and supporting testimony is given on the following pages.

COUNTY COUNCIL OF ANNE ARUNDEL COUNTY, MARYLAND

Legislative Session 2018, Legislative Day No. 35

Resolution No. 31-18

Introduced by Mr. Peroutka, Chairman
(by request of the County Executive)
and by Mr. Trumbauer

By the County Council, September 4, 2018

1 RESOLUTION supporting the establishment of a “No Discharge Zone” for the
2 Magothy River, Severn River, South River, Rhode River, West River, Stoney Creek,
3 Bodkin Creek, Rock Creek, Podickory Creek, Sandy Point/Mezick Ponds, Whitehall Bay,
4 Oyster Cove, and Fishing Creek

5
6 WHEREAS, Section 312(f)(3) of the federal Clean Water Act (33 U.S.C. §
7 1322(f)(3)) allows the State of Maryland to designate certain waters as “No
8 Discharge Zones” in which the discharge of vessel sewage, whether treated or not,
9 is prohibited; and

10
11 WHEREAS, despite having more coastline than any county in the United States,
12 only one “No Discharge Zone” exists in the waters of Anne Arundel County, that
13 being approximately 3,500 acres in Herring Bay; and

14
15 WHEREAS, the significant efforts of County government and its citizens to protect
16 the waters of the County and restore water quality will be enhanced by the
17 designation of additional waterways as a “No Discharge Zone” in the rivers, creeks,
18 and bays of Anne Arundel County; and

19
20 WHEREAS, the Back Creek Conservancy is an Annapolis-based non-profit citizen
21 advocacy group dedicated to clean boating and improving the health of local
22 waterways; and

23
24 WHEREAS, the Back Creek Conservancy has invested much time and effort in the
25 preparation of an Application for a State-Designated No Discharge Zone seeking
26 “No Discharge Zone” designation for the Magothy River, Severn River, South
27 River, Rhode River, West River, Stoney Creek, Bodkin Creek, Rock Creek,
28 Podickory Creek, Sandy Point/Mezick Ponds, Whitehall Bay, Oyster Cove, and
29 Fishing Creek, which would protect an additional 27,379 acres of waterway; and

30
31 WHEREAS, the Application for a State-Designated No Discharge Zone dated June
32 28, 2018, and prepared by the Back Creek Conservancy, is incorporated herein by
33 reference as if fully set forth; and

34
35 WHEREAS, the County Executive and the County Council support the efforts of
36 the Back Creek Conservancy to designate additional waterways as a “No Discharge

1 Zone” and supports the establishment of a State-Designated “No Discharge Zone”
2 in the County’s rivers, creeks, and bays; now, therefore, be it

3

4 *Resolved by the County Council of Anne Arundel County, Maryland,* That it supports
5 the establishment of a “No Discharge Zone”, in accordance with § 312(f)(3) of the federal
6 Clean Water Act, for the Magothy River, Severn River, South River, Rhode River, West
7 River, Stoney Creek, Bodkin Creek, Rock Creek, Podickory Creek, Sandy Point/Mezick
8 Ponds, Whitehall Bay, Oyster Cove, and Fishing Creek, and the Back Creek Conservancy’s
9 Application for a State-Designated No Discharge Zone, in furtherance thereof; and, be it
10 further

11

12 *Resolved,* That copies of this Resolution be sent to Steven R. Schuh, County Executive;
13 Gavin Buckley, Mayor of the City of Annapolis; William Kardash, Severn River
14 Commission; and the Back Creek Conservancy.



2822 Solomons Island Rd., Suite 202 ♦ Edgewater, MD 21037

410-224-3802 ♦ Fax: 410-224-0364

www.southernriverfederation.net

September 17, 2018

Anne Arundel County Council
44 Calvert Street
Annapolis, MD 21401

RE: RESOLUTION 31-18

Dear Councilman,

The South River Federation (SRF) writes to request your favorable vote on Resolution 31-18, supporting establishment of a “No Discharge Zone” in the rivers and creeks of Anne Arundel County.

SRF notes that establishment of a no discharge zone in Anne Arundel County rivers will have two primary benefits: First, it will reduce the amount of nitrogen in County waterways, thus preventing over-proliferation of the algae blooms that deprive the water of oxygen, prevent sunlight from reaching underwater grasses, and diminish the vitality and productivity of our rivers and creeks.

Second, the roll out of the no discharge zone regulation will provide a valuable education and outreach opportunity to the maritime community to discuss the bio-chemistry of our County’s estuarine waterways. SRF hopes and believes that engagement with the boating community will encourage sound stewardship of our County’s natural resources and produce a “ripple-effect” that will expand the positive impact of the designation beyond the nutrient reductions expected from the regulation itself.

Thank you for considering these comments, and SRF looks forward to helping implement the ultimate regulation from EPA in partnership with the County. Please do not hesitate to reach out with any questions.

Sincerely,

Jesse Iliff
South RIVERKEEPER

BOARD OF DIRECTORS

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Don Santa, VICE CHAIR

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Hank Libby, EMERITUS

Kent McNew, EMERITUS

Kincey Potter, EMERITUS



September 15, 2018

The Honorable Michael Peroutka, Chairman

Anne Arundel County Council 44 Calvert Street, Annapolis, MD

Re: SRC Support for Resolution 31-18, No Discharge Zone for Anne Arundel County Waterways

The Severn River Commission provides counsel and advice to the Anne Arundel County, the City of Annapolis, and the State of Maryland concerning matters related to the Severn River and its watershed.

In January 2017, the Commission unanimously recommended that the County Executive apply to the Environmental Protection Agency to expand the successful No Discharge Zone in Herring Bay, at the southern end of County waters.

The SRC's recommendation prompted the Back Creek Conservancy to prepare the application which is the basis for Resolution 31-18. The application fully reflects the SRC's 2017 recommendation and therefore receives our full support. Expanding the existing No Discharge Zone to the rest of Anne Arundel County's rivers, bays, and creeks will recognize the environmental accomplishments of the 59 public marinas with pump-out facilities and the urgent wish for clean water among the County's 21,000 boaters.

The Severn River Commission recommends adoption of Resolution 31-18.
Respectfully yours,

Sincerely,

Charlie Kreter

Chairman, Severn River Commission

410-544-2903

410-320-3887 (cell)



THE SEVERN RIVER ASSOCIATION

BOX 146 • ANNAPOLIS, MD 21404 • severnriver.org • 443-569-3556 voicemail

January 23, 2017

Officers:

President
Lynne Rockenbauch
president@severnriver.org
Treasurer
Lee Meadows
treasurer@severnriver.org
Secretary
Bob vom Saal
secretary@severnriver.org

Member Communities:

Admiral Heights Imprv Assoc
Amberley Community Association
Arden Civic Association
Arnold Preservation Council
Arundel on the Bay
Back Creek Conservancy
Bayberry Hills
Bellevue Estates Comm Assoc
Belvoir Farms Homeowners Assoc
Ben Oaks Civic Association
Bluff Point Community Assoc
Boucher Landing Homeowners Assn
Brown's Pond Improvement Assoc
Burley Creek
Carrollton Manor Impv Assoc
Chartwell Garden Club
Civic Association of Palisades, Inc
Downs Property Owners Assoc
Dreams Landing
East Paddennis Mount
Eastport Civic Association
Epping Forest Community Assoc
Fairwinds Beach Club, Inc.
Ferry Farms Improvement Assoc
Glen Oban Association, Inc.
Hawkins Cove
Herald Harbor Citizens Assoc
Hidden Point Rd. Association
Holly Point Community Assoc
Hollyberry Garden Club
Hollywood on Severn Imp Assoc
Indian Landing Community Assn
Kensington Community Assoc.
Kilmarnock Homeowners Assn
Lake Forest Community Assoc
Lindamoore Improvement Assoc
Linstead Community Association
Long Point on the Severn Civic Assn
Maynadier Homeowners Assoc
Meadows Residents Association
Olde Severna Park Impr Assoc
Oyster Harbor Citizens Assoc
Pines Community Impr Assoc
Providence Community Association
Riverview Manor Community Assoc.
Round Bay Community Association
Saefern Saddle & Yacht Club
Saltworks on Severn Citizens Assoc
Severn Heights Improvement Assoc.
Severn View HOA
Severna Forest Community Assoc
Sherwood Forest Club Inc
Shipley's Choice
Spa Creek Conservancy
Severn River Garden Club
Severn Sailing Association
St. Luke's Episcopal Church
Unitarian Universalist Ch/Annapolis
West Annapolis Civic Association
West Severna Park Community Assn
Whitehall Bay Conservancy
Winchester on the Severn

Annapolis (mayor and city council)
Anne Arundel County (county executive and council)

We are pleased to inform you that, by unanimous vote, the Board of Directors of the Severn River Association approved the following resolution on January 19, 2017. It references and supports recommendations you have already received from city and county advisory commissions (attached below).

A Resolution on Marine Water Quality by the Severn River Association (SRA) Board of Directors

We acknowledge, and affirm our support of, efforts in Annapolis and Anne Arundel County to improve marine water quality. We endorse the following resolutions passed unanimously by advisory bodies to the City of Annapolis and to the County of Anne Arundel:

- 1) *The Annapolis Environmental Commission Resolution of November 5, 2014 concerning Measures to Improve Marine Water Quality in Annapolis Waters; and*
- 2) *The Severn River Commission Resolution of December 12, 2016 concerning measures to improve marine water quality in County waters, including by applying for EPA designation of a new No Discharge Zone.*

The SRA favors steps that will improve marine water quality, and recommends that the governments of the City of Annapolis and Anne Arundel County provide assistance and support to implement recommendations in those resolutions.

The Severn River Association is available for consultation and support as you respond to the recommendations contained in those Resolutions, and we wish you well in implementing them.

Sincerely,

Lynne Rockenbauch
President, Severn River Association

Attachments below: Resolutions by the Annapolis Environmental Commission and the Anne Arundel County Severn River Commission

No Discharge Zone Resolution from the Magothy River Association

July 11, 2017

The Magothy River Association (MRA) by unanimous vote of the members of the Board makes the following statements and recommendations to the Anne Arundel County Executive:

The MRA argues that clean, clear, swimmable and fishable water in the Chesapeake Bay and its tributaries is a key resource for residents and visitors and is important to the economic viability of the region.

We believe that educating the public about the benefits of clean water and limiting polluting discharge into the waters of the County is a positive step and should be pursued.

The MRA further argues that sewage discharge from boats, whether partially treated or not, significantly degrades water quality due to the discharge of fecal microorganisms, solids, and nutrients such as nitrogen and phosphorus. Even partially treated sewage from boats reduces levels of dissolved oxygen and provides nutrients that support algal blooms. These impacts, in turn, reduce water clarity so that the growth of submerged aquatic vegetation is hindered.

By designating the Magothy River as a No Discharge Zone (NDZ), the public will become more aware of the importance of clean boating practices and of the County's commitment to improved quality of life for its citizens and the well-being of our waterways.

Many locations in the United States have already successfully implemented NDZs. Within the Chesapeake Bay region, Herring Bay has also implemented an NDZ; improved water quality and an increase in marine business have been noted. Another operates successfully in Maryland's Northern Coastal Bays, and yet another in the Chester River has been applied for and is pending final EPA approval.

Finally, the MRA recommends that the entire Magothy River and its tributaries be declared a No Discharge Zone and an application for this designation should be pursued. This designation shall apply to all vessels with permanently installed marine sanitation devices in the navigable tributaries and main stem of the Magothy River. Provisions governing NDZs that allow for reasonable phase-in periods should be considered for inclusion.

Respectfully submitted,

The Magothy River Association



Anne Arundel County Council

Public Hearing, 17 September 2018, on Resolution 31-18, No Discharge Zone

Testimony in favor of the resolution, by David Read Barker, Chairman,
residing at 154 Quiet Waters Place, Annapolis

The first No Discharge Zone in the Chesapeake Bay was established in Herring Bay, in south county, in 2002. The past 16 years have shown this EPA designation to be a great success, measured by boater satisfaction, cleaner water, and habitat recovery. Consequently, in December 2016 the county's Maritime Industry Advisory Board recommended that the NDZ be expanded to other rivers, bays and creeks in the county, and the following month the Severn River Commission made the same recommendation.

Based on these resolutions, the Back Creek Conservancy took the initiative to prepare an application that covers 13 waterbodies throughout the county, covering more than 27,000 acres, with 59 marinas with pump-out facilities and more than 21,000 boats.

The testimony you have before you this evening in support of resolution 31-18 resoundingly disproves the assertion that there is some inevitable conflict between good business and environmental regulation. Both the maritime industry and environmental nonprofits working on the West and Rhode, South, Severn, and Magothy Rivers are on the same page: there is no need for boaters to discharge treated or untreated sewage into Anne Arundel County's waters.

By voting in favor of resolution 31-18, you will build on the county's legacy of environmental success and sustain the county's leadership to restore the Chesapeake Bay for safe and healthy boating, fishing, and swimming.

www.backcreekconservancy.org

PO Box 5442, Annapolis, MD 21403

Jeff Holland, Riverkeeper
West/Rhode Riverkeeper, Inc.
637 Contees Wharf Road
Edgewater, MD 21037
jeff@westrhoderiverkeeper.org

September 17, 2018

Testimony before Anne Arundel County Council
In support of Resolution 31-18, to establish a No Discharge Zone for Anne Arundel County

As the Riverkeeper for the West and Rhode Rivers, I heartily support the establishment of a No Discharge Zone for Anne Arundel County.

First, I want to stress that boaters are not the problem when it comes to pollution in the Chesapeake Bay watershed. As a lifelong boater, I know first-hand that boaters love the water and take pride in doing their part in keeping it clean. Establishing a No-Discharge Zone would be a way for this boating community to go the extra nautical mile to do just that: ensure that we safely dispose of the waste we produce, even the treated discharge that contains small amounts of nutrients. That's true devotion to clean water, and we expect nothing less from the boaters who love the Chesapeake Bay.

Secondly, I'd like to commend the Department of Natural Resources and in particular their Clean Marina Program. Nearly every marina has a pumpout station where boaters can safely and conveniently dispose of their waste. In addition, this program funds the pumpout boat that my organization operates every weekend from May through October. Last year, this one boat serviced more than 600 powerboats and sailboats in the West and Rhode Rivers alone and safely disposed of more than 16,000 gallons of raw sewage.

Again, we're not saying that these boaters would dump this waste overboard when nobody was looking; but thanks to DNR, we're providing a service that's so convenient that they don't even have to think of the alternative. The City of Annapolis and the Riverkeeper group on the Eastern Shore also have pumpout boats.

Pumpout stations are prevalent – you can visit any nearby marina or call a pumpout boat to come to your boat. Establishing No Discharge Zones in the county's rivers will impose no inconvenience on any suitably equipped boat, and will go a long way to prove our boating community's commitment to the restoration of the Chesapeake Bay.

The Anne Arundel County Maritime Advisory Board by unanimous vote of the members present at the meeting of October 24, 2016, makes the following statements and recommendations to the County Executive concerning the implementation of a No Discharge Zone in the waters of Anne Arundel County.

1. The Maritime Advisory Board believes that clean, clear, swimmable, and fishable water in the Chesapeake Bay and its tributaries is a crucial resource for citizens and an important selling point for marine businesses in the County and is a goal that should guide decisions on development around and discharge into the Chesapeake Bay and its tributaries.
2. The Board strongly believes that educating the public, including the boating public, about the benefits of clean water and limiting polluting discharge into the waters of Anne Arundel County is a positive step and should be pursued where possible.
3. The Board does not believe that boats and boaters significantly degrade the quality of the waters of Anne Arundel County, but we hope that by committing to improvement, others will follow suit.
4. In considering the question of whether to recommend the creation of a No Discharge Zone, the Maritime Advisory Board considered input from its own members, who represent a significant cross section of marine businesses and marinas in the County, and also heard from people outside the Board, including people that both oppose and support a No Discharge Zone.
5. Opponents of the plan believed that focusing on the area immediately around the City of Annapolis put an unfair burden on a small part of the County and its residents without sufficient showing that the concentrated burden would truly work to improve water quality.
6. Opponents of the plan were concerned that certain boats currently in existence and currently EPA compliant would no longer be able to legally operate in the No Discharge Zone and that this would impose an unfair burden on owners of those existing boats.
7. Opponents point out that there are sources of water pollution other than boats, including ones that may be more significant, and that clean-up efforts may be better directed elsewhere.
8. Proponents of a No Discharge Zone point out that it is a worthy goal to reduce bacteria and disease connected to fecal matter and untreated waste and that marine businesses and residents are negatively impacted each time a warning is necessary due to bacterial levels.
9. Proponents also point out that water quality, clarity and oxygenation is improved by lowering the amount of solids and nutrients that are deposited in the bay, and that this has

a positive impact on the enjoyment of the bay, the tourist industry, as well as Bay fisheries and habitat.

10. Proponents also note that many locations in the United States, including large parts of New England, have already successfully implemented No Discharge Zones. A No Discharge Zone has also been successfully implemented in Herring Bay, and Board members with direct knowledge of that body of water state that it has improved water quality without hurting business.
11. Having heard the discussions noted above, the Board makes the following recommendations:
 - a. Anne Arundel County would benefit from having its waters declared a No Discharge Zone and such an application should be pursued through appropriate authorities.
 - b. The No Discharge Zone should include more than the area around the City of Annapolis. It should extend to all of the parts of the County where there is sufficient pump out service to allow boats with holding tanks to be pumped out. Areas that do not have sufficient service should be urged to develop that service.
 - c. The No Discharge Zone should include all County waters, including the Patapsco, Magothy, Severn, South, West and Rhode Rivers so long as there is sufficient pump out service to support the boating community.
 - d. The application must be drafted to allow for existing vessels that do not have holding tanks to continue to operate.
 - e. The application must account for the fact that there are existing vessels that are EPA compliant and that could not be legally operated in a No Discharge Zone without extensive and expensive retrofitting. It is the recommendation of the Board that such vessels be allowed to continue to use a treated waste (Type I or II) system.

Respectfully submitted,

The Anne Arundel County
Maritime Advisory Board

Appendix 4 City of Annapolis Council Resolution 47-18

On 24 September 2018, the City of Annapolis Council voted 8 to 0 in favor of Resolution 47-18 in support of the establishment of a No Discharge Zone as presented in this application.

Written testimony in support of Resolution 47-18 was submitted to the Council by the South River Federation, the Severn River Commission, and the Severn River Association.

Resolution 47-18 and supporting testimony is given on the following pages.

1 **..Title**
2 **No Discharge Zone** - For the purpose of supporting the establishment of a “No Discharge Zone”
3 for the Annapolis waterways.

4 **..Body**

5 **CITY COUNCIL OF THE**
6 *City of Annapolis*

7
8 **Resolution 47-18**

9
10 **Introduced by: Alderman Savidge, Alderman Arnett,**
11 **Alderman Henson, Alderman Tierney, Alderman Rodriguez,**
12 **Mayor Buckley and Alderman Paone**

13
14
15 **A RESOLUTION** concerning

16
17 **No Discharge Zone**

18
19 **FOR** the purpose of supporting the establishment of a “No Discharge Zone” for Annapolis
20 waterways.

21
22 **WHEREAS,** Section 312(f)(3) of the federal Clean Water Act (33 U.S.C. § 1322(f)(3)) allows
23 the State of Maryland to designate certain waters as “No Discharge Zones” in
24 which the discharge of vessel sewage, whether treated or not, is prohibited; and

25
26 **WHEREAS,** the Severn River and its tributaries are classified as impaired by the
27 Environmental Protection Agency and the State of Maryland; and

28
29 **WHEREAS,** the significant efforts of City government and its citizens to protect the waters of
30 the City and restore water quality will be enhanced by the designation of
31 additional waterways as a “No Discharge Zone” in the rivers, creeks, and bays of
32 Anne Arundel County, and

33
34 **WHEREAS,** the Back Creek Conservancy is an Annapolis-based non-profit citizen advocacy
35 group dedicated to clean boating and improving the health of local waterways;
36 and

37
38 **WHEREAS,** the Back Creek Conservancy has invested much time and effort in the preparation
39 of an Application for a State-Designated “No Discharge Zone” seeking “No
40 Discharge Zone” designation for the Magothy River, Severn River, South River,
41 Rhode River, West River, Stoney Creek, Bodkin Creek, Rock Creek, Podickory
42 Creek, Sandy Point/Mezick Ponds, Whitehall Bay, Oyster Cove, and Fishing
43 Creek, which would protect an additional 27,379 acres of waterway; and

44
45 **WHEREAS,** the Application for a State-Designated “No Discharge Zone” dated June 28, 2018,
46 and prepared by the Back Creek Conservancy is adopted by reference herein; and

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WHEREAS, the Annapolis City Council supports the efforts of the Back Creek Conservancy to designate additional waterways as a “No Discharge Zone” and supports the establishment of a State-Designated “No Discharge Zone” in the City’s rivers, creeks, namely, Back Creek, College Creek, Spa Creek and Weems Creek, and tributaries into the Chesapeake.

NOW, THEREFORE,

BE IT RESOLVED BY THE ANNAPOLIS CITY COUNCIL that the City of Annapolis supports the establishment by the State of Maryland of a “No Discharge Zone”, pursuant to Section 312(f)(3) of the federal Clean Water Act, for the Magothy River, Severn River, South River, Rhode River, West River, Stoney Creek, Bodkin Creek, Rock Creek, Podickory Creek, Sandy Point/Mezick Ponds, Whitehall Bay, Oyster Cove, and Fishing Creek, and the Back Creek Conservancy’s Application for a State-Designated No Discharge Zone, in furtherance thereof.

AND BE IT FURTHER RESOLVED BY THE ANNAPOLIS CITY COUNCIL that a copy of this Resolution shall be sent to Steven R. Schuh, County Executive and William Kardash, Severn River Commission and the Back Creek Conservancy.

AND BE IT FURTHER RESOLVED BY THE ANNAPOLIS CITY COUNCIL that this resolution shall take effect from the date of its passage.

EXPLANATION

Underlining indicates matter added to existing law.

[~~Strikethrough~~] indicates matter stricken from existing law.

Special Meeting of the Annapolis City Council

Monday, 24 September 2018, 7:00 p.m.

Comments by the Public

Jack Turner

Residing at _____ Cedar Ridge_____

Speaking on behalf of Lynne Rockenbauch, President, Severn River Association

In favor of R-47-18 No Discharge Zone- For the purpose of supporting the establishment of a “No Discharge Zone” for Annapolis waterways

The Severn River Association supports Resolution 47-18 concerning the establishment of a “No Discharge Zone” for the Annapolis waterways. We hope the City of Annapolis will join Anne Arundel County in supporting this effort to designate certain waters as “No Discharge Zones” in which the discharge of vessel sewage, whether treated or not, is prohibited. We have found that many people from other areas already believe that Annapolis waters are a “No Discharge Zone” and are surprised that such a place has not joined other popular boating cities in this effort to keep our waterways free from human waste. Others have invested money in sewage treatment for their boats out of concern for the Severn and other waterways, but do not realize that most of these systems treat only the bacteria and not the nutrients. Excess nitrogen and phosphorus are key elements contributing to the impairment of the Severn and other Anne Arundel County rivers. Most of this comes from the land, but removing what comes from our many boats will certainly improve our waterways.

Please take advantage of Back Creek Conservancy’s efforts to apply for a No Discharge Zone for county waters and let the boaters of the world know that Annapolis cares about clean water. Support Resolution 47-18.

president@severnriver.org

City Council Resolution 47-18 No Discharge Zone - 09.24.2018

I'm Jim Burdick 1719 cedar park Rd. Kurt Riegel & I are the two Annapolis delegates on the Anne Arundel County Severn River Commission. As City delegates, we are charged with informing and advising county council, city council the County Exec. & the Mayor on environmental matters as they concern the Severn River Watershed. I am speaking on behalf of the SRC this evening I'm a 35 year resident of the city, raised my family here & I live in Admiral Heights

I am here to express the SRC's full support of The NDZ. Many folks on the Severn River Commission, many folks on this Council, in this room in this town have spent countless hours to get us to this point. Led by David Barker, the Back Creek Conservatory has completed a very admirable piece of work which is NDZ application. The application will go to state DNR then to the EPA. The conservancy have learned the operational process, the application process & fully understand the need for support from the jurisdictions that the NDZ encompasses including the city. To this point - jurisdictional support, AA County Council has passed their Resolution in support of a countywide NDZ.

On behalf of the SRC We thank you in advance for your consideration and look forward to your unanimous support of this the NDZ res. 47-18

Thank you!



2822 Solomons Island Rd., Suite 202 ♦ Edgewater, MD 21037

410-224-3802 ♦ Fax: 410-224-0364

www.southernriverfederation.net

September 24, 2018

Annapolis City Council
160 Duke of Gloucester Street
Annapolis, MD 21401

RE: RESOLUTION R-47-18

Dear Council,

The South River Federation (SRF) writes to request your favorable vote on Resolution R-47-18, supporting establishment of a “No Discharge Zone” in the rivers and creeks of Annapolis.

SRF notes that establishment of a no discharge zone in Anne Arundel County rivers (including the Severn and South rivers and their tidal creeks) will have two primary benefits: First, it will reduce the amount of nitrogen in City waterways, thus preventing over-proliferation of the algae blooms that deprive the water of oxygen, prevent sunlight from reaching underwater grasses, and diminish the vitality and productivity of our rivers and creeks.

Second, the roll out of the no discharge zone regulation will provide a valuable education and outreach opportunity to the maritime community to discuss the bio-chemistry of our City’s estuarine waterways. SRF hopes and believes that engagement with the boating community will encourage sound stewardship of our City’s natural resources and produce a “ripple-effect” that will expand the positive impact of the designation beyond the nutrient reductions expected from the regulation itself.

Thank you for considering these comments, and SRF looks forward to helping implement the ultimate regulation from EPA in partnership with the City. Please do not hesitate to reach out with any questions.

Sincerely,

Jesse Iliff
South RIVERKEEPER

BOARD OF DIRECTORS

- Tom Reinert, CHAIR
- Don Santa, VICE CHAIR
- Brenda Boultwood, TREASURER
- Lynn Johnson Langer, SECRETARY
- Debra Bird
- Dana Cole
- David Cronin
- Christian Elkington
- Kevin Green
- Paul Kaladas
- Herman Kling
- Beverly Marcus
- Bob O'Dell
- Dennis Treat
- John Flood, EMERITUS
- Hank Libby, EMERITUS
- Kent McNew, EMERITUS
- Kincey Potter, EMERITUS

Appendix 5 Public Meeting Notes

Experience in New England with No Discharge Zones:
Q & A with the Newport and Chatham Harbormasters
Wednesday, 7 February 2018
Pip Moyer Center, Annapolis
8:30 a.m. - 12:00 noon

Hosted by the Back Creek Conservancy
www.backcreekconservancy.org

Moderator: Jacqueline Sincere Guild, Chesapeake Legal Alliance
Welcome: Mayor Gavin Buckley
Featured speakers:
Timothy Mills, Harbormaster, Newport, Rhode Island
Stuart F.X. Smith, Harbormaster, Chatham, Massachusetts

Provisional AGENDA

- 8:30- 9:00 Registration, coffee and donuts
- 9:00- 10:30 Welcome by Mayor Gavin Buckley
- Self-introduction by participants
- The present situation in Annapolis (Beth Bellis, Harbormaster)
- Experience in the Herring Bay NDZ (Hamilton Chaney, Herrington Harbour)
- Experience in Newport (Tim Mills)
- Experience in Chatham (Stuart Smith)
- 10:30- 11:30 Q & A; Education, outreach and enforcement
- 11:30-12:00 Feedback for the NDZ application (Jackie Guild)

Experience in New England with No Discharge Zones

7 February 2018, Annapolis, MD

Notes on the Meeting

The Back Creek Conservancy hosted the meeting, which was moderated by Jackie Guild, Executive Director of the Chesapeake Legal Alliance.

Annapolis Mayor Gavin Buckley welcomed the participants and called for creation of a No Discharge Zone (NDZ) in Annapolis and Anne Arundel County.

The featured speakers were Timothy Mills, Harbormaster of Newport, RI, and Stuart Smith, Harbormaster of Chatham, MA. They reported that there was not a great deal of resistance from public to implement a NDZ. Commercial fishermen supported the NDZ. Water clarity improved considerably as a result of it. Education is a very important part of community acceptance and 99 percent of compliance.

Beth Bellis, the Annapolis Harbormaster, reported that the city operates an effective marine sewage pumpout program emphasizing outreach, customer service, and enforcement including citations when necessary.

Hamilton Chaney, owner of Herrington Harbor, noted cleaner water, return of terrapins and fish, and community support for the NDZ in Herring Bay when it was created in 2001. Communities used it to support other environmental quality improvements, such as hookup to city sewer. Education is provided to harbor visitors and surrounding communities. The experience has been very positive and good for business.

The audience questioned the Harbormasters and a general discussion lasted approximately two hours. Highlights are:

- There should be education about the differences between releases of raw sewage and MSD discharges to avoid confusion about what is being released into Annapolis waters by boats.
- What additional benefits will a NDZ accomplish beyond what technology is removing currently through MSDs? Are the results worth the efforts and costs? Are there other ways to achieve the desired results?
- Will a NDZ curtail incentives for treatment technologies to improve?
- Education is needed about the types of MSDs and what they treat or not and at what levels treatment/removal is accomplished.
- Does treatment meet shellfish protection requirements? Will it help oyster populations? This could be a selling point.
- Education needed about what types of chemicals are added to waters through treatment and at what levels? Do these chemicals further degrade water quality?
- It was suggested that composting heads should be encouraged. How will they fit in a NDZ? The Annapolis Harbor Master expressed concern for enforcement concerning Composting heads.
- Should we aim for a NDZ that will help achieve pollutant reductions for all components of the effluent?
- Will there be a grandfathering period for compliance? Especially regarding commercial vessels? MA allowed some period for retrofit; R.I. provided a one-year grace period for recreational vessels.
- The NDZ designation in R.I. resulted in greater pressure to address overflows from their combined sewer overflow system (CSO). Note that Annapolis is not a CSO system and that spills occur due to breaks in the lines that need replacing and from lack of maintenance.
- Large boats provide an opportunity to provide education about the impacts MSDs have on water quality.
- Information could also be provided on land-based activities that affect water quality, such as application of fertilizer.
- Awareness of human impacts on water quality increases among non-boating community and boaters, according to Hamilton Cheney. Local HOAs educated and promoted benefits of NDZ. Pump out activities also promote education.
- Important to note that Annapolis has confined waterways, where flows do not allow much water exchange/mixing with fresh water.
- Education is needed about what types of MSDs will be "outlawed" or whether they can still exist and just be required to pump out.
- Concerns expressed about costs to boat owners with older boats.
- What is the funding required to implement a NDZ? Chatham and Newport Harbor Masters felt it was minimal; spent/spend a small amount of money on education. Annapolis Harbor Master

feels demand for pump out will increase and will need another pump out boat and/or more staff, but she usually receives whatever funds she requests for her program.

- MD Department of Natural Resources this year is compiling information on the number of vessels with types of MSDs.

The Back Creek Conservancy created the maps provided where pump out facilities exist, except for Curtis Creek near Baltimore.

Participants

Annapolis Environmental Commission

Diane Butler DianeButler827@aol.com
Rick Kissel
Maritime Advisory Board
Tarrant Lomax
Duncan Hood dhood@DuncanHood.com
Peter Trogdon
Mike Tomasini eandmtomasini@comcast.net

Maritime Industry Advisory Board

Hamilton Chaney Hamilton@herringtonharbour.com
Lex Birney
Mary Ewenson mary@spinsheet.com

Severn River Commission

Charlie Kreter
Dick Spencer
Kurt Riegel
Lex Birney
City of Annapolis
Rob Savidge rsavidge@annapolis.gov
Beth Bellis harbormaster@annapolis.gov
Hollis Minor hgminor@annapolis.gov
Hope Stewart hrstewart@annapolis.gov
Maria Broadbent mbroadbent@annapolis.gov

Anne Arundel County

Julie Mussog jmussog@aaedc.org
Keasha Haythe khaythe@aaedc.org

Marine Trades Assn or Maryland

Susan Zellers susan@mtam.org
John Norton jnorton@annapolisharbor.com

Chesapeake Legal Alliance

Jackie Guild jguild@chesapeakelegal.org
Molly Brown mbrown@chesapeakelegal.org

Other organizations

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Kevin Haigis kevin@capitalsup.com
Molly Winans molly@spinsheet.com
Chris Hendershot mail@familyfishingadventures.com
Jon Sneller jons2011@aol.com

Kelli Kreter

Emil Gallina

Harbormasters

Tim Mills Newport

Stuart Smith Chatham

Back Creek Conservancy

David Barker david@gyatso.net

Grace Stewart clean@backcreekconservancy.org



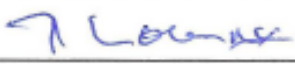

Lara Mulvaney maps@backcreekconservancy.org

No Discharge Zones: New England Harbormasters meeting 7 Feb 2018

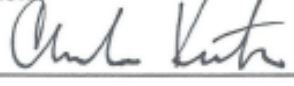
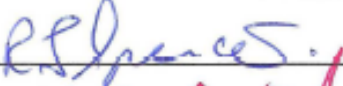
Sign-In

Name	Organization	email
Kelli Kreter		kkreter@gmail.com
Kasha Haythe ✓	AAEDC	khaythe@aaedc.org
John Norton ✓	Annapolis Harbor	Jaerten@annapolisharbor.com
Hope Stewart	Annapolis	hstewart@annapolis.gov
Julie Musso ✓	AAEDC	jmusso@aaedc.org
Timothy Mies ✓	City of Newport	tmies@cityofnewport.com
Susan Zellers ✓	MTAM	Susan@mtam.org
Emil Gallina	SELF	EMGALLINA@AOL.COM
Beth Bellis ✓	Harbormaster	harbormaster@annapolis.gov
John Butler ✓	EKC Environmental Comm	jbutler@ekc.com
Molly Brown ✓	CLA	mbrown@chesapeakebay.org
Mary Emerson ✓	Spn Sheet	Mary@spnsheet.com
Duncan Hood ✓	MAB	dhood@DuncanHood.com
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Jon SNELLER ✓	MD BAA C	JONS2011@AOL.COM
Diane Butler ✓	Annap. Env'tl. Commission	DianeButler527@aol.com

Maritime Industry Advisory Board

Hamilton Chaney 
Lex Birney 
Ginny Mininger _____
Jeremy Parks _____
Fred Kelly _____
Tarrant Lomax 
Tim Wilbricht _____
David Williams _____
David Malkin _____
Dirk Schwenk _____
Rod Jabin _____
Mary Ewenson 

Severn River Commission

Charlie Kreter 
Bob Whitcomb _____
Dick Spencer 
Kurt Riegel 
Jim Burdick _____
Sara Phillips _____
Bill Kardash _____
Dan Roche _____
Lex Birney 

Annapolis Environmental Commission

Diane Butler Diane Butler

Rick Kissel RICK

Kate Bohanan _____

Bevin Buchheister _____

Paul Murphy _____

Bill O'Leary _____

Lon Powell _____

John Turgeon _____

Theodore C. Weber _____

Maritime Advisory Board

Tarrant H. Lomax T Lomax

Scott H. Allan _____

Andrew Fegley _____

Richard O. Franke _____

Debbie H. Gosselin _____

Duncan Hood D Hood

William H. Woodward, Jr. _____

Peter Trogdon P. Trogdon

Mike Tomasini Mike Tomasini

Wednesday August 14, 2019

**Annapolis Recreation Center
AA County NDZ Public Information Meeting**

7 ATTENDEES: JK Wildy (County Maritime Advisory Board), Carolyn Hill (county resident), Dick Spencer (Severn River Commission), Kurt Riegel (Severn River Association), Kate Fritz (Alliance for the Chesapeake Bay), Gavin Buckley, Mayor of Annapolis.

STAFF: Donna Morrow, Maryland Department of Natural Resources, Jacqueline Guild, City of Annapolis, David Barker (Severn River Association), and Matthew Johnston, Anne Arundel County.

MORROW: Overview of NDZ process and explanation of current legal setting of EPA/NDZ/AWO

BARKER (Severn River Association and Application Author):

- History of city and county resolutions in support of the NDZ. Annapolis Maritime Commission initially hated the idea for City waters only. That is why the leaders moved to expand the concept to the whole county. Compared this process to the Chester River application.
- Reviewed types of MSDs and explained the impact of an NDZ to reduction of nutrients to AA county waters.
- If approved, this NDZ would establish a code of conduct and is a marketing opportunity to promote the area to visitors.

DISCUSSION/COMMENTS:

- The impacts of the NDZ were minimized in the application. The impacts of an NDZ would be more impactful than we suspect
- Barker sees this application expanded to other counties and states. Very important.
- Barker recommends other towns have a harbormaster to enforce an NDZ.
- Spencer: Important to think in terms of present day technologies. In the '70s/80s no one had the technology. Ches Bay lagging behind in NDZ philosophy. Looking at rivers important in addition to looking at the whole Bay. The coves are important.
- Johnston: County Executive says we must make this application.
- Riegel: creeks and rivers are key to Bay health. Effects more notable here. No new boats are built with Type I or II. Must reinforce the importance of being a clean boater—that's the real value of the NDZ.
- Mayor Buckley: Thanks for all the hard work on this. Bureaucracy so frustrating.
- Comment: Grassroots our way around the bureaucracy....promote/marketing the pumpouts and promoting the supporters. Can't wait any longer.
- Riegel: No pumpout at City Dock.

- Barker: City Dock Action Committee and SRA urge the city to install a commercial pumpout to serve commercial vessels, primarily “Harbor Queen.”
- Mayor: Contract for a pumpout at city dock will be awarded during my term.
- Spencer: Brainstorming some outreach and inspections ideas.
- Kate Fritz, ED Alliance for the Chesapeake Bay and Chair of County’s Environmental Commission: Offered letters of support.
- Group discussed getting letters of support from marinas, boaters, and yacht clubs.

Notes taken by Donna Morrow, Maryland DNR

August 19, 2019 19 Public Meeting AA County NDZ at 7:00 p.m.

Anne Arundel County Police Department

35 Stepneys Lane, Edgewater Maryland 21037

8 ATTENDEES: Matt Pipkin (County Council), Jessica Haire (County Council), and six citizens.

STAFF: Donna **Morrow**, Maryland Department of Natural Resources, Jacqueline **Guild**, City of Annapolis, David **Barker**, Severn River Association, and Matthew **Johnston**, Anne Arundel County.

MORROW: Overview of NDZ process and estimated timeline for moving forward. Touched on enforcement—federal and state authorities.

BARKER (Severn River Association and Application Author):

- History of city and county resolutions in support of the NDZ. Compared this process to the Chester River application.
- Reviewed the environmental impact of an NDZ to reduction of nutrients to AA county waters.
- If approved, this NDZ would establish a code of conduct and is a marketing opportunity to promote the area to visitors.

Boater: Some difficulty obtaining pumpouts; not as accessible in every area.

City Rep. Guild: City has pumpout boat that serves four creeks and there are other fixed stations.

Boater: Saying the excess nitrogen in County waters is due to boats is inaccurate.

Councilwoman asks about costs to pumpout and treatment options. Explained that most pumpouts cost \$5 (up to 50 gallons) and no other options.

Barker: purpose is to link boating with clean water and how boaters are expected to behave. These are all very small waterbodies and are sensitive.

Boater: The proponents don’t see how this effects our boat. The NDZ is a misplaced priority. Requires a pre 1980 boat to switch to a holding tank where no space was designed for one. Typical usage of a type I MSD on board won’t matter. Weeklong trip ~ 4 gallons or 8 gallons per year--About 7. 6 grams TSS. Costs about \$132 per gram cost to a Type III holding tank. Meanwhile, a single public combined sewer overflow dumps tens of thousands of gallons of untreated sewage and these are regular occurrences. WWTP also contribute huge amounts of

nitrogen and phosphorous. Why are we focused on Type I and II MSDs? What's the measure of success?

Barker: We're doing it to increase boater satisfaction, to protect the shellfish industry, for cleaner water.

Morrow: To clarify, an NDZ does not mean you have to remove your Type I or II MSD. You can keep it and use it outside the NDZ boundary but you do have to disable it when you are transiting through the NDZ.

Boaters: The options for 'disabling' my MSD don't work on my boat. I don't have a Y valve, I have a sea cock. NDZ is all optics; you can't measure it. It's worse than we think—a lot of holding tank users that dump because pumpouts are too hard to access. Mill Creek near Annapolis (Whitehall Bay) has only one pumpout and it often goes down. There are dozens of boats kept at homes in this area that need pumpouts and I'm sure they dump. Allowing the treatment options would be better.

Morrow: The department is aware of this problem with pumpouts in Whitehall Bay/Mill Creek. We have not identified any marinas in that area that would be able to install another pumpout to help. And, unfortunately the Annapolis pumpout boat does not serve that area.

Boater: Most visiting boaters come here from places without pumpouts. Visitors need to have a treatment system and they avoid NDZs.

Barker: Surveyed boaters at the boat shows; most supported it.

Boaters: Vessels are exempt from fourth amendment and are searched in NDZs.

Johnston: We are addressing N and P—we gave spent a quarter billion dollars to upgrade our water treatment systems. We have allocated \$67M towards stormwater upgrades this year; septic systems next. Agree that those are the biggest contributors

Citizen: Would get more support with a grandfather clause. Let the older systems stay like with cars and emissions requirements.

Morrow: Explained that EPA has said they will not support 'grandfathering' MSDs in an NDZ; this question came up during Maryland's application for the Chester River as an NDZ.

Citizen: What about the cost in air emissions for boats to drive around and wait to pumpout or travel to one. Pumpout boats are unreliable too; they break like anything. Could the county subsidize a septic hauler to serve areas without pumpouts?

Marina Operator: pumpout boats are more convenient and efficient than septic trucks. Also, the new boats his company sells cannot have a Y valve; not all manufactures do it that way. Education of boaters is important to understand how MSDs work.

Boater: To be legal the options are all too hard—tank goes to a macerator and then to discharge.

Boater: How many boats have heads? How many are in the boat service areas? County residents aren't receiving the benefits that transients/visiting boaters are.

Another boater: The West/Rhode River pumpout boat serves year round boaters.

Johnston: The County Exec supports expanding service to boaters.

Boater: how about a \$2K conversion voucher for boat owners? I will squeeze in a 7 gallon custom tank but “I’m a rich boater” and nobody cares.

Johnston: a modern septic system costs \$60,000 and we are requiring new homes to have these for the same purpose.

Boater: Give money to boatyards to convert to holding tanks and create jobs.

Johnston and Barker: We have been working on this since 2014; both city and council passed resolutions in favor.

Q: What is the time line of this process?

Guild: First public meeting in Feb 2018—lots of participation. In Annapolis last week—very little turn out. Morrow: likely would not take effect for at least a year.

Boater: no matter what the opposition will not prevail. The politicians will not back down.

ADJOURNED at 8:00 p.m. *Notes by Donna Morrow*

August 22 2019 Public Information Meeting about AA County NDZ Proposal Earleigh Heights Volunteer Fire Department, Severna Park 7:00 – 8:00 p.m.

6 ATTENDEES: Amanda Fiedler (Councilwoman, 5th District), Nathan Volke (Councilman, 3rd District), Legislative Assistant to Councilwoman Rodvien (6th District), and two citizens.

STAFF: Donna **Morrow**, Maryland Department of Natural Resources, Jacqueline **Guild**, City of Annapolis, David **Barker**, Severn River Association, and Reece **Peak** III, Anne Arundel County.

Morrow: Overview of NDZ process and estimated timeline for moving forward.

BARKER (Severn River Association and Application Author):

- History of city and county resolutions in support of the NDZ. Compared this process to the Chester River application.
- Reviewed the environmental impact of an NDZ to reduction of nutrients to AA county waters.
- If approved, this NDZ would establish a code of conduct and is a marketing opportunity to promote the area to visitors.
- Background on process—Annapolis Environmental Commission started the idea in 2014, and we took it to the Annapolis Maritime Advisory Board for input. They hated the idea—feared it would cost the maritime business. This propelled the Annapolis Environmental Commission to look more broadly and the proposed area expanded to all of Anne Arundel County.

Citizens comments: We understand why boaters who have invested in Type I or II MSDs would be bothered by this but they need to think of the greater good. Citizens asked about the cost to pumpout—answer typically \$5.

Councilwoman asks:

- What is the cost to retrofit? Morrow: a few hundred for parts and tank but the cost is the what they spent on the MSD they are removing (often thousands of dollars).
- How long from flush to discharge and how do they work? Answer: about 5 – 10 minutes; tank with electrosis and macerator

Q: How will visiting boaters know these areas are NDZ? A: NOAA charts will indicate and the Severn River Association has been working with “Active Captain” a popular online boating resource; City committed to \$5k to education materials; County budgeted about \$10K for education materials.

Q: Does the city have a pumpout boat?

Guild: Yes and we are looking to install a pumpout at city dock for commercial boats that can't retrofit.

Discussed accessibility of pumpouts inside Rock Creek Bridge.

Discussed expanding the NDZ model to Solomons, St. Michaels, etc.

Comment: good to establish an entire area as an NDZ so people don't just go down the river to avoid it.

Councilwoman asks about timeline for comment opportunities?

Morrow: this is the last public meeting at the local level; if submitted, EPA posts a Receipt of Petition in the Federal Register with 30 days (?) public comment period. The Severn River Commission, Anne Arundel County, City of Annapolis, and the Department of Natural Resources would all actively share this information through our communications offices.

No further questions or comments. Adjourned 7:40 p.m.

Notes by Donna Morrow



Appendix 6

Brian W. Vahey
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703.841.9300

August 22, 2019
Maryland Department of Natural Resources
580 Taylor Ave.
Annapolis, MD 21401

Re: Proposed No Discharge Zone for Anne Arundel County Waters

Dear Sir or Madam:

The American Waterways Operators is the national trade association for the U.S. tugboat, towboat and barge industry. Our industry is the largest segment of the nation's 40,000 vessel Jones Act fleet and moves more than 760 million tons of cargo each year safely and efficiently. This includes more than 80 percent of New England's home heating oil, 60 percent of U.S. export grain and significant bulk and containerized cargoes transported along the Atlantic Coast. On behalf of the American Waterways Operators, we sincerely thank the Maryland Department of Natural Resources, the City of Annapolis, and the Severn River Association for the opportunity to comment on the proposed No Discharge Zone (NDZ) application for Anne Arundel County waters.

AWO's member companies are proud to be part of an industry that is the safest and most fuel-efficient of any surface transportation mode. We are deeply committed to building on the natural advantages of marine transportation and leading the development of higher standards of marine safety and environmental protection. In 1994, AWO became the first transportation trade association to adopt a code of safe practice and environmental stewardship for member companies; today, compliance with our Responsible Carrier Program (a comprehensive safety management system that includes robust environmental controls) is a condition of AWO membership. This commitment informs our view of NDZ proposals across the United States.

AWO seeks to protect the marine environment in which our members operate while ensuring a practicable regulatory framework that allows for the continued safe and efficient movement of crucial maritime commerce, and eschewing costly, infeasible or ineffective regulations that could result in the diversion of cargo to other modes of transportation that pose increased safety and environmental risks.

Fortunately, the proposed NDZ for Anne Arundel County waters will not impact current or anticipated AWO member operations. We appreciate the efforts that Maryland DNR, the City of Annapolis, and the Severn River Association have made to communicate their planned proposal to maritime stakeholders and to answer our questions regarding the scope of the proposal. That said, we would be remiss in not using the opportunity of this comment period to reemphasize our overarching concern with the NDZ designation process: namely, that the statutory and regulatory provisions intended to ensure that proposed NDZs are feasible for the vessels operating in them have proved to be insufficient – particularly with regard to the question of available pump-out facilities.

Anne Arundel NDZ Application

Before a towing vessel operator can access a pump-out facility, he or she must assess a host of characteristics specific to that facility, including water depth and any limitations on vessel draft, length or maneuverability in the navigation route to reach the facility; dock size and characteristics including length of berths, height above the waterline, available fendering and any limitations on dock access, including width or height restrictions; and, working daily capacity (volume) of the facility and the minimum vessel pump-out flow rate of the facility. A pump-out facility that can accommodate passenger vessels, for instance, cannot typically accommodate towing vessels. Yet petitioners across the country often fail to make this distinction in their applications, and EPA's regional offices have, in turn, repeatedly approved state petitions for waters where pump-out facilities are inadequate to serve the commercial vessels operating therein. To illustrate this point, none of the pump-out facilities identified in this petition would be capable of accommodating AWO member vessels, or many larger commercial vessels.

In the specific instance of the Anne Arundel County NDZ application, the lack of commercial vessel pump-out accommodations is understandable given the fact that commercial vessels generally do not operate in these waters. That said, it is important to note the distinction between recreational and commercial vessel accommodations because most state applications assume that the mere presence of pump-out facilities demonstrates available accommodations for every class of vessel, and this is simply not the case. Looking beyond Anne Arundel County waters, there are no pump-out facilities in the Chesapeake Bay region that are capable of accommodating the full range of commercial vessel traffic.

It is unfortunate that the EPA does not require petitioners to make accessibility determinations in their initial NDZ requests. On multiple occasions, AWO has urged the agency to better utilize federal agencies with maritime expertise and experience in evaluating that information. The U.S. Coast Guard is the principal federal agency charged with regulating vessel navigation and safety, and it shares with EPA responsibility for enforcing NDZs. Regrettably, the Coast Guard is on record as having concerns with EPA's refusal to reasonably consider its comments on recent NDZ determinations and has warned that the lack of communication and dialogue among petitioning states, EPA and the Coast Guard throughout the NDZ designation process is a worrying trend that will increasingly pose challenges to the successful implementation and enforcement of NDZs.

AWO appreciates that the Anne Arundel NDZ will not impact our members' operations; and, regarding the above noted concerns, we understand that state and local stakeholders do not control the EPA's process for reviewing and approving NDZ applications. However, by informing local petitioners of the concerns AWO members have with the overall process, it is our hope that we might encourage them to carefully consider the needs of commercial traffic while drafting their initial applications. Thank you again for the opportunity to comment.

Sincerely,



Brian W. Vahey
Senior Manager – Atlantic Region