

Table 4. City of Suffolk, Virginia Shoreline Attributes - Miles Surveyed and Inventory Dates - River System Summary

RIVER SYSTEM	Field Surveyed (miles)	Remote Surveyed (miles)	Total Miles Surveyed (field + remote)	FIELD SURVEY DATES
Bennett Creek	18.41	16.80	35.21	July 10, 2013 and VBMP 2011 imagery
Blackwater River	0.00	10.49	10.49	VBMP 2009 imagery
Brewers Creek	0.81	4.73	5.54	July 9, 2013 and VBMP 2011 imagery
Chuckatuck Creek	15.59	14.86	30.45	July 9, 2013 and VBMP 2011 imagery
Hoffler Creek	2.95	1.24	4.19	July 10, 2013 and VBMP 2011 imagery
James River	3.40	0.00	3.40	July 9-10, 2013 and VBMP 2011 imagery
Knotts Creek	5.92	8.44	14.36	July 10, 2013 and VBMP 2011 imagery
Nansemond River	72.17	76.35	148.52	July 8-10, 2013 and VBMP 2009 & 2011 imagery
Streeter Creek	4.36	3.10	7.46	July 10, 2013 and VBMP 2011 imagery
Total	123.60	136.02	259.62	

Table 5. City of Suffolk, Virginia Shoreline Attributes - Riparian Land Use (miles) - River System Summary

RIVER SYSTEM	TOTAL* MILES SURVEYED	AGRICULTURE				BARE				COMMERCIAL				FOREST			GRASS				INDUSTRIAL				MILITARY				PAVED				
		no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no canopy over- hang	canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	
Bennett Creek	35.21	0.03	6.08	0.00	6.11	0.00	0.00	0.00	0.00	0.22	0.67	0.00	0.89	15.72	0.00	15.72	1.02	2.44	0.07	3.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	0.09	0.00	0.55
Blackwater River	10.49	0.00	0.11	0.00	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.28	0.00	10.28	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02	
Brewers Creek	5.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.87	0.13	5.00	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.02		
Chuckatuck Creek	30.45	0.13	1.84	0.04	2.01	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.24	18.95	0.00	18.95	1.01	2.44	0.04	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.17	0.00	0.35		
Hoffler Creek	4.19	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.56	0.00	0.56	0.03	0.06	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
James River	3.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.16	0.50	0.00	0.50	0.80	0.03	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.49		
Knotts Creek	14.36	0.03	0.32	0.00	0.35	0.00	0.00	0.00	0.00	0.07	0.18	0.00	0.25	5.11	0.00	5.11	1.09	1.57	0.00	2.66	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nansemond River	148.52	1.51	14.35	0.09	15.95	0.16	0.00	0.00	0.16	1.54	0.76	0.00	2.30	72.66	1.52	74.18	11.52	13.96	0.11	25.59	0.12	0.00	0.00	0.12	0.00	0.00	0.00	1.78	0.49	0.57	2.84		
Streeter Creek	7.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.16	0.00	5.16	0.65	0.59	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.26		
Total	259.62	1.70	22.70	0.13	24.53	0.17	0.00	0.00	0.17	2.23	1.61	0.00	3.84	133.81	1.65	135.45	16.14	21.16	0.22	37.51	0.12	0.00	0.00	0.12	0.00	0.00	0.00	2.95	1.01	0.57	4.54		

RIVER SYSTEM	TOTAL* MILES SURVEYED	RESIDENTIAL				SCRUB-SHRUB				TIMBERED			
		no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total	no tree buffer	tree fringe only	fringe with canopy over- hang	total
Bennett Creek	35.21	2.90	5.50	0.00	8.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blackwater River	10.49	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brewers Creek	5.54	0.09	0.41	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chuckatuck Creek	30.45	2.88	2.51	0.03	5.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hoffler Creek	4.19	0.88	2.55	0.00	3.43	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.00
James River	3.40	1.42	0.00	0.00	1.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Knotts Creek	14.36	0.63	5.35	0.00	5.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nansemond River	148.52	10.98	15.85	0.14	26.97	0.41	0.00	0.00	0.41	0.00	0.00	0.00	0.00
Streeter Creek	7.46	0.06	0.74	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	259.62	19.84	32.93	0.17	52.95	0.52	0.00	0.00	0.52	0.00	0.00	0.00	0.00

\*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh )

Table 6. City of Suffolk, Virginia Shoreline Attributes - Riparian Bank Condition - River System Summary

RIVER SYSTEM	TOTAL* MILES SURVEYED	BANK COVER (miles)			BANK HEIGHT AND EROSION STATUS (miles of shore)															
		bare	partial	full	0-5 FEET				5-10 FEET				10-30 FEET				>30 FEET			
					erosional	erosional/ undercut	stable	transitional	erosional	erosional/ undercut	stable	transitional	erosional	erosional/ undercut	stable	transitional	erosional	erosional/ undercut	stable	transitional
Bennett Creek	35.21	0.03	0.09	35.09	0.00	0.00	35.19	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blackwater River	10.49	0.00	0.00	10.49	0.00	0.00	10.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brewers Creek	5.54	0.00	0.00	5.54	0.00	0.00	5.29	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00
Chuckatuck Creek	30.45	0.00	0.32	30.13	0.00	0.00	26.31	0.13	0.00	0.00	3.61	0.01	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00
Hoffler Creek	4.19	0.00	0.01	4.18	0.00	0.00	4.18	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
James River	3.40	0.44	0.10	2.86	0.21	0.00	3.02	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Knotts Creek	14.36	0.00	0.00	14.36	0.00	0.00	14.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nansemond River	148.52	0.50	0.77	147.25	0.31	0.11	117.80	0.17	0.07	0.00	22.46	0.14	0.00	0.00	7.32	0.14	0.00	0.00	0.00	0.00
Streeter Creek	7.46	0.00	0.00	7.46	0.00	0.00	7.42	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	259.62	0.97	1.29	257.36	0.52	0.11	224.06	0.31	0.07	0.00	26.40	0.15	0.00	0.00	7.86	0.14	0.00	0.00	0.00	0.00

\*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh )

Table 7. City of Suffolk, Virginia Shoreline Attributes - Natural Buffers, *Phragmites australis* and Marsh Survey Dates - River System Summary

RIVER SYSTEM	BEACH (miles)	# Wetland Polygons field checked		Marsh Type (acres)					MARSH												PHRAGMITES <sup>3</sup> (percent of field checked marshes)	MARSH SURVEY DATES	
				embayed	extensive	fringe	marsh island	total	Community Type <sup>1</sup> (acres)														
I	II	III	IV						V	VI	VII	VIII <sup>2</sup>	IX	X	XI	XII	DNS <sup>**</sup>						
Bennett Creek	0.00	103	73	206.68	152.74	166.20	11.64	537.25	382.70	0.00	0.45	0.07	0.03	0.00	0.00	2.77	0.00	0.00	0.00	21.75	129.49	44	July 10, 2013
Blackwater River	0.00	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	DNS
Brewers Creek	0.00	20	8	20.76	79.79	7.86	0.00	108.41	4.40	0.00	60.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.15	34.54	50	July 9, 2013
Chuckatuck Creek	0.03	152	113	181.28	239.90	58.48	4.94	484.61	219.55	0.00	17.74	0.00	7.20	0.00	0.00	5.87	0.00	0.00	0.00	112.66	121.59	56	July 9, 2013
Hoffler Creek	0.07	22	11	3.00	16.95	14.66	0.11	34.73	26.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	7.39	55	July 10, 2013
James River	0.47	10	10	1.14	0.00	2.64	0.00	3.78	0.58	0.00	0.00	0.00	0.00	0.00	0.00	2.39	0.00	0.00	0.00	0.80	0.00	60	July 9-10, 2013
Knotts Creek	0.00	21	11	40.92	0.00	159.52	2.31	202.75	105.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	97.24	73	July 10, 2013
Nansemond River	2.02	396	270	267.55	2946.49	448.46	15.71	3678.22	899.11	0.00	1.11	0.24	695.79	0.00	0.00	118.15	0.00	0.00	0.00	1546.95	416.87	60	July 8-10, 2013
Streeter Creek	0.00	42	12	7.34	0.00	52.00	2.30	61.63	47.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.76	42	July 10, 2013
Total	2.59	766	508	728.68	3435.88	909.82	37.00	5111.38	1686.62	0.00	79.64	0.31	703.02	0.00	0.00	129.18	0.00	0.00	0.00	1691.75	820.88		

\*\*DNS = Did Not Survey

- <sup>1</sup>Community Type:

I = Saltmarsh Cordgrass / low marsh

II = Saltmeadow / high marsh

III = Black Needlerush

IV = Saltbush

V = Big Cordgrass

VI = Cattail

VII = Arrow Arum – Pickerel Weed

VIII = Reed Grass (*Phragmites australis* )

IX = Yellow Pond Lily

X = Saltwort

XI = Freshwater mix

XII = Brackish mix

<sup>2</sup>Type VIII - Field checked marshes where *Phragmites australis* was estimated to cover >50% marsh area.

<sup>3</sup>Phragmites - percent of field checked marshes where *Phragmites australis* is present in any amount.

Table 8. City of Suffolk, Virginia Shoreline Attributes - Shoreline Features - River System Summary

RIVER SYSTEM	TOTAL* MILES SURVEYED	No.										Miles of debris	Miles of unconventional	Miles of bulkhead	Miles of dilapidated bulkhead	Miles of marsh toe revetment	Miles of riprap	Miles of wharf
		No. docks	dilapidated docks	No. boathouses	No. ramps		No. groinfields	No. marinas		No. jetties	No. breakwater <sup>1</sup>							
Bennett Creek	35.21	54	2	16	4	4	0	2	0	0	0	0.00	0.02	0.42	0.00	0.03	0.25	0.00
Blackwater River	10.49	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Brewers Creek	5.54	5	0	3	2	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chuckatuck Creek	30.45	51	5	17	2	1	0	2	0	0	0	0.00	0.02	0.20	0.02	0.00	0.44	0.00
Hoffler Creek	4.19	22	0	1	1	0	0	0	0	0	0	0.00	0.00	0.02	0.00	0.00	0.13	0.00
James River	3.40	7	7	9	2	0	0	0	0	0	2	0.00	0.02	0.06	0.00	0.00	2.66	0.00
Knotts Creek	14.36	18	0	8	1	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nansemond River	148.52	196	11	69	19	2	1	3	0	0	2	0.00	0.05	2.05	0.08	0.07	3.65	0.00
Streeter Creek	7.46	7	1	1	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.02	0.00
Total	259.62	360	26	124	31	7	1	7	0	0	4	0.00	0.11	2.75	0.10	0.10	7.15	0.00

\*Total = field + remote surveys (does not include marsh island shoreline or selected sections of extensive marsh )

<sup>1</sup> number of breakwater groups (one or more breakwaters within a group)