GEO-SPATIAL ASSESSMENT OF ACTIVITIES OCCURRING ON PRIVATELY LEASED STATE-OWNED BOTTOM IN VIRGINIA A DEMONSTRATION PROJECT

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Executive Summary

The objectives of this project were to test the feasibility and value of linking the relational database generated under the Virginia Marine Resources Commission's (VMRC) Mandatory Self-Reporting Program with a geospatial database maintaining the physical surveyed boundaries of the subaqueous private leases in Virginia. The activities proposed included a run of several simple queries to test if this data union was possible and demonstrate the value of bringing these two information resources together to address some of the most basic management questions on the issue of aquaculture and use of state-owned subaqueous bottom. Through this union we proposed to identify active use areas, inactive areas, harvest statistics reported for active areas, and species distribution for the catch. The last two complete years of data entry from 2009 and 2010 was used in this study.

After some manipulations the union of these two datasets concluded for the first time that in 2009 only about 12% of the private leases reported harvests. This number was slightly higher in 2010; approximately 17%. The analysis also revealed where these leases were located and could be linked to the lease holder. For the purpose of this demonstration report, information reporting is confined to watersheds or bay segments and not to individual leases in respect of privacy laws. The merger also was able to illustrate and calculate the distribution of the harvests geographically and quickly determine which areas of the bay were most productive and what types of fishing mechanisms are being used to harvest the grounds.

While it is understood that there are a number of factors that contribute to the low reporting numbers, this first attempt to examine the success of the Self-Reporting regulation will help determine how to improve on the system in the future and what information may provide the most useful data for future policy development.

Funding Acknowledgement

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Introduction

The expansion of aquaculture in Virginia has recently given rise to a number of discussions regarding use of the shallow water subaqueous bottom. The current policy protecting natural shellfish beds (known as Baylor Grounds) was recently reviewed to support an interest in expanding aquaculture on the seaside of Virginia's Eastern Shore. Recommendations were presented to the General Assembly that called for modifications of the current policy. These discussions, along with activities associated with NOAA's Virginia Coastal Zone Management Program's (VCZMP) Special Area Management Plan (SAMP) in this region invited questions regarding the amount of subaqueous bottom utilized for the purpose of aquaculture and how much bottom is necessary for the expanding industry. The notion that bottom resources are limited for this use has potential economic consequences for this industry in the future. The key to some of these questions can be approached by examining information associated with the current state-owned bottom retained as private leases for the purpose of shell fishing. How much of this bottom is being utilized by the industry and where is the activity occurring?

The Virginia Marine Resources Commission (VMRC) regulates subaqueous bottom and issues private leases. In the last several years they have instituted a "self-reporting" process whereby lease holders are required to submit harvest catch and information on a monthly basis for each lease. Since the database is relational only VMRC cannot, at this time, report general geo-spatial statistics associated with regular use of privately leased state-owned bottom. Questions such as "How much area of the bottom held within private leases is actually being fished" cannot be easily answered. Nor can they report quickly on the spatial distribution of the harvest with respect to location or size of the leases.

The objectives of this project were to link the relational database generated under VMRC's Mandatory Self-Reporting Program with the GIS data for the lease boundaries and run a series of simple queries to test if this data union was possible and demonstrate the value of bringing these two information resources together to address some of the most basic management questions on the issue. Through this union we proposed to identify active use areas, inactive areas, harvest statistics reported for active areas, and species distribution for the catch. The last two complete years of data entry was used in this study.

Acknowledgement

In addition to the funding support from NOAA's Coastal Zone Management Program in Virginia, the following staff from the Virginia Marine Resources Commission warrant recognition for their assistance on this project: Erik Barth for facilitating the data transfer and shedding light on the endless questions about the database content; Stephanie Iverson for her assistance in

pinpointing and correcting database problems, and Royce Bridger for his help in the lease boundaries. Special thanks to Dr. Jim Wesson for his collaboration on the analysis piece.

Processing Steps

Private lease self-monitoring data for 2009 and 2010 was delivered in an excel file format. The data fields included: lease number, plat number, billing number, gear abbreviation, gear name, species abbreviation, species name, and pounds harvested. An ArcGIS geodatabase file containing 2008 era private lease and application polygons as of August 16, 2011 was also delivered.

The private lease polygons were cleaned to remove any polygon with "<NULL>" values for all attributes, or those with the same boundary as Baylor polygon. A number of polygons were removed due to duplication, boundary misalignment, and problems with text strings. Other polygons with boundary problems or label problems were changed under consult with VMRC staff.

Frequencies or summary statistics on harvest data were conducted in excel using lease number and included: frequency on lease number and species, summed on pounds harvested; frequency on lease number and gear, summed on pounds harvest; frequency on lease number, summed on pounds harvested; etc. Pivot tables were created for some results to flatten the many to one relationship (i.e. species to lease number, etc) and to get to the desired end point of one lease number per record. Ultimately this record was joined with the cleaned copy of the private lease polygon.

Multiple processing steps were developed and applied to link the polygon boundaries to both the Chesapeake Bay segments and 12-digit hydrologic unit boundaries. These relationships would provide a mechanism to review the data within the context of regional distributions which might be valuable for future planning for both industry expansion as well as spatial conflicts.

When completed the processing steps generated a GIS based database that would allow analyses on the data tables based on the lease number, Chesapeake Bay segment, or hydrologic unit code for map display.

Results

The union of the two data sources resulted in the following outcome for each year analyzed. Harvest data for 2009 contained 418 unique lease numbers. Of these 338 leases matched with the lease polygon shape file. There were 79 harvest leases that did not have a match in the "master" lease file and 1 harvest lease has a match in the master file but not with the polygons shape file. Harvest data for 2010 contained 593 unique lease numbers. Of these 521 leases

matched with the lease polygon shape file. There were 71 harvest leases that did not have a match in the "master" lease file and 1 harvest lease had a match in the master file but not with the polygons shape file.

Based only on the excel database received From VMRC calculated total harvests reported for 2009 and 2010 were:

Total Harvest reported for 2009: 2,139,182.24 pounds
Total Harvest reported for 2010: 2,874,750.179 pounds

For 2009, 86% of this harvest data could be joined (matched) with private leased polygon boundaries. In 2010, 85% of the reported harvests could be joined (matched) with private lease polygons. It would be these polygons only, representing 86% and 85% of reported harvests for 2009 and 2010, respectively that would be used in the distribution mapping to follow. These areas represent in pounds harvested:

Total Harvest for 2009: 1,842,289.141 pounds (86% of total harvest)
Total harvest for 2010: 2,457,615.555 pounds (85% of total harvest)

Data pertaining to the actual amount of subaqueous bottom leased and represented in the above harvest values are derived from the polygon private lease shape file developed. A total of 5,358 leases are mapped. However there are only 5,108 leases with lease numbers unique to only one polygon. There were 164 polygons that do not have a lease numbers, and 42 lease numbers were assigned to two polygons and 4 lease numbers were assigned to three polygons.

The total area of private leases was calculated based only on leases that had an assigned lease number (**n=5204 polygons**). Lease numbers assigned to more than one polygon were included. Slight differences in acreage existed between that reported in the excel database versus the acreage calculated from the GIS shape file.

Reported by VMRC in the database: 98,646.44 acres
Calculated from the GIS shape file: 98,869.87 acres

As a result slightly different calculations are derived for the amount of leased areas reporting harvests.

For 2009: acreage reporting harvest:

a. **Reported by VMRC in the database: 11,582.51 acres = 11.7% of private leases**
b. **Calculated from GIS shape file: 11,673.39 acres = 11.8% of private leases**

For 2010: acreage reporting harvest:

a. **Reported by VMRC in the database: 16,433.15 acres = 16.7% of private leases**
b. **Calculated from GIS shape file: 16,488.14 acres = 16.7% of private leases**

Of those harvests reported in 2009, 4,338.78 pounds were harvested from riparian leases (total = 3 leases) and 1,827,950.36 pounds (total=335 leases) were harvested from regular leases. In 2010, 3,538.8 pounds (total = 3 leases) were harvested from riparian leases, 2,452,438.76 pounds from regular leases (total = 515 leases), and 1,638 pounds (total = 3 leases) were harvested from Bay leases. This suggested a slight increase in the number of leases reporting harvests; particularly among regular leases granted. Figure 1 illustrates the harvest distributions for 2009 and 2010 based on acreage leased and reporting.

The majority of harvests are between 0-200 pounds/acre. Figure 2 looks at this distribution more closely and indicates that harvests reported between 0-25 pounds/acre occur the most often and account for about 30% of the reported leases for both 2009 and 2010. Figures 3a and 3b were generated to illustrate where harvests were reported by watershed and the amount harvested in pounds per acre for both 2009 and 2010, respectively. The distribution maps consider only harvests that could be linked to mappable private lease polygons. This represents 86% and 85% of the actual total harvest reported for 2009 and 2010, respectively. Some interesting findings associated with reporting alone:

a. Assateague Channel (defined by 12-digit HUC) had the most leases reporting in 2009 (33 leases) and 2010 (59 leases). Most of the harvest reported fell within the >0 – 25 pounds per acre range (2009: 40%; 2010: 31%).
b. Three 12-digit hydrologic units (HUCS) contain over 200 private leases: Chincoteague Inlet-Chincoteague Bay (total =205; 27 reported in 2009, 41 reported in 2010), Great Wicomico River (total = 205; 27 reported in 2009, 47 reported in 2010), and Poquoson River-Lower Chesapeake Bay (total = 201; 1 reported in 2009, 2 reported in 2010).
c. Cherrystone Inlet-Lower Chesapeake Bay (defined by 12-digit HUC had the highest number of leases reporting harvest > 1000 pounds per acre in 2009 (14 out of 20 leases reporting: 70%) and 2010 (17 out of 36 leases reporting: 47%).

A series of maps and tables have been generated to report and illustrate these findings. These are provided in the following list of Appendices.

1) Appendix 1. Tables reporting amount of private leases reporting vs. non-reporting by 12-digit HUCs. A reference map is provided to define the boundaries of the HUC units. Areas with the greatest production for 2009 and 2010 are illustrated in maps that highlight the HUCs with the highest percentage of the total yield.

2) Appendix 2. Leases Reporting and Pounds Harvested by Chesapeake Bay Segments.

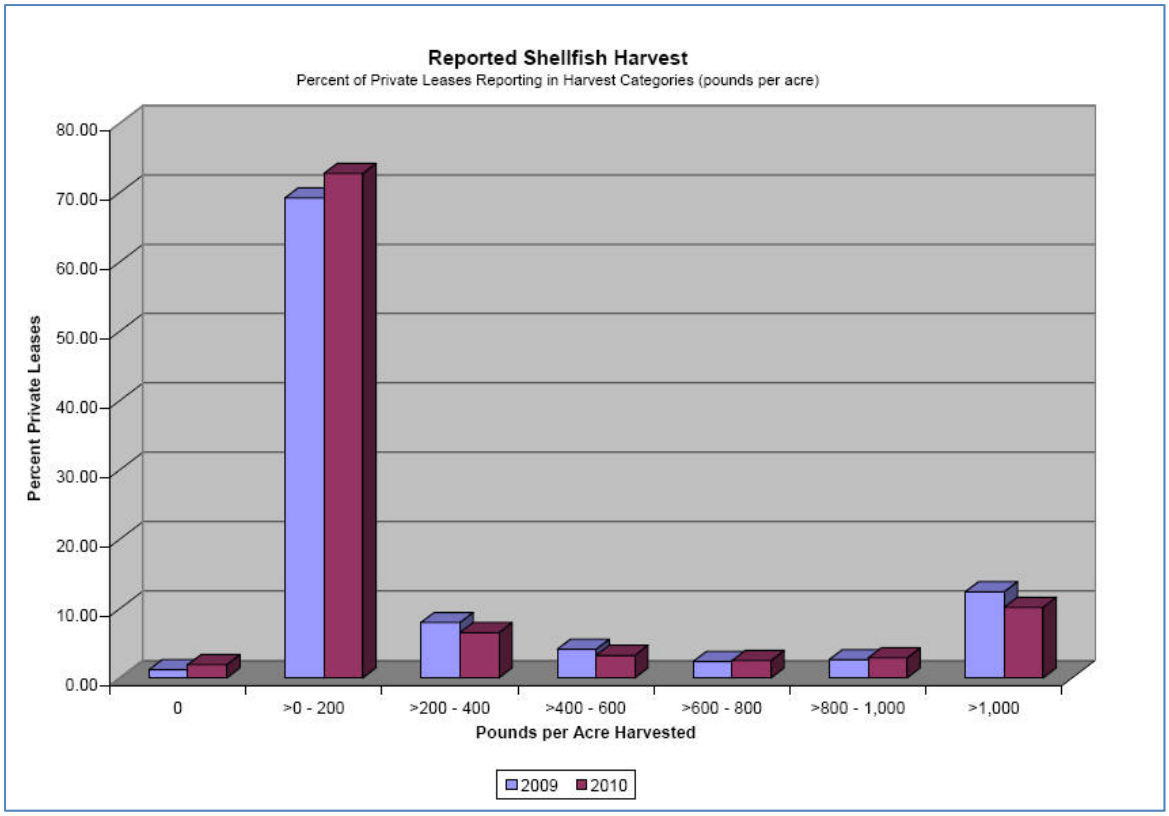


Figure 1. Shellfish harvest values by private leases reporting

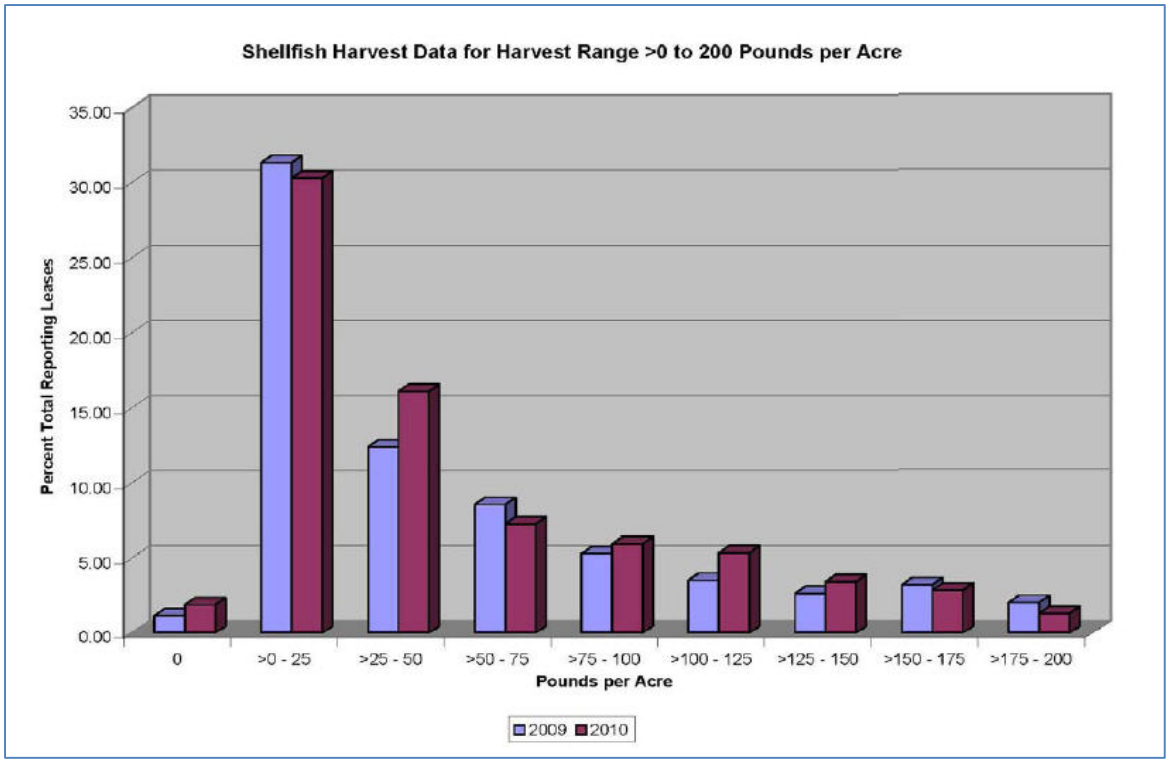


Figure 2. Summary of harvests reporting between 0-200 pounds/acre

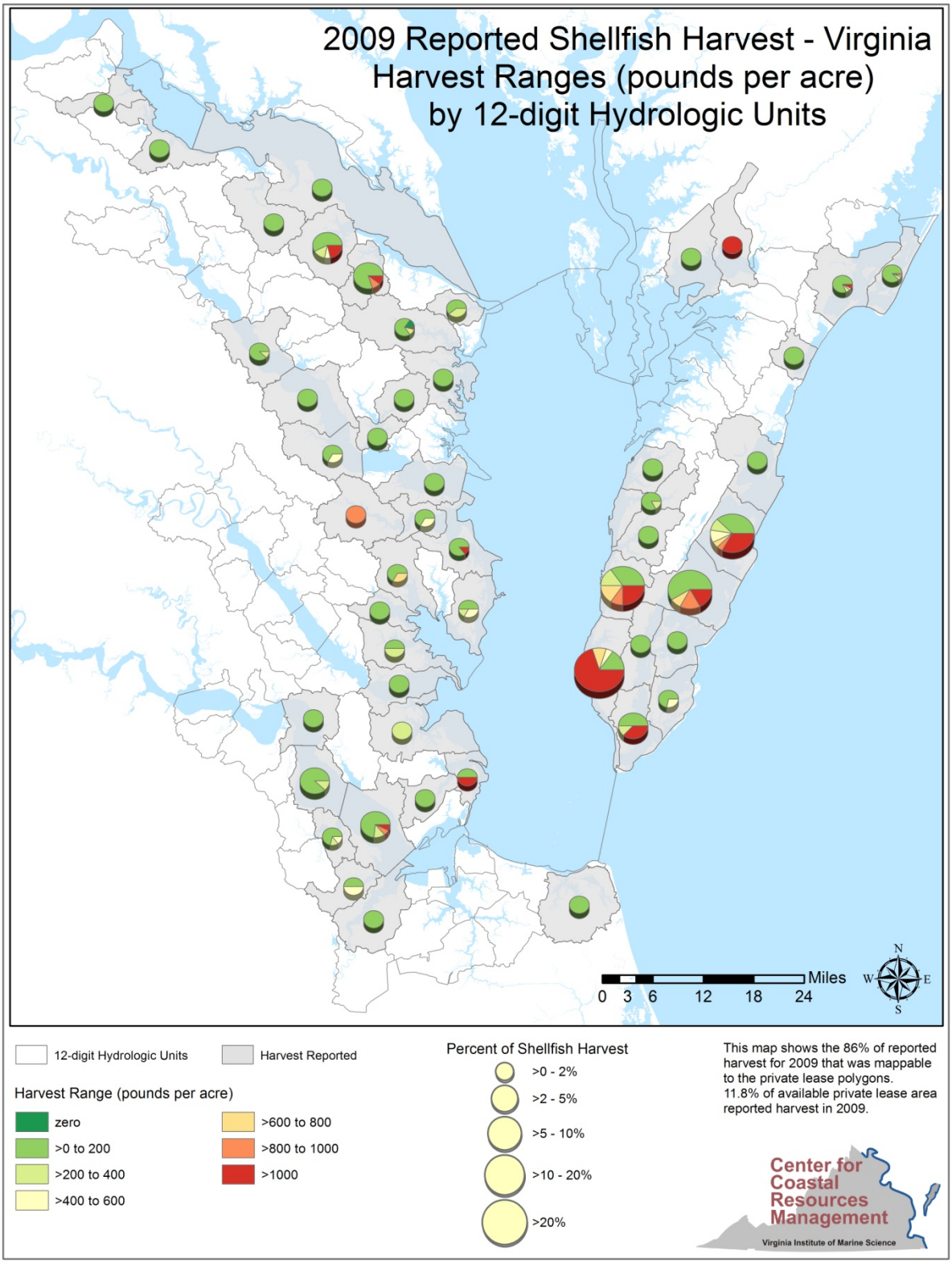


Figure 3a. Harvest distributions for 2009 by watershed

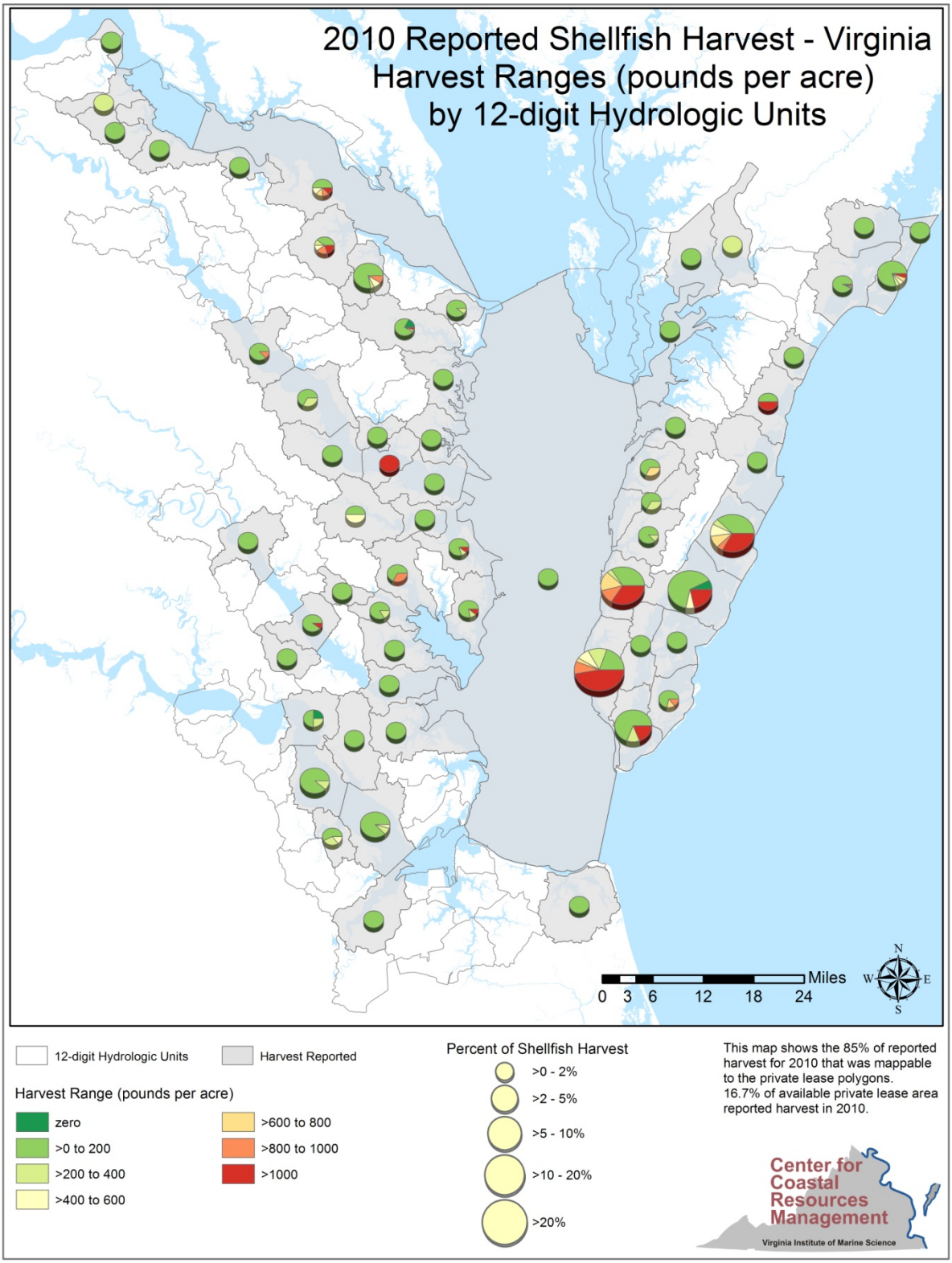


Figure 3b. Harvest distributions for 2010 by watershed

The union of the two datasets also allowed for distribution maps and table to report on the regional and quantitative distribution of harvests by gear type (Appendix 3) or by species (Appendix 4). As expected clams dominate on the eastern shore of the Bay and oysters dominate on the western shore.

Discussion

This project has been a demonstration of the utility in developing the mechanism for merging these two databases. The value to the regulatory and management program by having the capacity to quickly ask and answer simple queries is clear. Steps are being taken to seek funding now to advance this system into a permanent programmatic operation within VMRC. Should this occur in the future, the agency will be able to track private lease regulation more closely, more frequently and with less effort. Among other things, VMRC will be able to easily identify lease holders that fail to comply with the requirements for self-reporting, determine which watersheds, bay segments, or leases are most productive, analyze shifts in productivity over time, and estimate the amount of sub-aqueous bottom necessary for production. Until now resolving these questions have been relatively tedious and time-consuming. The project goals have developed the processing steps necessary to merge the two independent databases, identified problem areas that will need to be resolved should a large scale data merger occur in the future, and assessed the utility and value of final products to the regulatory program.

APPENDIX 1.

Self-Reporting Statistics by 12-Digit Hydrologic Unit Codes

2009 Shellfish Harvest Data by 12-digit Hydrologic Unit - Virginia

HU_12_NAME	Pounds Harvested 2009	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Assateague Channel	34157.22	1.85	33	162	395.38	1152.31	1547.69	25.55	0.40
Assawoman Inlet	0.00	0.00	0	9	0.00	186.26	186.26	0.00	0.00
Back River-Lower Chesapeake Bay	18499.18	1.00	2	39	5.98	771.03	777.01	0.77	0.01
Beasley Bay-Messongo Creek	0.00	0.00	0	18	0.00	177.63	177.63	0.00	0.00
Beaverdam Swamp	0.00	0.00	0	5	0.00	131.34	131.34	0.00	0.00
Bennett Creek-Nansemond River	542.10	0.03	1	79	10.30	3928.55	3938.86	0.26	0.01
Brockenbrough Creek-Rappahannock River	0.00	0.00	0	3	0.00	9.22	9.22	0.00	0.00
Cabin Creek-Mattaponi River	0.00	0.00	0	2	0.00	23.95	23.95	0.00	0.00
Calfpen Bay-Chincoteague Bay	0.00	0.00	0	13	0.00	128.64	128.64	0.00	0.00
Carter Creek-Rappahannock River	0.00	0.00	0	78	0.00	492.64	492.64	0.00	0.00
Carter Creek-York River	0.00	0.00	0	68	0.00	2597.13	2597.13	0.00	0.00
Carvers Creek-Piankatank River	24824.50	1.35	1	54	24.45	503.51	527.96	4.63	0.02
Cedar Creek-Rappahannock River	32663.80	1.77	9	76	543.37	1523.86	2067.22	26.28	0.55
Cedar Lake-Nansemond River	0.00	0.00	0	1	0.00	1.11	1.11	0.00	0.00
Cherrystone Inlet-Lower Chesapeake Bay	543691.90	29.51	20	140	397.59	2280.79	2678.38	14.84	0.40
Chesconessex Creek-Onancock Creek	0.00	0.00	0	15	0.00	343.98	343.98	0.00	0.00
Chincoteague Inlet-Chincoteague Bay	17923.78	0.97	27	178	259.71	1350.35	1610.06	16.13	0.26
Chuckatuck Creek	2404.75	0.13	2	43	11.61	330.44	342.05	3.40	0.01
Coan River	72411.54	3.93	10	91	295.97	632.71	928.68	31.87	0.30
Cockrell Creek-Lower Chesapeake Bay	0.00	0.00	0	8	0.00	143.24	143.24	0.00	0.00
Cooper Creek-James River	49148.22	2.67	15	146	1268.18	4162.18	5430.36	23.35	1.28
Crany Creek-Fox Mill Run	0.00	0.00	0	2	0.00	18.47	18.47	0.00	0.00
Cypress Creek	0.00	0.00	0	1	0.00	18.99	18.99	0.00	0.00
Deep Creek-The Thorofare	0.00	0.00	0	3	0.00	18.30	18.30	0.00	0.00
Deep-Lower Chesapeake Bay	0.00	0.00	0	15	0.00	3403.83	3403.83	0.00	0.00
Dividing Creek-Lower Chesapeake Bay	1386.60	0.08	3	132	70.47	692.94	763.41	9.23	0.07
East Creek-Pocomoke Sound	896.40	0.05	2	21	160.13	1038.07	1198.20	13.36	0.16
East River	0.00	0.00	0	92	0.00	849.63	849.63	0.00	0.00
Eastern Branch Corrotoman River	175.44	0.01	1	35	1.89	111.08	112.98	1.68	0.00
Elizabeth River	0.00	0.00	0	1	0.00	112.04	112.04	0.00	0.00
Farnham Creek	0.00	0.00	0	1	0.00	7.53	7.53	0.00	0.00
Fleets Bay-Lower Chesapeake Bay	0.00	0.00	0	128	0.00	856.41	856.41	0.00	0.00
Gambo Creek-Potomac River	0.00	0.00	0	2	0.00	118.11	118.11	0.00	0.00
Gargathy Inlet	3159.38	0.17	2	7	26.87	39.25	66.12	40.64	0.03
Great Machipongo Inlet	215456.52	11.70	12	48	972.31	2268.44	3240.75	30.00	0.98
Great Wicomico River	26353.36	1.43	27	178	257.80	1049.32	1307.12	19.72	0.26

HU_12_NAME	Pounds Harvested 2009	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Guilford Creek-Beaseley Bay	0.00	0.00	0	5	0.00	41.96	41.96	0.00	0.00
Hampton River-Hampton Roads	0.00	0.00	0	25	0.00	120.23	120.23	0.00	0.00
Hampton Roads Channel	0.00	0.00	0	2	0.00	120.28	120.28	0.00	0.00
Hills Bay-Piankatank River	4148.51	0.23	3	99	55.22	446.94	502.16	11.00	0.06
Hull Creek-Potomac River	0.00	0.00	0	43	0.00	659.53	659.53	0.00	0.00
Hungars Creek-Lower Chesapeake Bay	208582.64	11.32	20	92	445.73	1167.36	1613.09	27.63	0.45
Jones Creek-Pagan River	8869.70	0.48	7	32	75.07	481.71	556.77	13.48	0.08
Jones Creek-York River	0.00	0.00	0	74	0.00	2897.19	2897.19	0.00	0.00
Lagrange Creek-Rappahannock River	20399.40	1.11	3	30	125.80	713.94	839.74	14.98	0.13
Lancaster Creek	0.00	0.00	0	4	0.00	26.95	26.95	0.00	0.00
Lawnes Creek	0.00	0.00	0	1	0.00	47.24	47.24	0.00	0.00
Little Carter Creek-Rappahannock River	0.00	0.00	0	5	0.00	204.04	204.04	0.00	0.00
Little Creek-Lower Chesapeake Bay	0.00	0.00	0	5	0.00	50.97	50.97	0.00	0.00
Little Wicomico River	12758.15	0.69	5	106	89.24	697.18	786.43	11.35	0.09
Locklies Creek-Rappahannock River	380.00	0.02	1	104	4.40	1845.88	1850.28	0.24	0.00
Lower Machodoc Creek-Potomac River	3961.65	0.22	4	101	65.39	2058.40	2123.78	3.08	0.07
Lynnhaven River	762.60	0.04	4	190	117.18	2073.41	2190.59	5.35	0.12
Machipongo River	0.00	0.00	0	4	0.00	25.80	25.80	0.00	0.00
Marumsco Creek-Pocomoke Sound	3170.90	0.17	1	6	2.90	477.02	479.92	0.60	0.00
Mattox Creek	0.00	0.00	0	2	0.00	92.36	92.36	0.00	0.00
Metompkin Inlet	0.00	0.00	0	31	0.00	559.83	559.83	0.00	0.00
Milford Haven-Lower Chesapeake Bay	5773.90	0.31	7	158	79.41	1425.58	1504.99	5.28	0.08
Mockhorn Bay-The Thorofare	2876.40	0.16	1	2	22.31	127.00	149.31	14.94	0.02
Monday Creek-Mobjack Bay	0.00	0.00	0	16	0.00	1373.71	1373.71	0.00	0.00
Morrisons Creek-James River	40590.59	2.20	17	50	1830.36	2457.58	4287.94	42.69	1.85
Nandua Creek-Lower Chesapeake Bay	804.10	0.04	1	37	26.46	780.31	806.76	3.28	0.03
Nomini Bay-Potomac River	0.00	0.00	0	14	0.00	817.24	817.24	0.00	0.00
Nomini Creek	166.00	0.01	1	31	24.32	496.46	520.78	4.67	0.02
North River	3311.76	0.18	3	62	379.92	961.54	1341.46	28.32	0.38
Northwest Branch Back River	0.00	0.00	0	36	0.00	629.25	629.25	0.00	0.00
Occohannock Creek-Lower Chesapeake Bay	10037.20	0.54	6	29	90.90	296.64	387.54	23.46	0.09
Parrotts Creek-Rappahannock River	108.80	0.01	1	68	16.56	1528.78	1545.34	1.07	0.02
Philbates Creek-York River	0.00	0.00	0	87	0.00	3608.92	3608.92	0.00	0.00
Pocomoke Sound Channel	0.00	0.00	0	4	0.00	422.92	422.92	0.00	0.00
Popes Creek-Potomac River	10582.50	0.57	2	3	445.81	62.20	508.01	87.76	0.45
Poquoson River-Lower Chesapeake Bay	5680.00	0.31	1	200	24.12	1263.67	1287.79	1.87	0.02
Poropotank River	0.00	0.00	0	5	0.00	43.92	43.92	0.00	0.00
Pungoteague Creek-Lower Chesapeake Bay	0.00	0.00	0	19	0.00	268.65	268.65	0.00	0.00

HU_12_NAME	Pounds Harvested 2009	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Queen Creek	0.00	0.00	0	5	0.00	66.78	66.78	0.00	0.00
Quinby Inlet	288964.24	15.69	21	48	743.69	2634.01	3377.70	22.02	0.75
Rosier Creek-Potomac River	4087.75	0.22	3	5	79.59	98.87	178.46	44.60	0.08
Sand Shoal Channel	4848.81	0.26	7	32	414.69	2133.18	2547.87	16.28	0.42
Sarah Creek-York River	878.87	0.05	1	108	27.30	2216.47	2243.77	1.22	0.03
Severn River	537.80	0.03	2	140	3.62	1498.26	1501.87	0.24	0.00
Skiffes Creek-James River	12217.10	0.66	2	16	234.98	2265.85	2500.82	9.40	0.24
Skimino Creek-York River	0.00	0.00	0	75	0.00	2662.13	2662.13	0.00	0.00
Smith Island	0.00	0.00	0	1	0.00	2.50	2.50	0.00	0.00
Smith Island Inlet-The Thorofare	56780.94	3.08	8	34	616.07	1671.76	2287.83	26.93	0.62
South Bay	14161.10	0.77	7	20	108.39	1250.60	1358.99	7.98	0.11
Southwest Branch Back River	1725.30	0.09	1	22	8.57	222.87	231.44	3.70	0.01
Streeter Creek-Hampton Roads	0.00	0.00	0	1	0.00	75.00	75.00	0.00	0.00
Swans Gut Creek-Chincoteague Bay	0.00	0.00	0	12	0.00	232.17	232.17	0.00	0.00
Taylor Creek-Corrotoman River	2006.00	0.11	1	126	99.89	770.18	870.07	11.48	0.10
Totuskey Creek	0.00	0.00	0	1	0.00	0.50	0.50	0.00	0.00
Upper Machodoc Creek	0.00	0.00	0	6	0.00	535.27	535.27	0.00	0.00
Wachapreague Inlet	1180.10	0.06	1	45	14.40	733.07	747.47	1.93	0.01
Ware Creek	0.00	0.00	0	1	0.00	339.08	339.08	0.00	0.00
Ware River	12365.24	0.67	3	82	327.42	1089.75	1417.16	23.10	0.33
Warehouse Creek-Nassawadox Creek	8521.48	0.46	6	51	131.27	583.36	714.63	18.37	0.13
Warwick River	0.00	0.00	0	37	0.00	1103.28	1103.28	0.00	0.00
Western Branch Corrotoman River	0.00	0.00	0	51	0.00	234.83	234.83	0.00	0.00
Western Branch Elizabeth River	0.00	0.00	0	5	0.00	7.67	7.67	0.00	0.00
Winter Harbor-Lower Chesapeake Bay	7472.41	0.41	6	125	84.73	838.79	923.52	9.17	0.09
Yeocomico River	39882.53	2.16	14	141	155.69	1084.36	1240.06	12.56	0.16
Total	1842289.14	100.00	338	4866	11673.39	87196.48	98869.86	n/a	11.81

* Acres calculated by CCI

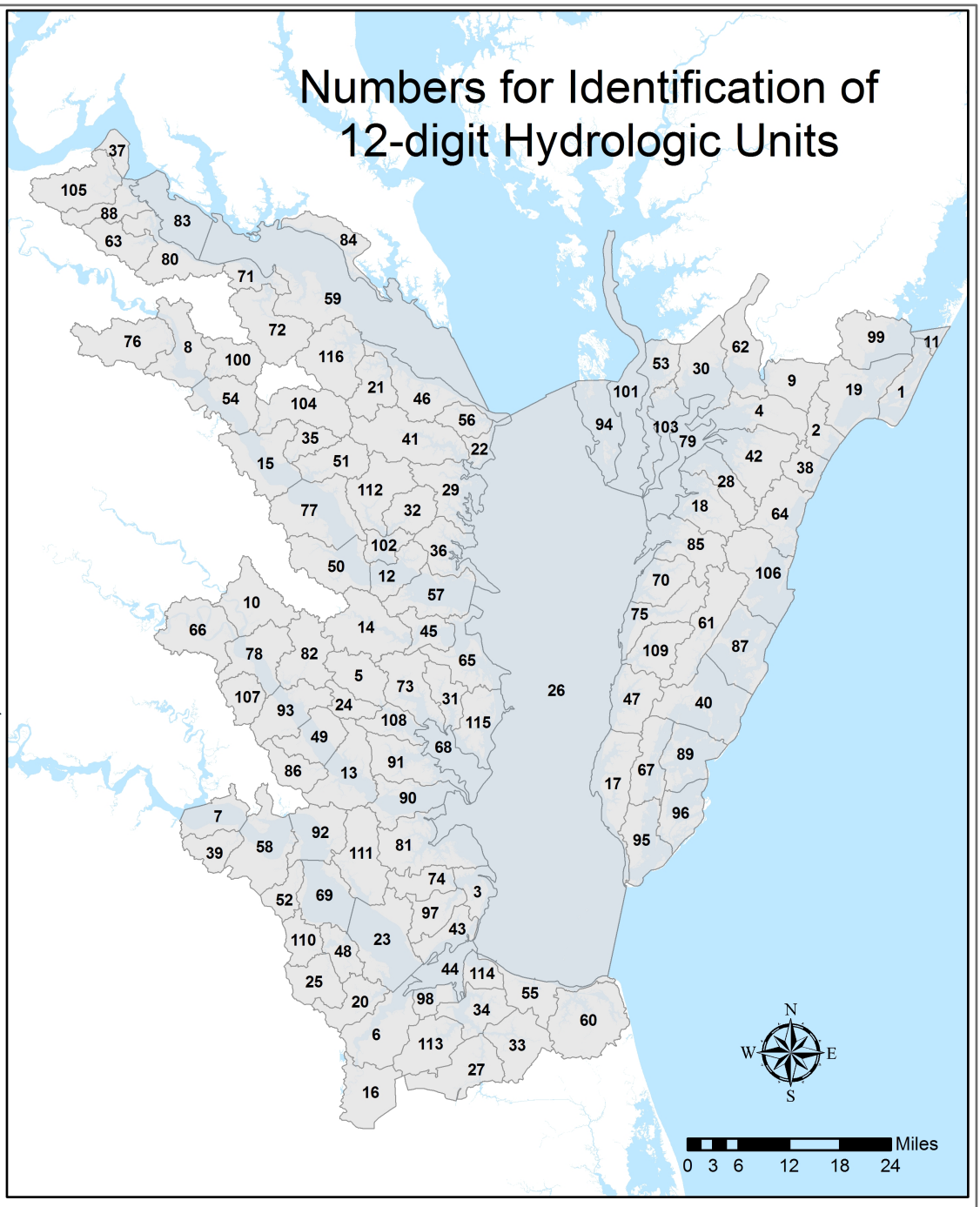
2010 Shellfish Harvest Data by 12-digit Hydrologic Unit - Virginia

HU_12_NAME	Pounds Harvested 2010	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Assateague Channel	51323.36	2.09	59	136	564.60	983.09	1547.69	36.48	0.57
Assawoman Inlet	0.00	0.00	0	9	0.00	186.26	186.26	0.00	0.00
Back River-Lower Chesapeake Bay	0.00	0.00	0	41	0.00	777.01	777.01	0.00	0.00
Beasley Bay-Messongo Creek	0.00	0.00	0	18	0.00	177.63	177.63	0.00	0.00
Beaverdam Swamp	0.00	0.00	0	5	0.00	131.34	131.34	0.00	0.00
Bennett Creek-Nansemond River	4268.70	0.17	4	76	406.04	3532.82	3938.86	10.31	0.41
Brockenbrough Creek-Rappahannock River	0.00	0.00	0	3	0.00	9.22	9.22	0.00	0.00
Cabin Creek-Mattaponi River	0.00	0.00	0	2	0.00	23.95	23.95	0.00	0.00
Calfpen Bay-Chincoteague Bay	402.98	0.02	2	11	42.45	86.19	128.64	33.00	0.04
Carter Creek-Rappahannock River	634.00	0.03	1	77	0.54	492.11	492.64	0.11	0.00
Carter Creek-York River	0.00	0.00	0	68	0.00	2597.13	2597.13	0.00	0.00
Carvers Creek-Piankatank River	13688.50	0.56	2	53	57.33	470.63	527.96	10.86	0.06
Cedar Creek-Rappahannock River	27041.60	1.10	8	77	510.86	1556.36	2067.22	24.71	0.52
Cedar Lake-Nansemond River	0.00	0.00	0	1	0.00	1.11	1.11	0.00	0.00
Cherrystone Inlet-Lower Chesapeake Bay	625253.54	25.44	36	124	571.35	2107.03	2678.38	21.33	0.58
Chesconessex Creek-Onancock Creek	0.00	0.00	0	15	0.00	343.98	343.98	0.00	0.00
Chincoteague Inlet-Chincoteague Bay	14084.02	0.57	41	164	438.94	1171.11	1610.06	27.26	0.44
Chuckatuck Creek	0.00	0.00	0	45	0.00	342.05	342.05	0.00	0.00
Coan River	55271.53	2.25	23	78	469.78	458.90	928.68	50.59	0.48
Cockrell Creek-Lower Chesapeake Bay	0.00	0.00	0	8	0.00	143.24	143.24	0.00	0.00
Cooper Creek-James River	89942.62	3.66	24	137	2025.11	3405.26	5430.36	37.29	2.05
Crany Creek-Fox Mill Run	394.40	0.02	1	1	5.40	13.07	18.47	29.23	0.01
Cypress Creek	0.00	0.00	0	1	0.00	18.99	18.99	0.00	0.00
Deep Creek-The Thorofare	0.00	0.00	0	3	0.00	18.30	18.30	0.00	0.00
Deep-Lower Chesapeake Bay	1274.40	0.05	4	11	123.44	3280.39	3403.83	3.63	0.12
Dividing Creek-Lower Chesapeake Bay	1185.20	0.05	4	131	104.10	659.31	763.41	13.64	0.11
East Creek-Pocomoke Sound	14864.40	0.60	4	19	492.18	706.02	1198.20	41.08	0.50
East River	0.00	0.00	0	92	0.00	849.63	849.63	0.00	0.00
Eastern Branch Corrotoman River	0.00	0.00	0	36	0.00	112.98	112.98	0.00	0.00
Elizabeth River	0.00	0.00	0	1	0.00	112.04	112.04	0.00	0.00
Farnham Creek	0.00	0.00	0	1	0.00	7.53	7.53	0.00	0.00
Fleets Bay-Lower Chesapeake Bay	727.20	0.03	1	127	43.89	812.53	856.41	5.12	0.04
Gambo Creek-Potomac River	846.60	0.03	1	1	63.66	54.45	118.11	53.90	0.06
Gargathy Inlet	2423.40	0.10	4	5	41.89	24.22	66.12	63.36	0.04
Great Machipongo Inlet	380297.88	15.47	14	46	869.06	2371.69	3240.75	26.82	0.88
Great Wicomico River	33905.20	1.38	47	158	441.62	865.50	1307.12	33.79	0.45

HU_12_NAME	Pounds Harvested 2010	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Guilford Creek-Beaseley Bay	0.00	0.00	0	5	0.00	41.96	41.96	0.00	0.00
Hampton River-Hampton Roads	0.00	0.00	0	25	0.00	120.23	120.23	0.00	0.00
Hampton Roads Channel	0.00	0.00	0	2	0.00	120.28	120.28	0.00	0.00
Hills Bay-Piankatank River	2551.50	0.10	3	99	59.43	442.73	502.16	11.84	0.06
Hull Creek-Potomac River	0.00	0.00	0	43	0.00	659.53	659.53	0.00	0.00
Hungars Creek-Lower Chesapeake Bay	274801.10	11.18	26	86	726.07	887.02	1613.09	45.01	0.73
Jones Creek-Pagan River	13320.60	0.54	7	32	70.26	486.51	556.77	12.62	0.07
Jones Creek-York River	19661.80	0.80	10	64	615.71	2281.48	2897.19	21.25	0.62
Lagrange Creek-Rappahannock River	2655.40	0.11	5	28	362.00	477.74	839.74	43.11	0.37
Lancaster Creek	0.00	0.00	0	4	0.00	26.95	26.95	0.00	0.00
Lawnes Creek	0.00	0.00	0	1	0.00	47.24	47.24	0.00	0.00
Little Carter Creek-Rappahannock River	0.00	0.00	0	5	0.00	204.04	204.04	0.00	0.00
Little Creek-Lower Chesapeake Bay	0.00	0.00	0	5	0.00	50.97	50.97	0.00	0.00
Little Wicomico River	12674.73	0.52	10	101	211.65	574.77	786.43	26.91	0.21
Locklies Creek-Rappahannock River	6551.66	0.27	6	99	257.16	1593.12	1850.28	13.90	0.26
Lower Machodoc Creek-Potomac River	35147.60	1.43	8	97	69.96	2053.82	2123.78	3.29	0.07
Lynnhaven River	918.96	0.04	7	187	156.86	2033.73	2190.59	7.16	0.16
Machipongo River	0.00	0.00	0	4	0.00	25.80	25.80	0.00	0.00
Marumsco Creek-Pocomoke Sound	760.60	0.03	1	6	2.90	477.02	479.92	0.60	0.00
Mattox Creek	473.10	0.02	1	1	39.98	52.38	92.36	43.28	0.04
Metompkin Inlet	3770.44	0.15	2	29	17.68	542.15	559.83	3.16	0.02
Milford Haven-Lower Chesapeake Bay	4637.07	0.19	10	155	146.32	1358.67	1504.99	9.72	0.15
Mockhorn Bay-The Thorofare	2781.20	0.11	1	2	22.31	127.00	149.31	14.94	0.02
Monday Creek-Mobjack Bay	0.00	0.00	0	16	0.00	1373.71	1373.71	0.00	0.00
Morrisons Creek-James River	102889.80	4.19	18	49	1869.76	2418.18	4287.94	43.61	1.89
Nandua Creek-Lower Chesapeake Bay	8193.49	0.33	3	35	53.83	752.93	806.76	6.67	0.05
Nomini Bay-Potomac River	987.70	0.04	1	13	89.67	727.56	817.24	10.97	0.09
Nomini Creek	0.00	0.00	0	32	0.00	520.78	520.78	0.00	0.00
North River	5800.35	0.24	3	62	379.92	961.54	1341.46	28.32	0.38
Northwest Branch Back River	0.00	0.00	0	36	0.00	629.25	629.25	0.00	0.00
Occohannock Creek-Lower Chesapeake Bay	12107.74	0.49	6	29	95.39	292.15	387.54	24.61	0.10
Parrotts Creek-Rappahannock River	4343.20	0.18	3	66	70.31	1475.03	1545.34	4.55	0.07
Philbates Creek-York River	4086.00	0.17	1	86	32.86	3576.06	3608.92	0.91	0.03
Pocomoke Sound Channel	741.60	0.03	1	3	9.80	413.12	422.92	2.32	0.01
Popes Creek-Potomac River	929.60	0.04	1	4	41.79	466.22	508.01	8.23	0.04
Poquoson River-Lower Chesapeake Bay	927.20	0.04	2	199	24.71	1263.08	1287.79	1.92	0.02
Poropotank River	0.00	0.00	0	5	0.00	43.92	43.92	0.00	0.00
Pungoteague Creek-Lower Chesapeake Bay	5980.61	0.24	1	18	57.67	210.98	268.65	21.47	0.06

HU_12_NAME	Pounds Harvested 2010	Percent of Total Harvest	Number of Leases		Private Leases (Acres)*			Lease Acres Reporting (%)	
			Reporting	Not Reporting	Reporting	Not Reporting	Total	within HUC	Total
Queen Creek	117.00	0.00	1	4	7.92	58.85	66.78	11.87	0.01
Quinby Inlet	313455.91	12.75	21	48	663.64	2714.05	3377.70	19.65	0.67
Rosier Creek-Potomac River	6050.70	0.25	1	7	31.51	146.94	178.46	17.66	0.03
Sand Shoal Channel	10202.03	0.42	5	34	347.25	2200.62	2547.87	13.63	0.35
Sarah Creek-York River	2144.02	0.09	1	108	27.30	2216.47	2243.77	1.22	0.03
Severn River	257.40	0.01	1	141	1.41	1500.46	1501.87	0.09	0.00
Skiffes Creek-James River	44051.50	1.79	4	14	521.25	1979.57	2500.82	20.84	0.53
Skimino Creek-York River	0.00	0.00	0	75	0.00	2662.13	2662.13	0.00	0.00
Smith Island	0.00	0.00	0	1	0.00	2.50	2.50	0.00	0.00
Smith Island Inlet-The Thorofare	124408.94	5.06	16	26	963.85	1323.98	2287.83	42.13	0.97
South Bay	27006.38	1.10	7	20	152.46	1206.53	1358.99	11.22	0.15
Southwest Branch Back River	0.00	0.00	0	23	0.00	231.44	231.44	0.00	0.00
Streeter Creek-Hampton Roads	0.00	0.00	0	1	0.00	75.00	75.00	0.00	0.00
Swans Gut Creek-Chincoteague Bay	401.20	0.02	1	11	8.04	224.14	232.17	3.46	0.01
Taylor Creek-Corrotoman River	5310.80	0.22	10	117	210.33	659.74	870.07	24.17	0.21
Totuskey Creek	0.00	0.00	0	1	0.00	0.50	0.50	0.00	0.00
Upper Machodoc Creek	0.00	0.00	0	6	0.00	535.27	535.27	0.00	0.00
Wachapreague Inlet	1754.40	0.07	2	44	33.81	713.66	747.47	4.52	0.03
Ware Creek	0.00	0.00	0	1	0.00	339.08	339.08	0.00	0.00
Ware River	17037.87	0.69	6	79	342.03	1075.14	1417.16	24.13	0.35
Warehouse Creek-Nassawadox Creek	23191.26	0.94	8	49	175.79	538.84	714.63	24.60	0.18
Warwick River	266.60	0.01	1	36	83.53	1019.75	1103.28	7.57	0.08
Western Branch Corrotoman River	0.00	0.00	0	51	0.00	234.83	234.83	0.00	0.00
Western Branch Elizabeth River	0.00	0.00	0	5	0.00	7.67	7.67	0.00	0.00
Winter Harbor-Lower Chesapeake Bay	7939.78	0.32	9	122	102.12	821.40	923.52	11.06	0.10
Yeocomico River	28497.20	1.16	10	145	59.63	1180.43	1240.06	4.81	0.06
Total	2457615.56	100.00	521	4683	16488.14	82381.73	98869.87	n/a	16.68

* Acres calculated by CCI



1, Assateague Channel
2, Assawoman Inlet
3, Back River-Lower Chesapeake Bay
4, Beasley Bay-Messongo Creek
5, Beaverdam Swamp
6, Bennett Creek-Nansemond River
7, Broad Swamp-James River
8, Brockenbrough Creek-Rappahannock River
9, Bullbegger Creek-Pocomoke River
10, Cabin Creek-Mattaponi River
11, Calfpen Bay-Chincoteague Bay
12, Carter Creek-Rappahannock River
13, Carter Creek-York River
14, Carvers Creek-Piankatank River
15, Cedar Creek-Rappahannock River
16, Cedar Lake-Nansemond River
17, Cherrystone Inlet-Lower Chesapeake Bay
18, Chesconessex Creek-Onancock Creek
19, Chincoteague Inlet-Chincoteague Bay
20, Chuckatuck Creek
21, Coan River
22, Cockrell Creek-Lower Chesapeake Bay
23, Cooper Creek-James River
24, Crany Creek-Fox Mill Run
25, Cypress Creek
26, Deep-Lower Chesapeake Bay
27, Deep Creek-Southern Branch Elizabeth River
28, Deep Creek-The Thorofare
29, Dividing Creek-Lower Chesapeake Bay
30, East Creek-Pocomoke Sound
31, East River
32, Eastern Branch Corrotoman River
33, Eastern Branch Elizabeth River
34, Elizabeth River
35, Farnham Creek
36, Fleets Bay-Lower Chesapeake Bay
37, Gambo Creek-Potomac River
38, Gargathy Inlet
39, Grays Creek
40, Great Machipongo Inlet
41, Great Wicomico River
42, Guilford Creek-Beaseley Bay
43, Hampton River-Hampton Roads
44, Hampton Roads Channel
45, Hills Bay-Piankatank River
46, Hull Creek-Potomac River
47, Hungars Creek-Lower Chesapeake Bay
48, Jones Creek-Pagan River
49, Jones Creek-York River
50, Lagrange Creek-Rappahannock River
51, Lancaster Creek
52, Lawnes Creek
53, Little Annemessex River-Tangier Sound
54, Little Carter Creek-Rappahannock River
55, Little Creek-Lower Chesapeake Bay
56, Little Wicomico River
57, Locklies Creek-Rappahannock River
58, Lower Chippokes Creek-James River
59, Lower Machodoc Creek-Potomac River
60, Lynnhaven River
61, Machipongo River
62, Marumsco Creek-Pocomoke Sound
63, Mattox Creek
64, Metompkin Inlet
65, Milford Haven-Lower Chesapeake Bay
66, Mill Creek-Pamunkey River
67, Mockhorn Bay-The Thorofare
68, Monday Creek-Mobjack Bay
69, Morrisons Creek-James River
70, Nandua Creek-Lower Chesapeake Bay
71, Nomini Bay-Potomac River
72, Nomini Creek
73, North River
74, Northwest Branch Back River
75, Occohannock Creek-Lower Chesapeake Bay
76, Occupacia Creek
77, Parrotts Creek-Rappahannock River
78, Philbates Creek-York River
79, Pocomoke Sound Channel
80, Popes Creek-Potomac River
81, Poquoson River-Lower Chesapeake Bay
82, Poropotank River
83, Potomac River Channel
84, Potomac River L tidal
85, Pungoteague Creek-Lower Chesapeake Bay
86, Queen Creek
87, Quinby Inlet
88, Rosier Creek-Potomac River
89, Sand Shoal Channel
90, Sarah Creek-York River
91, Severn River
92, Skiffes Creek-James River
93, Skimino Creek-York River
94, Smith Island
95, Smith Island Inlet-The Thorofare
96, South Bay
97, Southwest Branch Back River
98, Streeter Creek-Hampton Roads
99, Swans Gut Creek-Chincoteague Bay
100, Synder Swamp-Catpoint Creek
101, Tangier Sound Channel
102, Taylor Creek-Corrotoman River
103, The Prong-Pocomoke Sound
104, Totuskey Creek
105, Upper Machodoc Creek
106, Wachapreague Inlet
107, Ware Creek
108, Ware River
109, Warehouse Creek-Nassawadox Creek
110, Warren Creek-Pagan River
111, Warwick River
112, Western Branch Corrotoman River
113, Western Branch Elizabeth River
114, Willoughby Bay
115, Winter Harbor-Lower Chesapeake Bay
116, Yeocomico River

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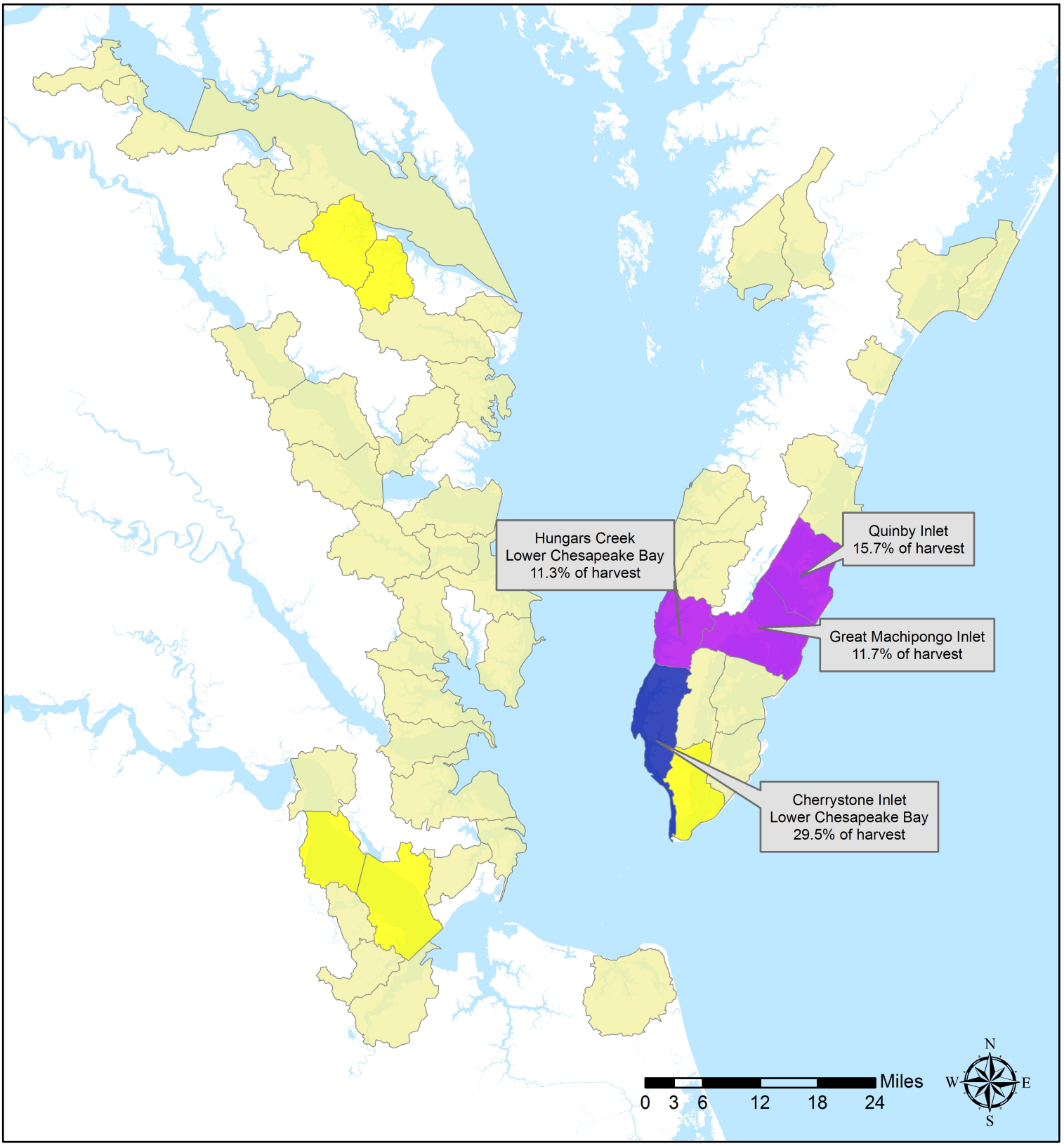


2009 Reported Shellfish Harvest (percent)

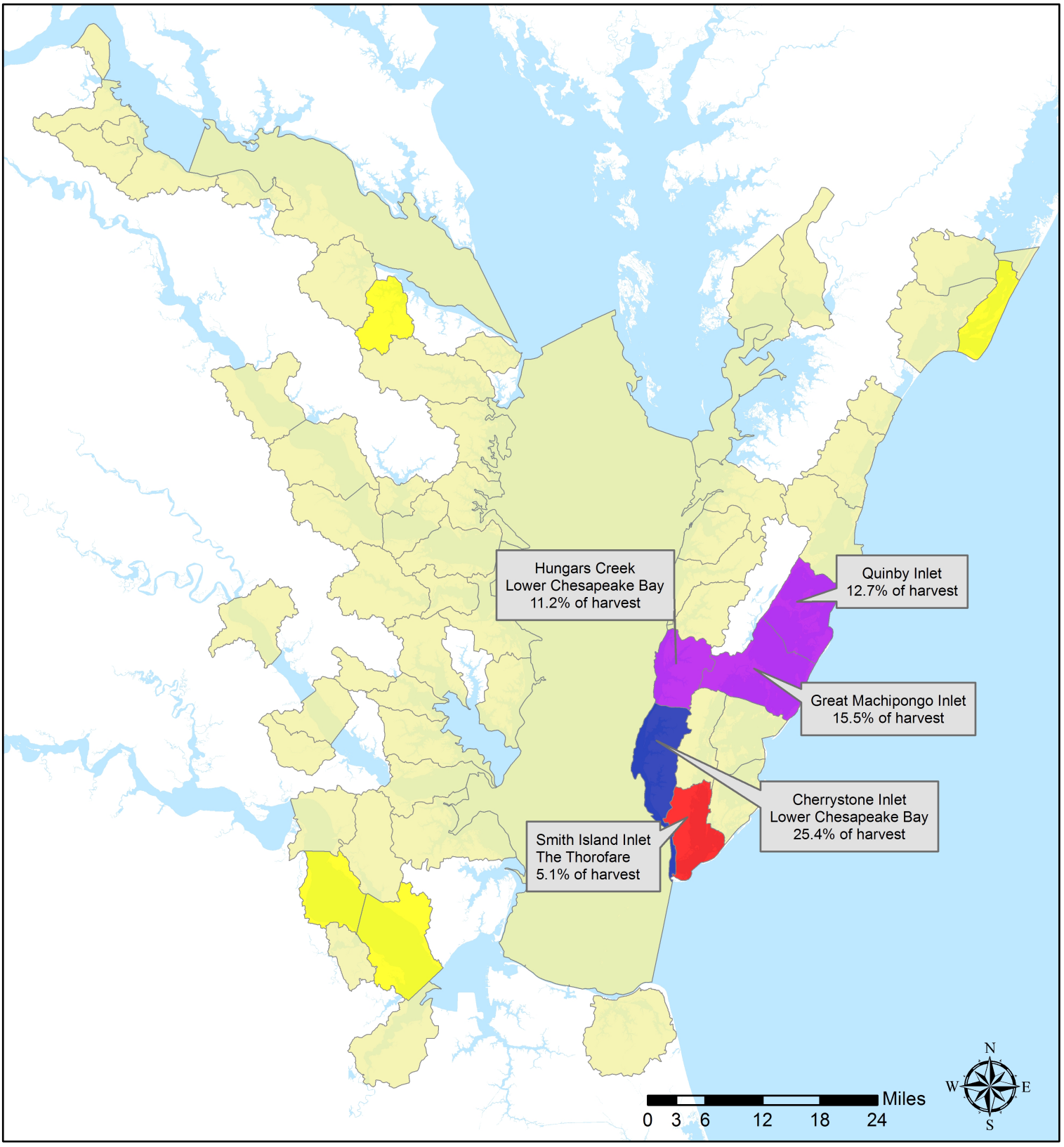
[classified into 12-digit hydrologic units]

Legend

- >0 - 2 %
- >2 - 5 %
- >5 - 10 %
- >10 - 20 %
- >20 %

Center for Coastal Resources Management

Virginia Institute of Marine Science



2010 Reported Shellfish Harvest (percent)

[classified into 12-digit hydrologic units]

Legend

- >0 - 2 %
- >2 - 5 %
- >5 - 10 %
- >10 - 20 %
- >20 %

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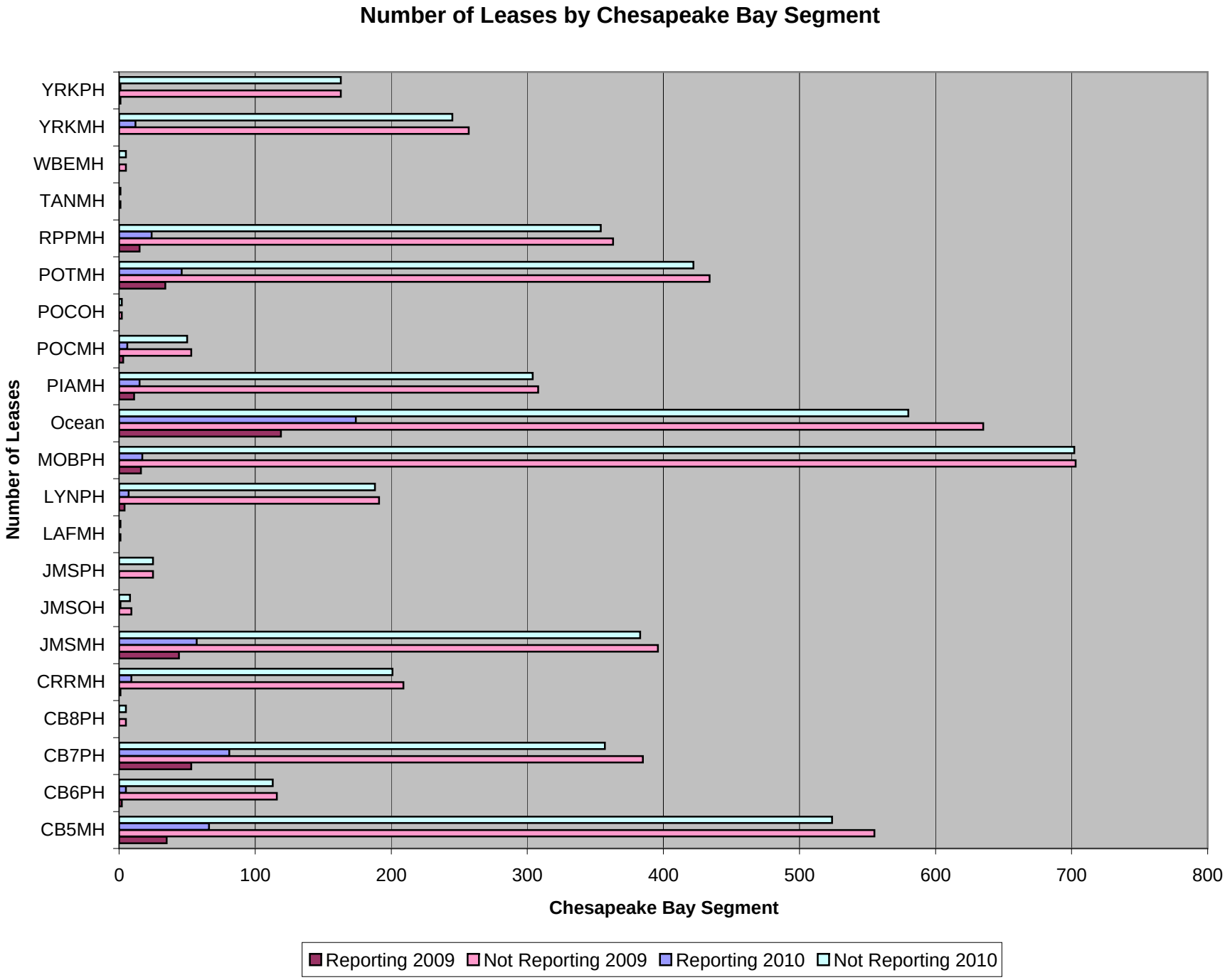
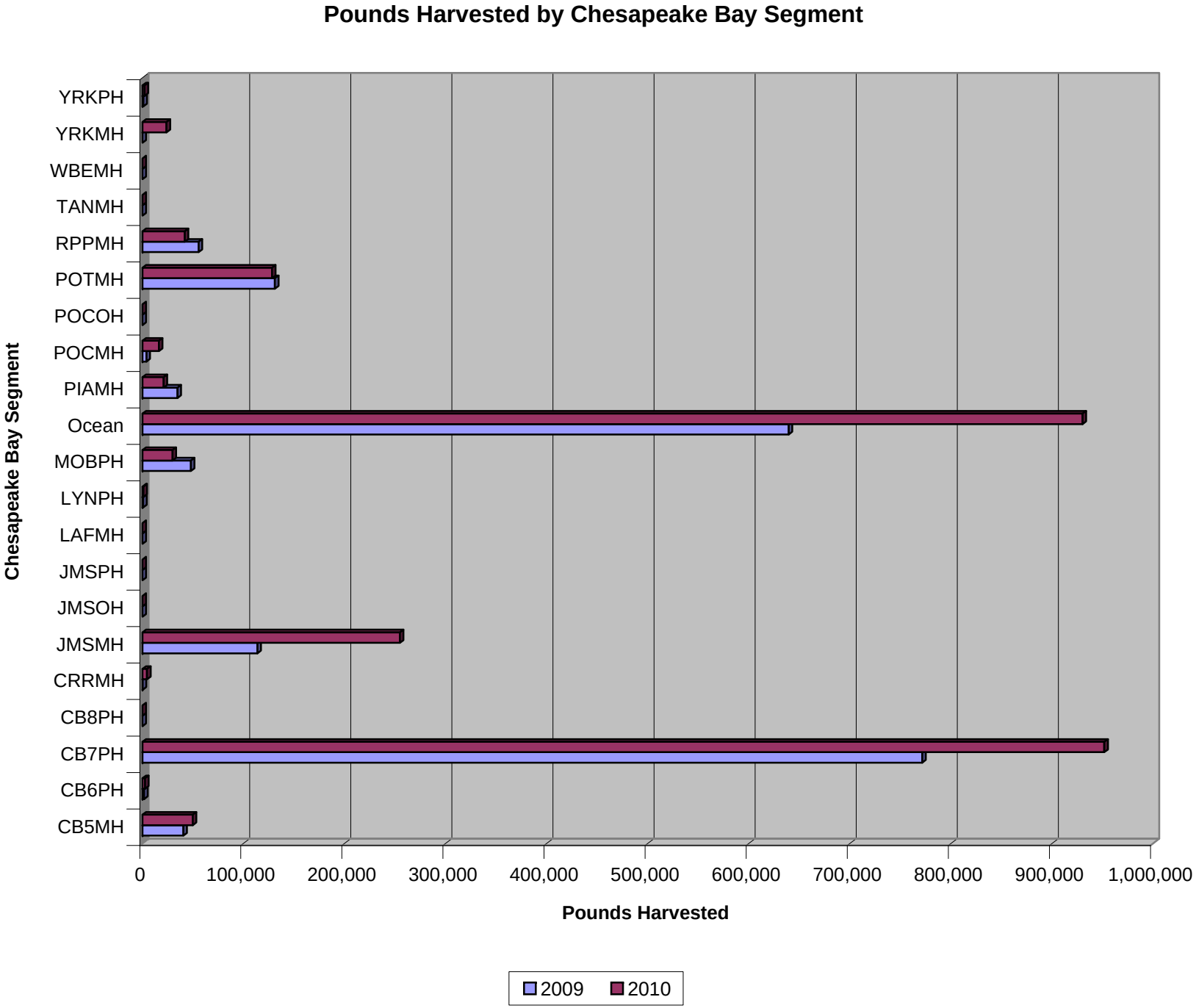
APPENDIX 2.

Leases Reporting and Pounds Harvested by Chesapeake Bay Segments

Number of Private Lease Polygons Reporting/Not Reporting Harvest Data by Chesapeake Bay Segment

Chesapeake Bay Segment	2009 Pound Harvested	2009 Number of Leases Reporting	2009 Number of Leases Not Reporting	2010 Pounds Harvested	2010 Number of Leases Reporting	2010 Number of Leases Not Reporting
CB5MH	40498.11	35	555	49766.73	66	524
CB6PH	1707.92	2	116	2551.75	5	113
CB7PH	771637.32	53	385	951717.34	81	357
CB8PH	0.00	0	5	0.00	0	5
CRRMH	175.44	1	209	4556.00	9	201
JMSMH	113772.46	44	396	254739.82	57	383
JMSOH	0.00	0	9	0.00	1	8
JMSPH	0.00	0	25	0.00	0	25
LAFMH	0.00	0	1	0.00	0	1
LYNPH	762.60	4	191	918.96	7	188
MOBPH	47883.76	16	703	29805.25	17	702
Oceanside	639508.49	119	635	930122.52	174	580
PIAMH	34746.91	11	308	20877.07	15	304
POCMH	4067.30	3	53	16366.60	6	50
POCOH	0.00	0	2	0.00	0	2
POTMH	131091.96	34	434	128204.03	46	422
RPPMH	55558.00	15	363	41980.66	24	354
TANMH	0.00	0	1	0.00	0	1
WBEMH	0.00	0	5	0.00	0	5
YRKMH	0.00	0	257	23864.80	12	245
YRKPH	878.87	1	163	2144.02	1	163
Total	1842289.14	338	4816	2457615.56	521	4633

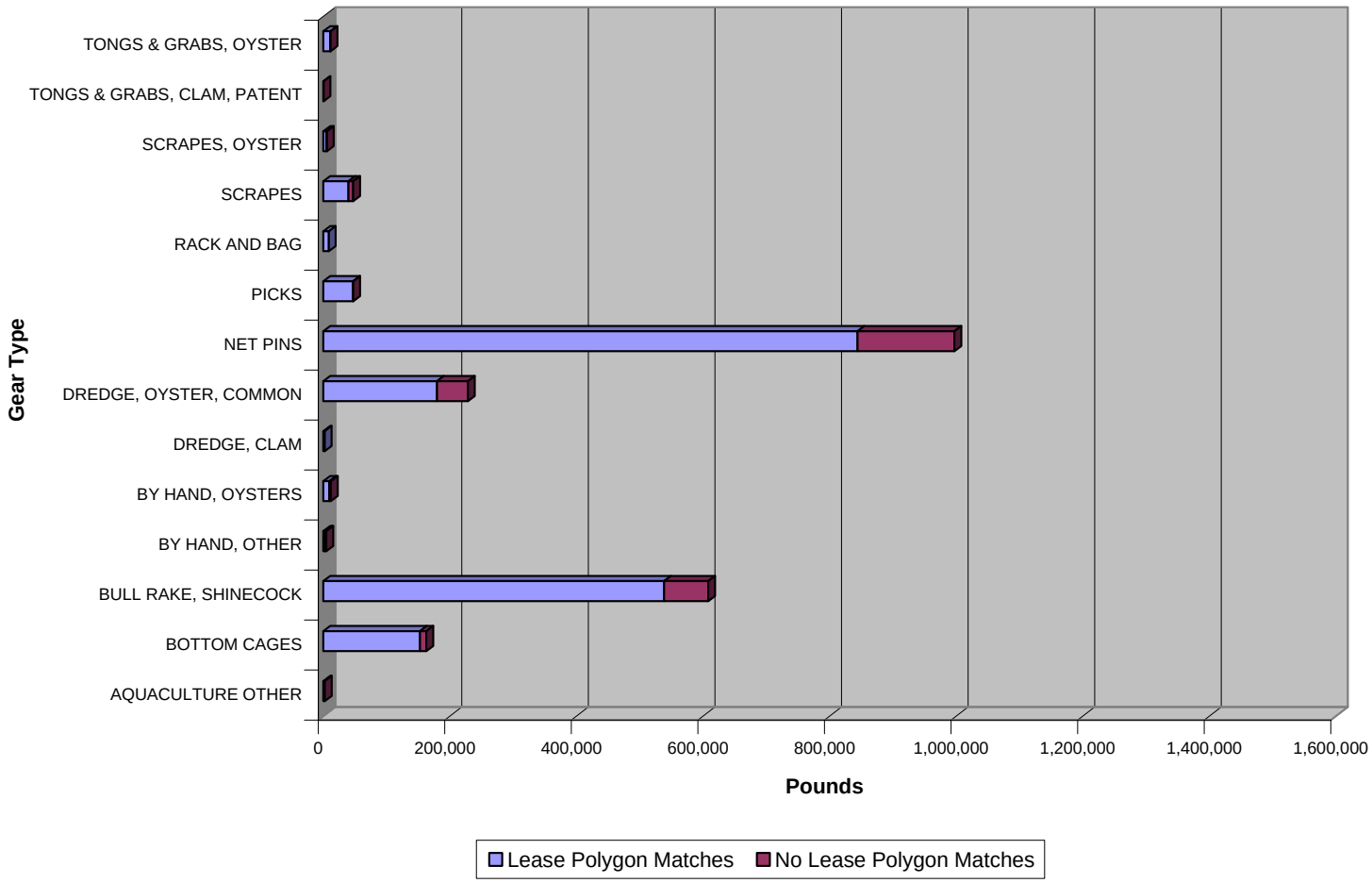

Number of Leases by Chesapeake Bay Segment
YRKPH
YRKMH
WBEMH
TANMH
RPPMH
POTMH
POCOH
POCMH
PIAMH
Ocean
MOBPH
LYNPH
LAFMH
JMSPH
JMSOH
JMSMH
CRRMH
CB8PH
CB7PH
CB6PH
CB5MH
Number of Leases
0
100
200
300
400
500
600
700
800
Chesapeake Bay Segment
Reporting 2009
Not Reporting 2009
Reporting 2010
Not Reporting 2010


Pounds Harvested by Chesapeake Bay Segment
YRKPH
YRKMH
WBEMH
TANMH
RPPMH
POTMH
POCOH
POCMH
PIAMH
Ocean
MOBPH
LYNPH
LAFMH
JMSPH
JMSOH
JMSMH
CRRMH
CB8PH
CB7PH
CB6PH
CB5MH
Chesapeake Bay Segment
0
100,000
200,000
300,000
400,000
500,000
600,000
700,000
800,000
900,000
1,000,000
Pounds Harvested
2009
2010

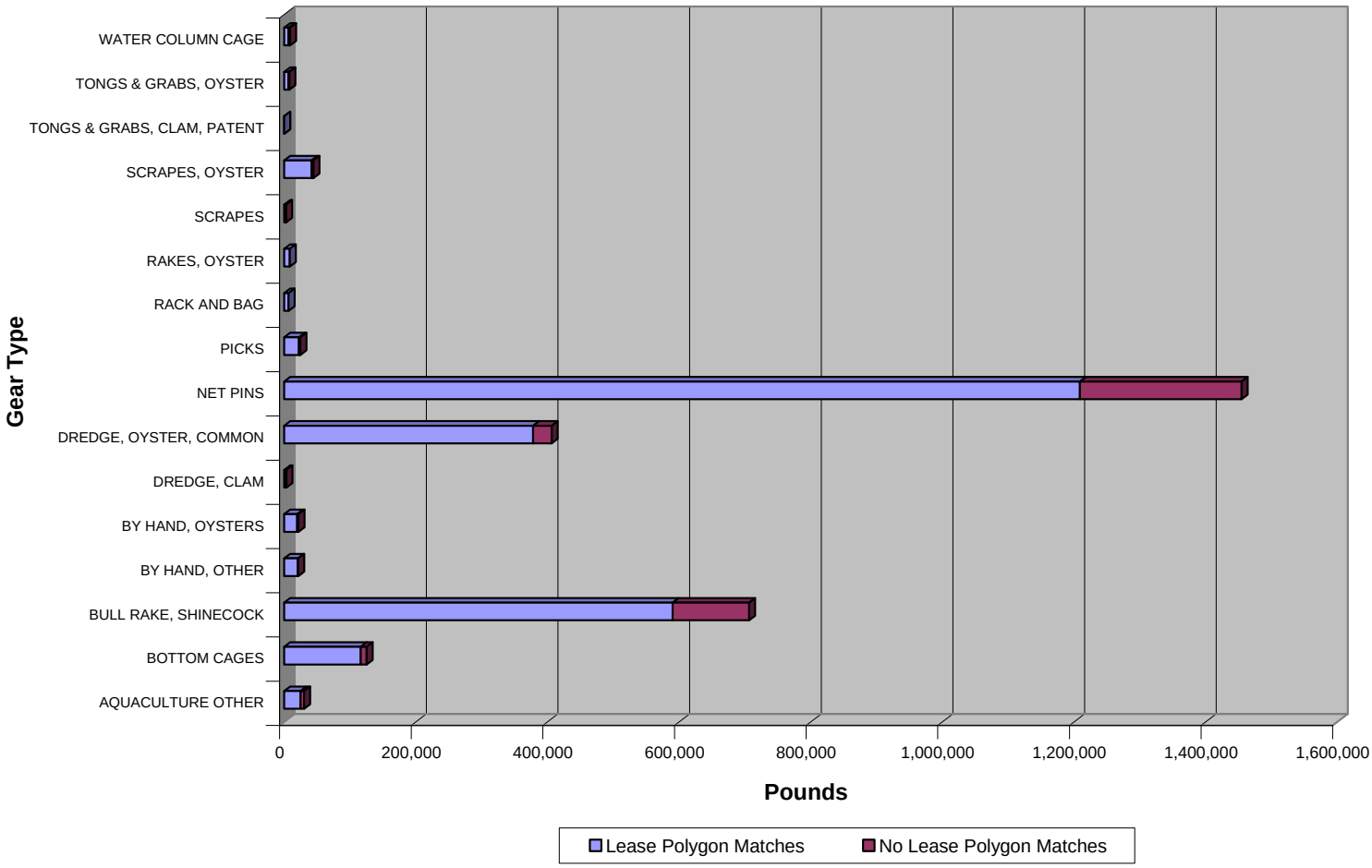
APPENDIX 3.

Amount of Shellfish Harvested by Gear Type

2009 Shellfish Harvest by Gear



2010 Shellfish Harvest by Gear



APPENDIX 4.

Amount of Shellfish Harvested by Species and Location

Virginia Shellfish Harvest 2009 & 2010 - Species by 12-digit Hydrologic Unit - Part 1 : Blood Ark Clam and Oysters

ID Num	12-digit Hydrologic Unit Name	Harvest 2009		Harvest 2010		Blood Ark, Clam (BLOODPRIV) Harvest 2009		Blood Ark, Clam (BLOODPRIV) Harvest 2010		Oysters, Private (OYFPRIV) Harvest 2009		Oysters, Private (OYFPRIV) Harvest 2010		Oysters, Private (OYSPRIV) Harvest 2009		Oysters, Private (OYSPRIV) Harvest 2010		Oysters, Private Seed (PRVS) Harvest 2009		Oysters, Private Seed (PRVS) Harvest 2010	
		pounds	% Total	pounds	% Total	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*
1	Assateague Channel	34157.22	1.85	51323.36	2.09	0.00	0.00	0.00	0.00	2184.43	6.40	7181.28	13.99	1480.09	4.33	5513.48	10.74	0.00	0.00	0.00	0.00
2	Assawoman Inlet	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	0.00	0.00
3	Back River-Lower Chesapeake Bay	18499.18	1.00	0.00	0.00	0.00	0.00	0.00	0.00	234.70	1.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	Beasley Bay-Messongo Creek	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	0.00	0.00
5	Beaverdam Swamp	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	0.00	0.00
6	Bennett Creek-Nansemond River	542.10	0.03	4268.70	0.17	0.00	0.00	0.00	0.00	241.40	44.53	2725.70	63.85	300.70	55.47	1122.20	26.29	0.00	0.00	0.00	0.00
7	Broad Swamp-James River	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	0.00	0.00
8	Brockenbrough Creek-Rappahannock River	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	0.00	0.00
9	Bullbegger Creek-Pocomoke River	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	0.00	0.00
10	Cabin Creek-Mattaponi River	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	0.00	0.00
11	Calfpen Bay-Chincoteague Bay	0.00	0.00	402.98	0.02	0.00	0.00	0.00	0.00	0.00	0.00	362.18	89.88	0.00	0.00	40.80	10.12	0.00	0.00	0.00	0.00
12	Carter Creek-Rappahannock River	0.00	0.00	634.00	0.03	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
13	Carter Creek-York River	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	0.00	0.00
14	Carvers Creek-Piankatank River	24824.50	1.35	13688.50	0.56	0.00	0.00	0.00	0.00	0.00	0.00	196.00	1.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Cedar Creek-Rappahannock River	32663.80	1.77	27041.60	1.10	0.00	0.00	0.00	0.00	32663.80	100.00	23041.80	85.21	0.00	0.00	3999.80	14.79	0.00	0.00	0.00	0.00
16	Cedar Lake-Nansemond River	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	0.00	0.00
17	Cherrystone Inlet-Lower Chesapeake Bay	543691.90	29.51	625253.54	25.44	0.00	0.00	0.00	0.00	1723.82	0.32	122.40	0.02	28.80	0.01	2776.03	0.44	0.00	0.00	0.00	0.00
18	Chesconessex Creek-Onancock Creek	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	0.00	0.00
19	Chincoteague Inlet-Chincoteague Bay	17923.78	0.97	14084.02	0.57	0.00	0.00	0.00	0.00	1155.52	6.45	5676.52	40.30	757.04	4.22	2409.85	17.11	0.00	0.00	0.00	0.00
20	Chuckatuck Creek	2404.75	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2404.75	100.00	0.00	0.00	0.00	0.00	0.00	0.00
21	Coan River	72411.54	3.93	55271.53	2.25	0.00	0.00	0.00	0.00	55065.69	76.05	41713.48	75.47	17093.85	23.61	13558.05	24.53	0.00	0.00	0.00	0.00
22	Cockrell Creek-Lower Chesapeake Bay	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	0.00	0.00
23	Cooper Creek-James River	49148.22	2.67	89942.62	3.66	0.00	0.00	0.00	0.00	28454.40	57.90	59309.20	65.94	14711.42	29.93	21030.40	23.38	0.00	0.00	0.00	0.00
24	Crany Creek-Fox Mill Run	0.00	0.00	394.40	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	394.40	100.00	0.00	0.00	0.00	0.00
25	Cypress Creek	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	0.00	0.00
26	Deep-Lower Chesapeake Bay	0.00	0.00	1274.40	0.05	0.00	0.00	0.00	0.00	0.00	0.00	421.20	33.05	0.00	0.00	853.20	66.95	0.00	0.00	0.00	0.00
27	Deep Creek-Southern Branch Elizabeth River	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	0.00	0.00
28	Deep Creek-The Thorofare	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	0.00	0.00
29	Dividing Creek-Lower Chesapeake Bay	1386.60	0.08	1185.20	0.05	0.00	0.00	0.00	0.00	712.00	51.35	263.60	22.24	674.60	48.65	921.60	77.76	0.00	0.00	0.00	0.00
30	East Creek-Pocomoke Sound	896.40	0.05	14864.40	0.60	0.00	0.00	0.00	0.00	0.00	0.00	4071.60	27.39	896.40	100.00	10792.80	72.61	0.00	0.00	0.00	0.00
31	East River	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	0.00	0.00
32	Eastern Branch Corrotoman River	175.44	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	175.44	100.00	0.00	0.00	0.00	0.00	0.00	0.00
33	Eastern Branch Elizabeth River	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	0.00	0.00
34	Elizabeth River	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	0.00	0.00
35	Farnham Creek	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	0.00	0.00
36	Fleets Bay-Lower Chesapeake Bay	0.00	0.00	727.20	0.03	0.00	0.00	0.00	0.00	0.00	0.00	219.60	30.20	0.00	0.00	507.60	69.80	0.00	0.00	0.00	0.00
37	Gambo Creek-Potomac River	0.00	0.00	846.60	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	846.60	100.00	0.00	0.00	0.00	0.00
38	Gargathy Inlet	3159.38	0.17	2423.40	0.10	0.00	0.00	0.00	0.00	1601.26	50.68	1570.80	64.82	0.00	0.00	333.20	13.75	0.00	0.00	0.00	0.00
39	Grays Creek	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	0.00	0.00
40	Great Machipongo Inlet	215456.52	11.70	380297.88	15.47	0.00	0.00	0.00	0.00	1608.88	0.75	0.00	0.00	0.00	0.00	40.80	0.01	0.00	0.00	0.00	0.00
41	Great Wicomico River	26353.36	1.43	33905.20	1.38	0.00	0.00	0.00	0.00	27.20	0.10	4757.92	14.03	19638.40	74.52	12910.28	38.08	0.00	0.00	0.00	0.00
42	Guilford Creek-Beaseley Bay	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	0.00	0.00
43	Hampton River-Hampton Roads	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	0.00	0.00
44	Hampton Roads Channel	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	0.00	0.00
45	Hills Bay-Piankatank River	4148.51	0.23	2551.50	0.10	0.00	0.00	0.00	0.00	1992.00	48.02	966.00	37.86	0.00	0.00	1585.50	62.14	0.00	0.00	0.00	0.00
46	Hull Creek-Potomac River	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	0.00	0.00
47	Hungars Creek-Lower Chesapeake Bay	208582.64	11.32	274801.10	11.18	0.00	0.00	0.00	0.00	179.32	0.09	520.00	0.19	978.76	0.47	324.00	0.12	0.00	0.00	0.00	0.00
48	Jones Creek-Pagan River	8869.70	0.48	13320.60	0.54	0.00	0.00	0.00	0.00	6906.60	77.87	11541.20	86.64	1963.10	22.13	1779.40	13.36	0.00	0.00	0.00	0.00
49	Jones Creek-York River	0.00	0.00	19661.80	0.80	0.00	0.00	0.00	0.00	0.00	0.00	16913.80	86.02	0.00	0.00	2748.00	13.98	0.00	0.00	0.00	0.00

ID Num	12-digit Hydrologic Unit Name	Harvest 2009		Harvest 2010		Blood Ark, Clam (BLOODPRIV) Harvest 2009		Blood Ark, Clam (BLOODPRIV) Harvest 2010		Oysters, Private (OYFPRIV) Harvest 2009		Oysters, Private (OYFPRIV) Harvest 2010		Oysters, Private (OYSPRIV) Harvest 2009		Oysters, Private (OYSPRIV) Harvest 2010		Oysters, Private Seed (PRVS) Harvest 2009		Oysters, Private Seed (PRVS) Harvest 2010	
		pounds	% Total	pounds	% Total	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*
50	Lagrange Creek-Rappahannock River	20399.40	1.11	2655.40	0.11	0.00	0.00	0.00	0.00	2022.40	9.91	982.60	37.00	18377.00	90.09	1672.80	63.00	0.00	0.00	0.00	0.00
51	Lancaster Creek	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	0.00	0.00
52	Lawnes Creek	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	0.00	0.00
53	Little Annemessex River-Tangier Sound	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	0.00	0.00
54	Little Carter Creek-Rappahannock River	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	0.00	0.00
55	Little Creek-Lower Chesapeake Bay	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	0.00	0.00
56	Little Wicomico River	12758.15	0.69	12674.73	0.52	0.00	0.00	0.00	0.00	5264.55	41.26	5764.09	45.48	7493.60	58.74	6902.00	54.45	0.00	0.00	0.00	0.00
57	Locklies Creek-Rappahannock River	380.00	0.02	6551.66	0.27	0.00	0.00	0.00	0.00	0.00	0.00	5936.67	90.61	0.00	0.00	614.99	9.39	0.00	0.00	0.00	0.00
58	Lower Chippokes Creek-James River	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	0.00	0.00
59	Lower Machodoc Creek-Potomac River	3961.65	0.22	35147.60	1.43	0.00	0.00	0.00	0.00	496.40	12.53	35147.60	100.00	3465.25	87.47	0.00	0.00	0.00	0.00	0.00	0.00
60	Lynnhaven River	762.60	0.04	918.96	0.04	0.00	0.00	0.00	0.00	99.60	13.06	656.76	71.47	663.00	86.94	262.20	28.53	0.00	0.00	0.00	0.00
61	Machipongo River	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	0.00	0.00
62	Marumsco Creek-Pocomoke Sound	3170.90	0.17	760.60	0.03	0.00	0.00	0.00	0.00	204.00	6.43	27.20	3.58	102.00	3.22	50.40	6.63	0.00	0.00	0.00	0.00
63	Mattox Creek	0.00	0.00	473.10	0.02	0.00	0.00	0.00	0.00	0.00	0.00	473.10	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	Metompkin Inlet	0.00	0.00	3770.44	0.15	0.00	0.00	0.00	0.00	0.00	0.00	40.80	1.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	Milford Haven-Lower Chesapeake Bay	5773.90	0.31	4637.07	0.19	0.00	0.00	0.00	0.00	2907.30	50.35	3506.82	75.63	2866.60	49.65	1130.25	24.37	0.00	0.00	0.00	0.00
66	Mill Creek-Pamunkey River	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	0.00	0.00
67	Mockhorn Bay-The Thorofare	2876.40	0.16	2781.20	0.11	0.00	0.00	0.00	0.00	1530.00	53.19	2781.20	100.00	1346.40	46.81	0.00	0.00	0.00	0.00	0.00	0.00
68	Monday Creek-Mobjack Bay	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	0.00	0.00
69	Morrisons Creek-James River	40590.59	2.20	102889.80	4.19	0.00	0.00	0.00	0.00	26554.60	65.42	82897.90	80.57	14035.99	34.58	19991.90	19.43	0.00	0.00	0.00	0.00
70	Nandua Creek-Lower Chesapeake Bay	804.10	0.04	8193.49	0.33	0.00	0.00	0.00	0.00	804.10	100.00	843.65	10.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	Nomini Bay-Potomac River	0.00	0.00	987.70	0.04	0.00	0.00	0.00	0.00	0.00	0.00	987.70	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	Nomini Creek	166.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	166.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
73	North River	3311.76	0.18	5800.35	0.24	0.00	0.00	0.00	0.00	3132.96	94.60	1361.60	23.47	178.80	5.40	4438.75	76.53	0.00	0.00	0.00	0.00
74	Northwest Branch Back River	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	0.00	0.00
75	Occohannock Creek-Lower Chesapeake Bay	10037.20	0.54	12107.74	0.49	0.00	0.00	0.00	0.00	5338.46	53.19	4232.50	34.96	3900.56	38.86	1378.40	11.38	0.00	0.00	0.00	0.00
76	Occupacia Creek	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	0.00	0.00
77	Parrotts Creek-Rappahannock River	108.80	0.01	4343.20	0.18	0.00	0.00	0.00	0.00	108.80	100.00	571.20	13.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	Philbates Creek-York River	0.00	0.00	4086.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	4086.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	Pocomoke Sound Channel	0.00	0.00	741.60	0.03	0.00	0.00	0.00	0.00	0.00	0.00	741.60	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	Popes Creek-Potomac River	10582.50	0.57	929.60	0.04	0.00	0.00	0.00	0.00	10582.50	100.00	929.60	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	Poquoson River-Lower Chesapeake Bay	5680.00	0.31	927.20	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27.20	2.93	0.00	0.00	0.00	0.00
82	Poropotank River	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	0.00	0.00
83	Potomac River Channel	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	0.00	0.00
84	Potomac River L tidal	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	0.00	0.00
85	Pungoteague Creek-Lower Chesapeake Bay	0.00	0.00	5980.61	0.24	0.00	0.00	0.00	0.00	0.00	0.00	3317.04	55.46	0.00	0.00	2663.57	44.54	0.00	0.00	0.00	0.00
86	Queen Creek	0.00	0.00	117.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	117.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	Quinby Inlet	288964.24	15.69	313455.91	12.75	0.00	0.00	0.00	0.00	407.32	0.14	71.40	0.02	0.00	0.00	1678.91	0.54	0.00	0.00	0.00	0.00
88	Rosier Creek-Potomac River	4087.75	0.22	6050.70	0.25	0.00	0.00	0.00	0.00	4054.55	99.19	6050.70	100.00	33.20	0.81	0.00	0.00	0.00	0.00	0.00	0.00
89	Sand Shoal Channel	4848.81	0.26	10202.03	0.42	0.77	0.02	0.00	0.00	176.80	3.65	953.70	9.35	343.80	7.09	576.33	5.65	0.00	0.00	0.00	0.00
90	Sarah Creek-York River	878.87	0.05	2144.02	0.09	0.00	0.00	0.00	0.00	668.09	76.02	1211.10	56.49	210.78	23.98	621.12	28.97	0.00	0.00	0.00	0.00
91	Severn River	537.80	0.03	257.40	0.01	0.00	0.00	0.00	0.00	511.40	95.09	0.00	0.00	26.40	4.91	257.40	100.00	0.00	0.00	0.00	0.00
92	Skiffes Creek-James River	12217.10	0.66	44051.50	1.79	0.00	0.00	0.00	0.00	12217.10	100.00	30097.90	68.32	0.00	0.00	13953.60	31.68	0.00	0.00	0.00	0.00
93	Skimino Creek-York River	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	0.00	0.00
94	Smith Island	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	0.00	0.00
95	Smith Island Inlet-The Thorofare	56780.94	3.08	124408.94	5.06	0.00	0.00	0.00	0.00	410.04	0.72	112.80	0.09	0.00	0.00	390.00	0.31	0.00	0.00	0.00	0.00
96	South Bay	14161.10	0.77	27006.38	1.10	0.00	0.00	0.00	0.00	992.80	7.01	2669.00	9.88	1837.00	12.97	1423.38	5.27	0.00	0.00	0.00	0.00
97	Southwest Branch Back River	1725.30	0.09	0.00	0.00	0.00	0.00	0.00	0.00	1725.30	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	Streeter Creek-Hampton Roads	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	0.00	0.00
99	Swans Gut Creek-Chincoteague Bay	0.00	0.00	401.20	0.02	0.00	0.00	0.00	0.00	0.00	0.00	129.20	32.20	0.00	0.00	272.00	67.80	0.00	0.00	0.00	0.00
100	Synder Swamp-Catpoint Creek	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	0.00	0.00

ID Num	12-digit Hydrologic Unit Name	Harvest 2009		Harvest 2010		Blood Ark, Clam (BLOODPRIV) Harvest 2009		Blood Ark, Clam (BLOODPRIV) Harvest 2010		Oysters, Private (OYFPRIV) Harvest 2009		Oysters, Private (OYFPRIV) Harvest 2010		Oysters, Private (OYSPRIV) Harvest 2009		Oysters, Private (OYSPRIV) Harvest 2010		Oysters, Private Seed (PRVS) Harvest 2009		Oysters, Private Seed (PRVS) Harvest 2010	
		pounds	% Total	pounds	% Total	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*	Pounds	Percent*
101	Tangier Sound Channel	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	0.00	0.00
102	Taylor Creek-Corrotoman River	2006.00	0.11	5310.80	0.22	0.00	0.00	0.00	0.00	0.00	0.00	2182.80	41.10	2006.00	100.00	3128.00	58.90	0.00	0.00	0.00	0.00
103	The Prong-Pocomoke Sound	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	0.00	0.00
104	Totuskey Creek	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	0.00	0.00
105	Upper Machodoc Creek	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	0.00	0.00
106	Wachapreague Inlet	1180.10	0.06	1754.40	0.07	0.00	0.00	0.00	0.00	799.00	67.71	918.00	52.33	136.00	11.52	836.40	47.67	0.00	0.00	0.00	0.00
107	Ware Creek	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	0.00	0.00
108	Ware River	12365.24	0.67	17037.87	0.69	0.00	0.00	0.00	0.00	7158.60	57.89	8087.07	47.47	4551.72	36.81	8950.80	52.53	0.00	0.00	0.00	0.00
109	Warehouse Creek-Nassawadox Creek	8521.48	0.46	23191.26	0.94	0.00	0.00	0.00	0.00	4250.68	49.88	5044.76	21.75	2167.84	25.44	818.04	3.53	0.00	0.00	0.00	0.00
110	Warren Creek-Pagan River	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	0.00	0.00
111	Warwick River	0.00	0.00	266.60	0.01	0.00	0.00	0.00	0.00	0.00	0.00	266.60	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	Western Branch Corrotoman River	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	0.00	0.00
113	Western Branch Elizabeth River	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	0.00	0.00
114	Willoughby Bay	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	0.00	0.00
115	Winter Harbor-Lower Chesapeake Bay	7472.41	0.41	7939.78	0.32	0.00	0.00	0.00	0.00	807.29	10.80	2394.05	30.15	1794.32	24.01	1062.73	13.38	0.00	0.00	0.00	0.00
116	Yeocomico River	39882.53	2.16	28497.20	1.16	0.00	0.00	0.00	0.00	21983.58	55.12	18459.60	64.78	17898.95	44.88	8737.30	30.66	0.00	0.00	0.00	0.00
	Total	**1842289.14**	**100**	**2457615.56**	**100**	**0.77**		**0.00**		**249959.24**		**415625.58**		**144704.56**		**166326.45**		**0.00**		**0.00**	

* Percent of harvest within hydrologic unit

Virginia Shellfish Harvest 2009 & 2010 - Species by 12-digit Hydrologic Unit - Part 2 : Quohog, Private

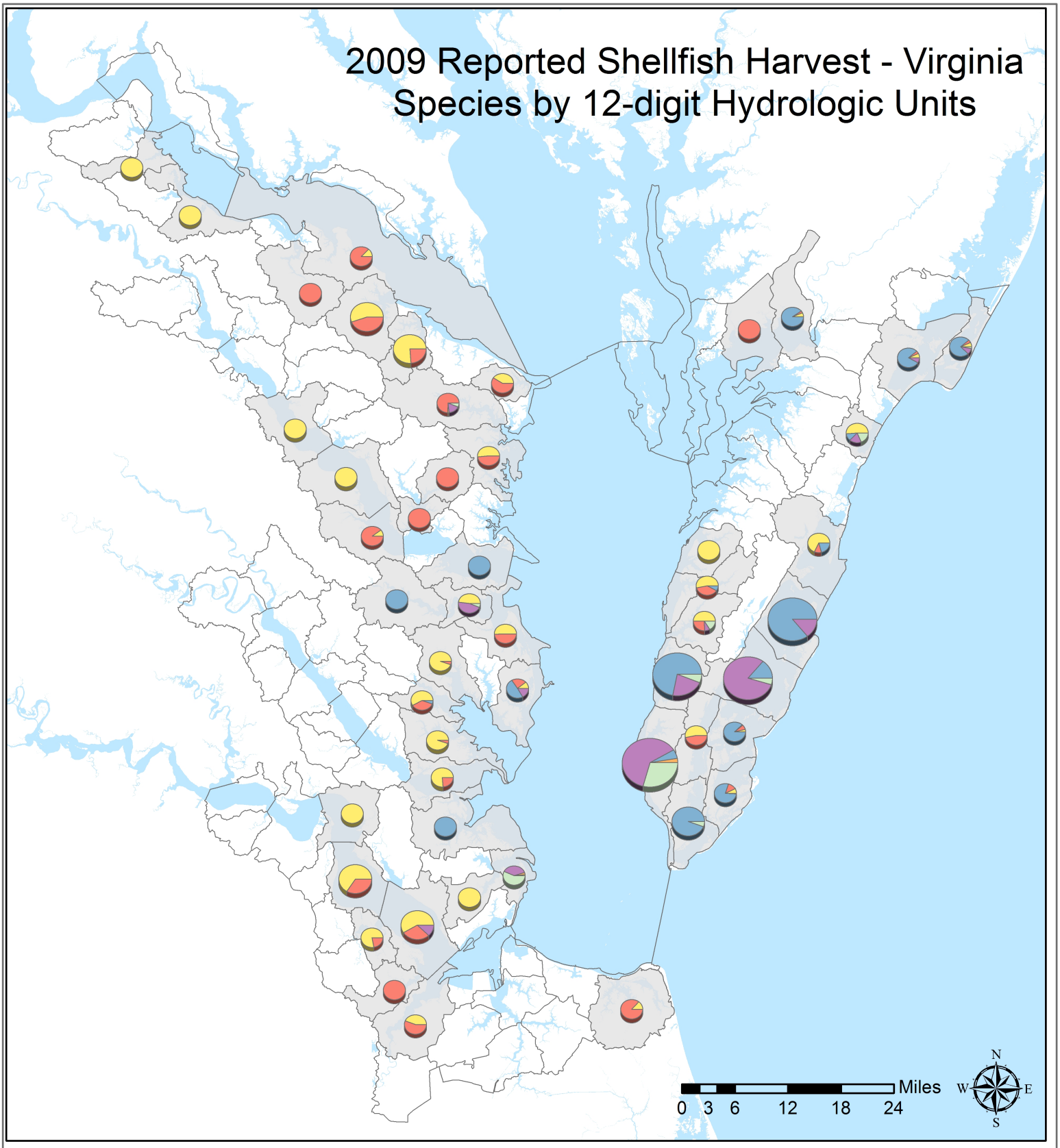
ID Num	12-digit Hydrologic Unit Name	Quohog, Private (BTNPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHDPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHEPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (HCLPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (LITPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (TOPPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*
1	Assateague Channel	0.00	0.00	94.74	0.18	6.88	0.02	3.92	0.01	2.62	0.01	5.54	0.01	26408.00	77.31	14288.22	27.84	3127.15	9.16	13325.81	25.96	948.05	2.78	10910.38	21.26
2	Assawoman Inlet	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	0.00	0.00	0.00	0.00	0.00	0.00
3	Back River-Lower Chesapeake Bay	582.40	3.15	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	7225.84	39.06	0.00	0.00	10456.24	56.52	0.00	0.00
4	Beasley Bay-Messongo Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
5	Beaverdam Swamp	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	0.00	0.00	0.00	0.00	0.00	0.00
6	Bennett Creek-Nansemond River	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	0.00	0.00	0.00	0.00	420.80	9.86
7	Broad Swamp-James River	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	0.00	0.00	0.00	0.00	0.00	0.00
8	Brockenbrough Creek-Rappahannock River	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	0.00	0.00	0.00	0.00	0.00	0.00
9	Bullbegger Creek-Pocomoke River	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	0.00	0.00	0.00	0.00	0.00	0.00
10	Cabin Creek-Mattaponi River	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	0.00	0.00	0.00	0.00	0.00	0.00
11	Calfpen Bay-Chincoteague Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
12	Carter Creek-Rappahannock River	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	634.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	Carter Creek-York River	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	0.00	0.00	0.00	0.00	0.00	0.00
14	Carvers Creek-Piankatank River	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24824.50	100.00	13492.50	98.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Cedar Creek-Rappahannock River	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	0.00	0.00	0.00	0.00	0.00	0.00
16	Cedar Lake-Nansemond River	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	0.00	0.00	0.00	0.00	0.00	0.00
17	Cherrystone Inlet-Lower Chesapeake Bay	13486.56	2.48	9196.00	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29865.80	5.49	20753.40	3.32	338336.45	62.23	442744.34	70.81	160250.46	29.47	149661.38	23.94
18	Chesconessex Creek-Onancock Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
19	Chincoteague Inlet-Chincoteague Bay	0.00	0.00	96.94	0.69	148.00	0.83	12.00	0.09	11.68	0.07	0.00	0.00	14414.30	80.42	4829.42	34.29	1406.45	7.85	967.25	6.87	30.78	0.17	92.03	0.65
20	Chuckatuck Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
21	Coan River	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	252.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
22	Cockrell Creek-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
23	Cooper Creek-James River	134.40	0.27	144.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1230.00	1.37	5848.00	11.90	8229.02	9.15	0.00	0.00	0.00	0.00
24	Crany Creek-Fox Mill Run	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	0.00	0.00	0.00	0.00	0.00	0.00
25	Cypress Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
26	Deep-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
27	Deep Creek-Southern Branch Elizabeth River	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	0.00	0.00	0.00	0.00	0.00	0.00
28	Deep Creek-The Thorofare	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	0.00	0.00	0.00	0.00	0.00	0.00
29	Dividing Creek-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
30	East Creek-Pocomoke Sound	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	0.00	0.00	0.00	0.00	0.00	0.00
31	East River	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	0.00	0.00	0.00	0.00	0.00	0.00
32	Eastern Branch Corrotoman River	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	0.00	0.00	0.00	0.00	0.00	0.00
33	Eastern Branch Elizabeth River	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	0.00	0.00	0.00	0.00	0.00	0.00
34	Elizabeth River	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	0.00	0.00	0.00	0.00	0.00	0.00
35	Farnham Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
36	Fleets Bay-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
37	Gambo Creek-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
38	Gargathy Inlet	0.00	0.00	0.00	0.00	17.36	0.55	0.00	0.00	8.48	0.27	0.00	0.00	353.78	11.20	457.00	18.86	597.30	18.91	62.40	2.57	581.20	18.40	0.00	0.00
39	Grays Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
40	Great Machipongo Inlet	1305.44	0.61	388.80	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29098.30	13.51	10241.00	2.69	174093.81	80.80	349204.96	91.82	9350.10	4.34	20422.32	5.37
41	Great Wicomico River	504.00	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.00	0.30	14563.00	42.95	4467.76	16.95	1674.00	4.94	1636.00	6.21	0.00	0.00
42	Guilford Creek-Beaseley Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
43	Hampton River-Hampton Roads	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	0.00	0.00	0.00	0.00	0.00	0.00
44	Hampton Roads Channel	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	0.00	0.00	0.00	0.00	0.00	0.00
45	Hills Bay-Piankatank River	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	1909.38	46.03	0.00	0.00	247.14	5.96	0.00	0.00
46	Hull Creek-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
47	Hungars Creek-Lower Chesapeake Bay	1616.48	0.77	4079.60	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	147640.48	70.78	165321.24	60.16	46263.55	22.18	80887.44	29.43	11904.05	5.71	23668.82	8.61
48	Jones Creek-Pagan River	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	0.00	0.00	0.00	0.00	0.00	0.00
49	Jones Creek-York River	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	0.00	0.00	0.00	0.00	0.00	0.00

ID Num	12-digit Hydrologic Unit Name	Quohog, Private (BTNPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHDPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHEPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (HCLPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (LITPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (TOPPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*
50	Lagrange Creek-Rappahannock River	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	0.00	0.00	0.00	0.00	0.00	0.00
51	Lancaster Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
52	Lawnes Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
53	Little Annemessex River-Tangier Sound	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	0.00	0.00	0.00	0.00	0.00	0.00
54	Little Carter Creek-Rappahannock River	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	0.00	0.00	0.00	0.00	0.00	0.00
55	Little Creek-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
56	Little Wicomico River	0.00	0.00	0.00	0.00	0.00	0.00	8.64	0.07	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
57	Locklies Creek-Rappahannock River	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	380.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	Lower Chippokes Creek-James River	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	0.00	0.00	0.00	0.00	0.00	0.00
59	Lower Machodoc Creek-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
60	Lynnhaven River	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	0.00	0.00	0.00	0.00	0.00	0.00
61	Machipongo River	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	0.00	0.00	0.00	0.00	0.00	0.00
62	Marumsco Creek-Pocomoke Sound	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2864.90	90.35	683.00	89.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	Mattox Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
64	Metompkin Inlet	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	3616.04	95.90	0.00	0.00	75.20	1.99	0.00	0.00	38.40	1.02
65	Milford Haven-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
66	Mill Creek-Pamunkey River	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	0.00	0.00	0.00	0.00	0.00	0.00
67	Mockhorn Bay-The Thorofare	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	0.00	0.00	0.00	0.00	0.00	0.00
68	Monday Creek-Mobjack Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
69	Morrisons Creek-James River	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	0.00	0.00	0.00	0.00	0.00	0.00
70	Nandua Creek-Lower Chesapeake Bay	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	7349.84	89.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	Nomini Bay-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
72	Nomini Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
73	North River	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	0.00	0.00	0.00	0.00	0.00	0.00
74	Northwest Branch Back River	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	0.00	0.00	0.00	0.00	0.00	0.00
75	Occohannock Creek-Lower Chesapeake Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	798.18	7.95	1635.00	13.50	0.00	0.00	4006.38	33.09	0.00	0.00	855.46	7.07
76	Occupacia Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
77	Parrotts Creek-Rappahannock River	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	112.00	2.58	0.00	0.00	3660.00	84.27	0.00	0.00	0.00	0.00
78	Philbates Creek-York River	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	0.00	0.00	0.00	0.00	0.00	0.00
79	Pocomoke Sound Channel	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	0.00	0.00	0.00	0.00	0.00	0.00
80	Popes Creek-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
81	Poquoson River-Lower Chesapeake Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5680.00	100.00	900.00	97.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	Poropotank River	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	0.00	0.00	0.00	0.00	0.00	0.00
83	Potomac River Channel	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	0.00	0.00	0.00	0.00	0.00	0.00
84	Potomac River L tidal	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	0.00	0.00	0.00	0.00	0.00	0.00
85	Pungoteague Creek-Lower Chesapeake Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
86	Queen Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
87	Quinby Inlet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	248056.10	85.84	233660.80	74.54	39296.21	13.60	76595.20	24.44	1204.61	0.42	1449.60	0.46
88	Rosier Creek-Potomac River	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	0.00	0.00	0.00	0.00	0.00	0.00
89	Sand Shoal Channel	0.00	0.00	0.00	0.00	59.60	1.23	0.00	0.00	6.40	0.13	0.00	0.00	4260.00	87.86	8672.00	85.00	0.00	0.00	0.00	0.00	1.44	0.03	0.00	0.00
90	Sarah Creek-York River	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	311.80	14.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	Severn River	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	0.00	0.00	0.00	0.00	0.00	0.00
92	Skiffes Creek-James River	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	0.00	0.00	0.00	0.00	0.00	0.00
93	Skimino Creek-York River	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	0.00	0.00	0.00	0.00	0.00	0.00
94	Smith Island	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	0.00	0.00	0.00	0.00	0.00	0.00
95	Smith Island Inlet-The Thorofare	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52869.62	93.11	99705.24	80.14	411.68	0.73	15350.61	12.34	3089.60	5.44	8850.29	7.11
96	South Bay	0.00	0.00	0.00	0.00	4.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	11114.50	78.49	22626.00	83.78	67.20	0.47	0.00	0.00	145.60	1.03	288.00	1.07
97	Southwest Branch Back River	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	0.00	0.00	0.00	0.00	0.00	0.00
98	Streeter Creek-Hampton Roads	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	0.00	0.00	0.00	0.00	0.00	0.00
99	Swans Gut Creek-Chincoteague Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
100	Synder Swamp-Catpoint Creek	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	0.00	0.00	0.00	0.00	0.00	0.00

ID Num	12-digit Hydrologic Unit Name	Quohog, Private (BTNPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHDPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (CHEPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (HCLPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (LITPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*	Quohog, Private (TOPPRIV) Harvest 2009 Pounds	Harvest 2009 Percent*	Harvest 2010 Pounds	Harvest 2010 Percent*
101	Tangier Sound Channel	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	0.00	0.00	0.00	0.00	0.00	0.00
102	Taylor Creek-Corrotoman River	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	0.00	0.00	0.00	0.00	0.00	0.00
103	The Prong-Pocomoke Sound	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	0.00	0.00	0.00	0.00	0.00	0.00
104	Totuskey Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
105	Upper Machodoc Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
106	Wachapreague Inlet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	245.10	20.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	Ware Creek	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	0.00	0.00	0.00	0.00	0.00	0.00
108	Ware River	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	654.92	5.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	Warehouse Creek-Nassawadox Creek	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	774.00	3.34	729.60	8.56	16554.46	71.38	1373.36	16.12	0.00	0.00
110	Warren Creek-Pagan River	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	0.00	0.00	0.00	0.00	0.00	0.00
111	Warwick River	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	0.00	0.00	0.00	0.00	0.00	0.00
112	Western Branch Corrotoman River	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	0.00	0.00	0.00	0.00	0.00	0.00
113	Western Branch Elizabeth River	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	0.00	0.00	0.00	0.00	0.00	0.00
114	Willoughby Bay	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	0.00	0.00	0.00	0.00	0.00	0.00
115	Winter Harbor-Lower Chesapeake Bay	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3650.00	48.85	4483.00	56.46	1220.80	16.34	0.00	0.00	0.00	0.00	0.00	0.00
116	Yeocomico River	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	1300.30	4.56	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**17629.28**		**14000.08**		**235.84**		**24.56**		**29.18**		**5.54**		**603258.48**		**631638.80**		**625253.17**		**1013337.07**		**201218.62**		**216657.47**	

* Percent of harvest within hydrologic unit

2009 Reported Shellfish Harvest - Virginia
Species by 12-digit Hydrologic Units



12-digit Hydrologic Units

Harvest Reported

Species Harvested

- BLOOD ARK, CLAM (BLOODPRIV)
- OYSTERS, PRIVATE (OYFPRIV)
- OYSTERS, PRIVATE (OYSPRIV)
- QUAHOG, PRIVATE (BTNPRIV)
- QUAHOG, PRIVATE (CHDPRIV)
- QUAHOG, PRIVATE (CHEPRIV)
- QUAHOG, PRIVATE (HCLPRIV)
- QUAHOG, PRIVATE (LITPRIV)
- QUAHOG, PRIVATE (TOPPRIV)

Percent of Shellfish Harvest

- >0 - 2%
- >2 - 5%
- >5 - 10%
- >10 - 20%
- >20%

This map shows the 86% of reported harvest for 2009 that was mappable to the private lease polygons. 11.8% of available private lease area reported harvest in 2009.

Center for Coastal Resources Management

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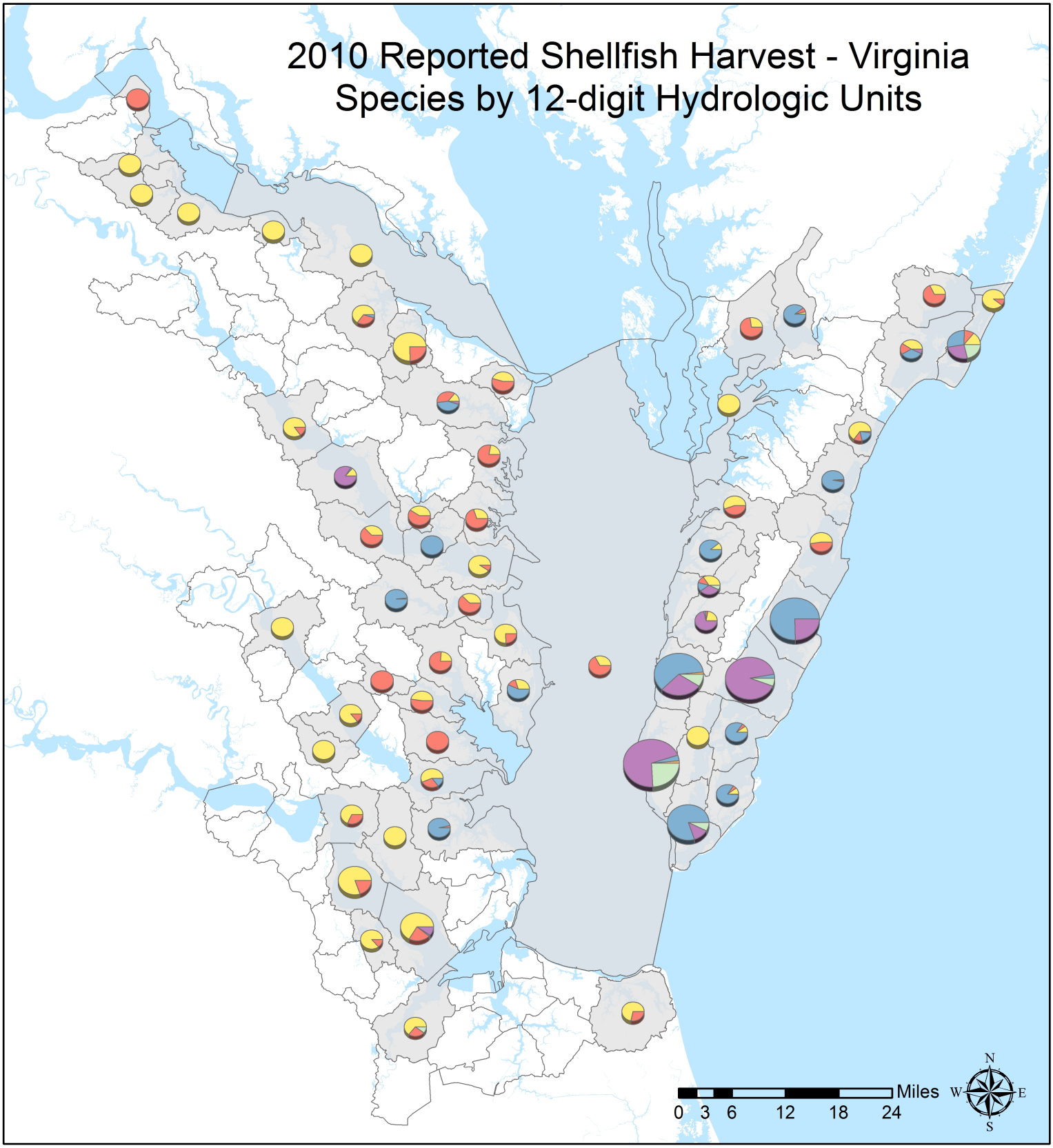
2010 Reported Shellfish Harvest - Virginia
Species by 12-digit Hydrologic Units



12-digit Hydrologic Units

Harvest Reported

Species Harvested

- BLOOD ARK, CLAM (BLOODPRIV)
- OYSTERS, PRIVATE (OYFPRIV)
- OYSTERS, PRIVATE (OYSPRIV)
- QUAHOG, PRIVATE (BTNPRIV)
- QUAHOG, PRIVATE (CHDPRIV)
- QUAHOG, PRIVATE (CHEPRIV)
- QUAHOG, PRIVATE (HCLPRIV)
- QUAHOG, PRIVATE (LITPRIV)
- QUAHOG, PRIVATE (TOPPRIV)

Percent of Shellfish Harvest

- >0 - 2%
- >2 - 5%
- >5 - 10%
- >10 - 20%
- >20%

This map shows the 85% of reported harvest for 2010 that was mappable to the private lease polygons. 16.7% of available private lease area reported harvest in 2010.

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