

## Comparison of EPA and HRPDC Data on Federal Facilities in Hampton Roads

The revised nutrient and sediment targets that will be released in August 2011 will distinguish between federal load reductions and locality load reductions. The HRPDC has conducted an analysis of the GIS boundary layers utilized by the EPA to quantify federal loads to assist localities in determining the accuracy of this information. In this analysis, HRPDC staff compared the latest EPA dataset on federal properties with one developed by HRPDC staff to identify and calculate discrepancies. Overall, the datasets were mostly consistent with each other, with many of the inconsistencies being differences with parcel boundaries or coastlines. However, there are several major issues that are described below and identified in the attached maps. In the case of major discrepancies, HRPDC staff has utilized other data sources (Navy GIS and personal contacts) to verify if the EPA or HRPDC database is correct. In cases where the EPA database is correct, HRPDC will update its database. If the EPA's GIS boundary layers are not accurate for federal lands, localities may want to estimate the nutrient loads associated with HRPDC's estimate of the federal land areas. Nutrient loads could be calculated using the loading rate per acre of land use on federal properties. HRPDC will identify loading rates in a separate document.

A breakdown of the data by locality was conducted for military and non-military federal lands. All areas are measured in acres. In some cases, one dataset labeled a property as military while the other labeled it as non-military; these discrepancies disappear when looking at all federal lands together. Overall, the most significant discrepancies were noted in Hampton, Norfolk, Portsmouth, Virginia Beach and York County. The discrepancies are shown and described in greater detail below. Positive differences show that EPA's area estimate is larger, while negative differences show the opposite.

**Table 1: EPA vs. HRPDC Datasets, Military Lands in Hampton Roads**

Locality	EPA Military (acres)	HRPDC Military (acres)	Difference (acres)	% Difference
CHESAPEAKE	503.48	500.04	3.44	1%
GLOUCESTER	0.76	0.76	0.00	0%
HAMPTON	3,411.04	4,148.19	-737.15	-18%
JAMES CITY	1,451.44	1,369.20	82.24	6%
NEWPORT NEWS	8,036.07	7,926.22	109.85	1%
NORFOLK	7,307.45	4,645.37	2,662.08	57%
POQUOSON	0.00	12.95	-12.95	-100%
PORTSMOUTH	4,602.92	4,260.51	342.41	8%
SUFFOLK	399.51	393.95	5.56	1%
SURRY	0.00	0.00	0.00	0%
VIRGINIA BEACH	6,219.46	5,945.64	273.82	5%
WILLIAMSBURG	0.00	0.00	0.00	0%
YORK	19,562.84	19,462.64	100.20	1%
<b>TOTAL</b>	<b>51,494.98</b>	<b>48,665.48</b>	<b>2,829.50</b>	<b>6%</b>

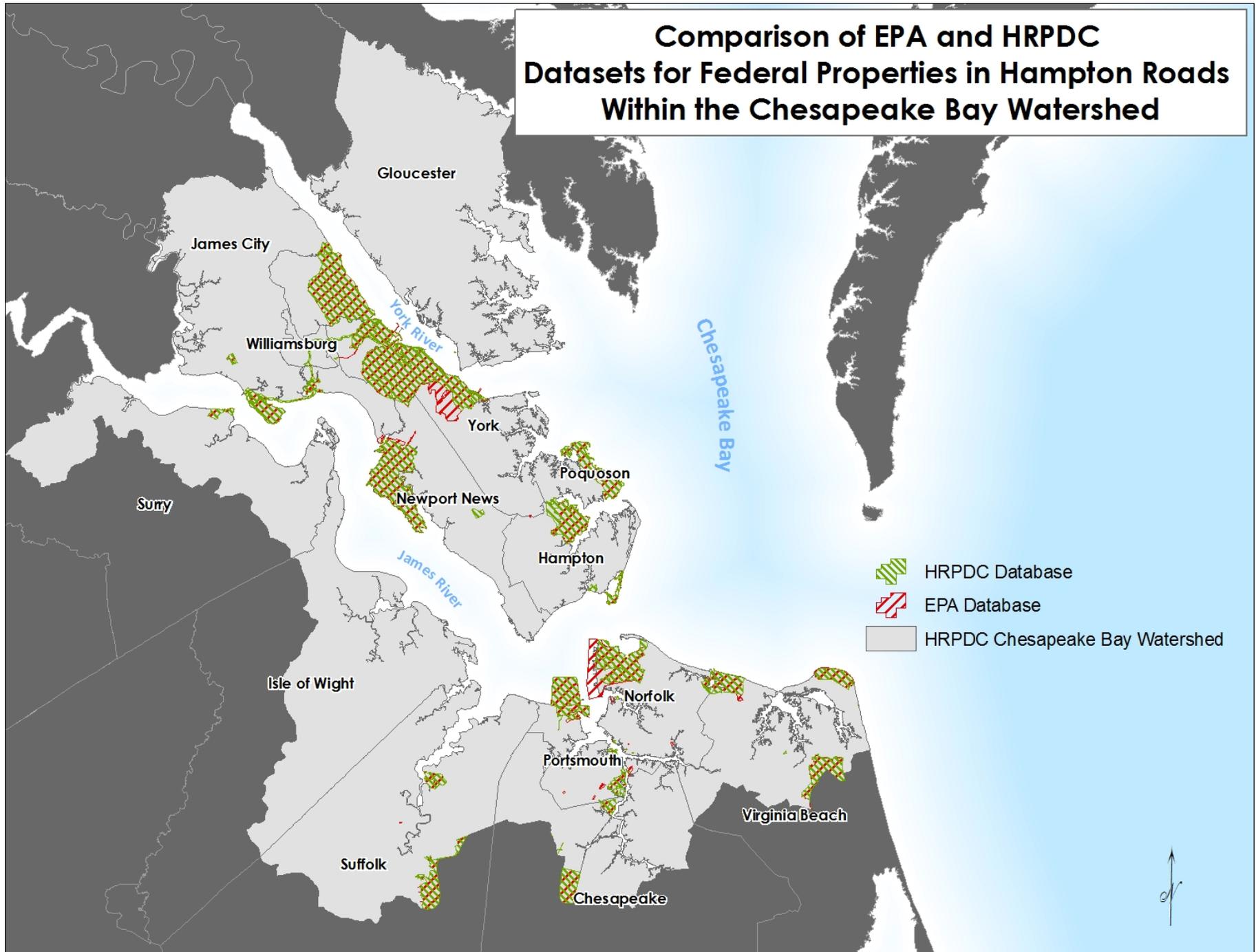
**Table 2: EPA vs. HRPDC Datasets, Non-Military Federal Lands in Hampton Roads**

Locality	EPA Military (acres)	HRPDC Military (acres)	Difference (acres)	% Difference
CHESAPEAKE	1,804.82	1,820.49	-15.67	-1%
GLOUCESTER	0.00	0.00	0.00	0%
HAMPTON	3.34	114.01	-110.67	-97%
JAMES CITY	2,815.37	2,867.68	-52.31	-2%
NEWPORT NEWS	59.25	279.95	-220.70	-79%
NORFOLK	2.47	2.16	0.31	14%
POQUOSON	3,063.94	3,063.91	0.03	0%
PORTSMOUTH	1.25	2.67	-1.42	-53%
SUFFOLK	2,921.26	2,919.47	1.78	0%
SURRY	456.49	456.49	0.00	0%
VIRGINIA BEACH	0.00	0.00	0.00	0%
WILLIAMSBURG	183.24	183.24	0.00	0%
YORK	5,856.51	3,831.30	2,025.21	53%
TOTAL	17,167.93	15,541.39	1,626.55	10%

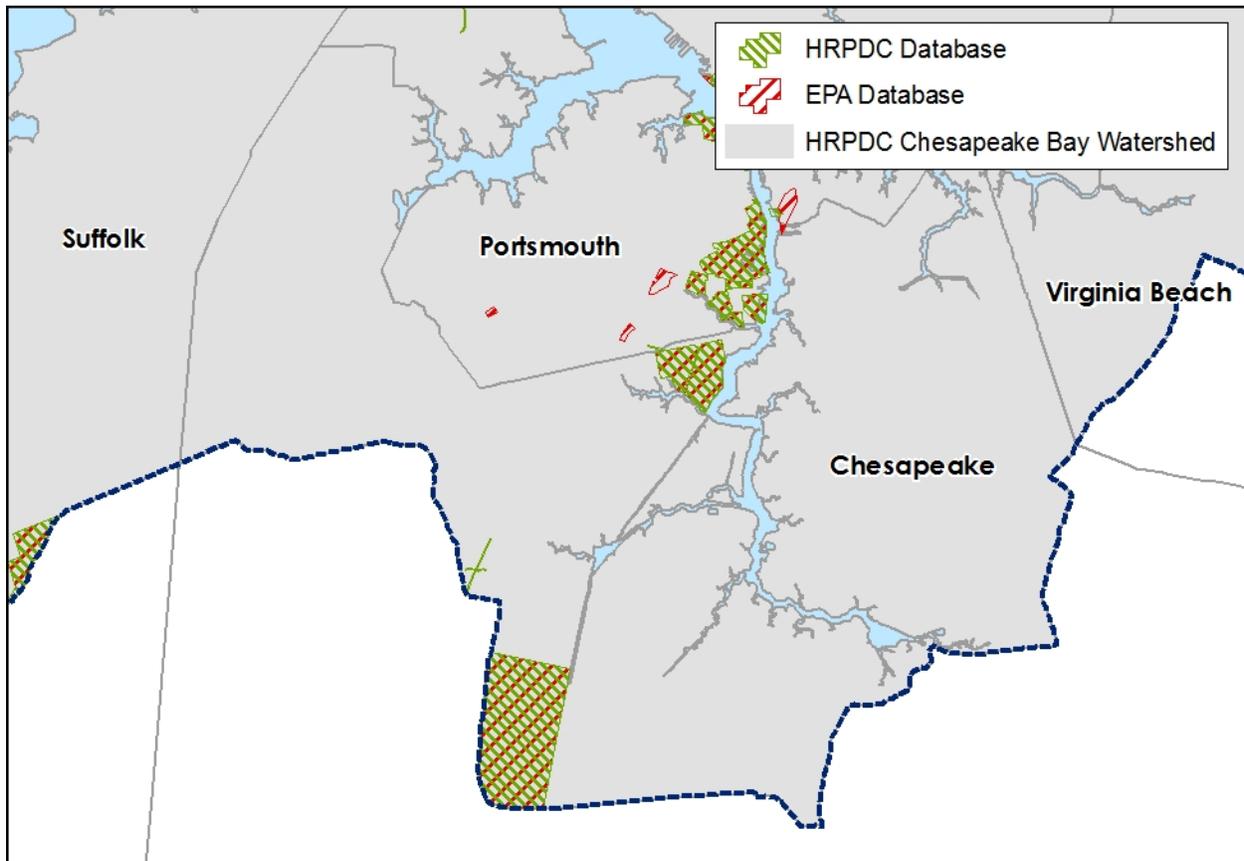
**Table 3: EPA vs. HRPDC Datasets, All Federal Land in Hampton Roads**

Locality	EPA Military (acres)	HRPDC Military (acres)	Difference (acres)	% Difference
CHESAPEAKE	2,308.31	2,320.54	-12.23	-1%
GLOUCESTER	0.76	0.76	0.00	0%
HAMPTON	3,414.37	4,262.20	-847.83	-20%
JAMES CITY	4,266.81	4,236.88	29.93	1%
NEWPORT NEWS	8,095.32	8,206.17	-110.85	-1%
NORFOLK	7,309.92	4,647.53	2,662.39	57%
POQUOSON	3,063.94	3,076.86	-12.92	0%
PORTSMOUTH	4,604.17	4,263.18	340.99	8%
SUFFOLK	3,320.77	3,313.42	7.35	0%
SURRY	456.49	456.49	0.00	0%
VIRGINIA BEACH	6,219.46	5,945.64	273.82	5%
WILLIAMSBURG	183.24	183.24	0.00	0%
YORK	25,419.35	23,293.94	2,125.41	9%
TOTAL	68,662.91	64,206.86	4,456.05	7%

### Comparison of EPA and HRPDC Datasets for Federal Properties in Hampton Roads Within the Chesapeake Bay Watershed



### Chesapeake

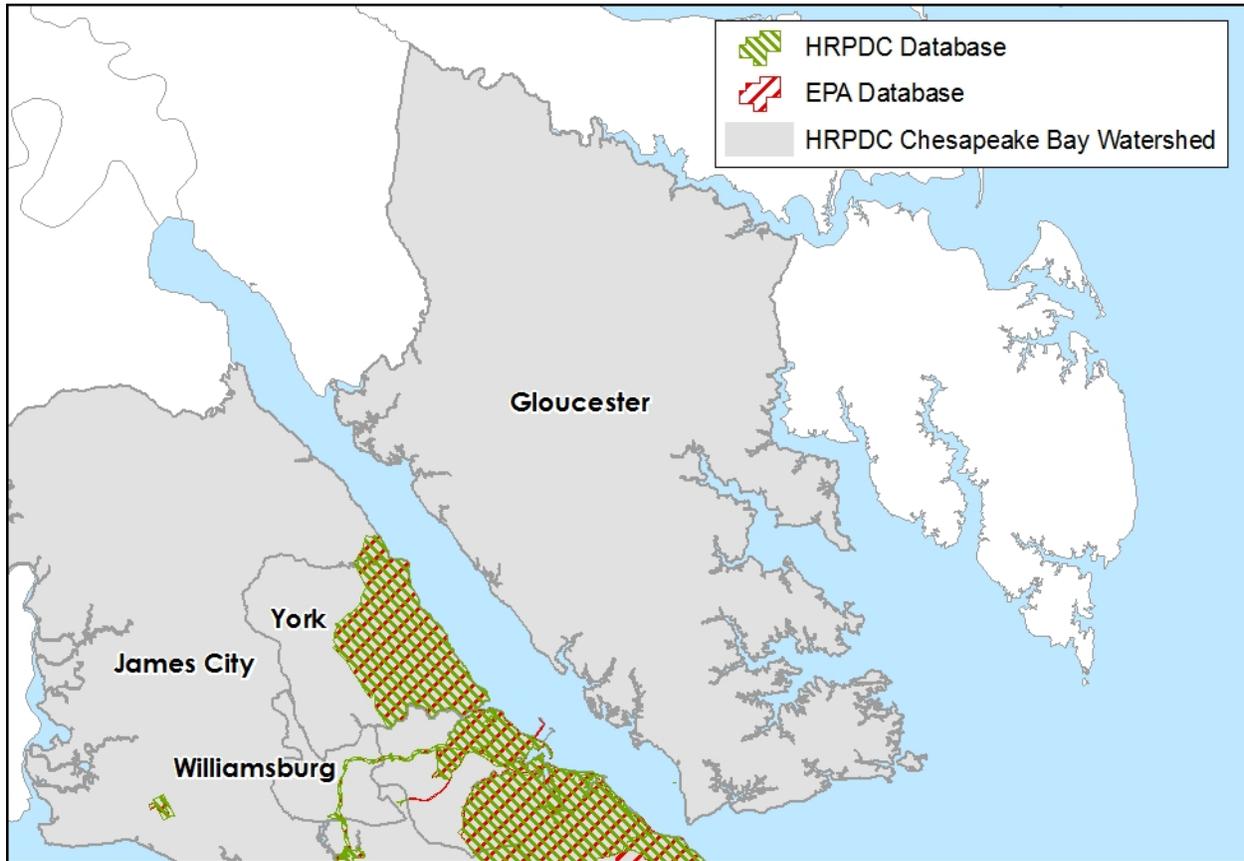


There were no major inconsistencies in Chesapeake identified in the two datasets.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Great Dismal Swamp	No	1,804.82	1,820.49	-15.67	-1%	HRPDC polygon includes access road or other similar area
St. Helena Annex NNSY	Yes	3.46	0.00	3.46	100%	EPA Error - Verified with Navy and Norfolk GIS
St. Julien's Creek	Yes	500.03	500.04	-0.02	0%	
TOTAL MILITARY	Yes	503.48	500.04	3.44	1%	
TOTAL OTHER FEDERAL	No	1,804.82	1,820.49	-15.67	-1%	
TOTAL FEDERAL	N/A	2,308.31	2,320.54	-12.23	-1%	

Table 4: EPA vs. HRPDC Datasets, Chesapeake

### Gloucester County

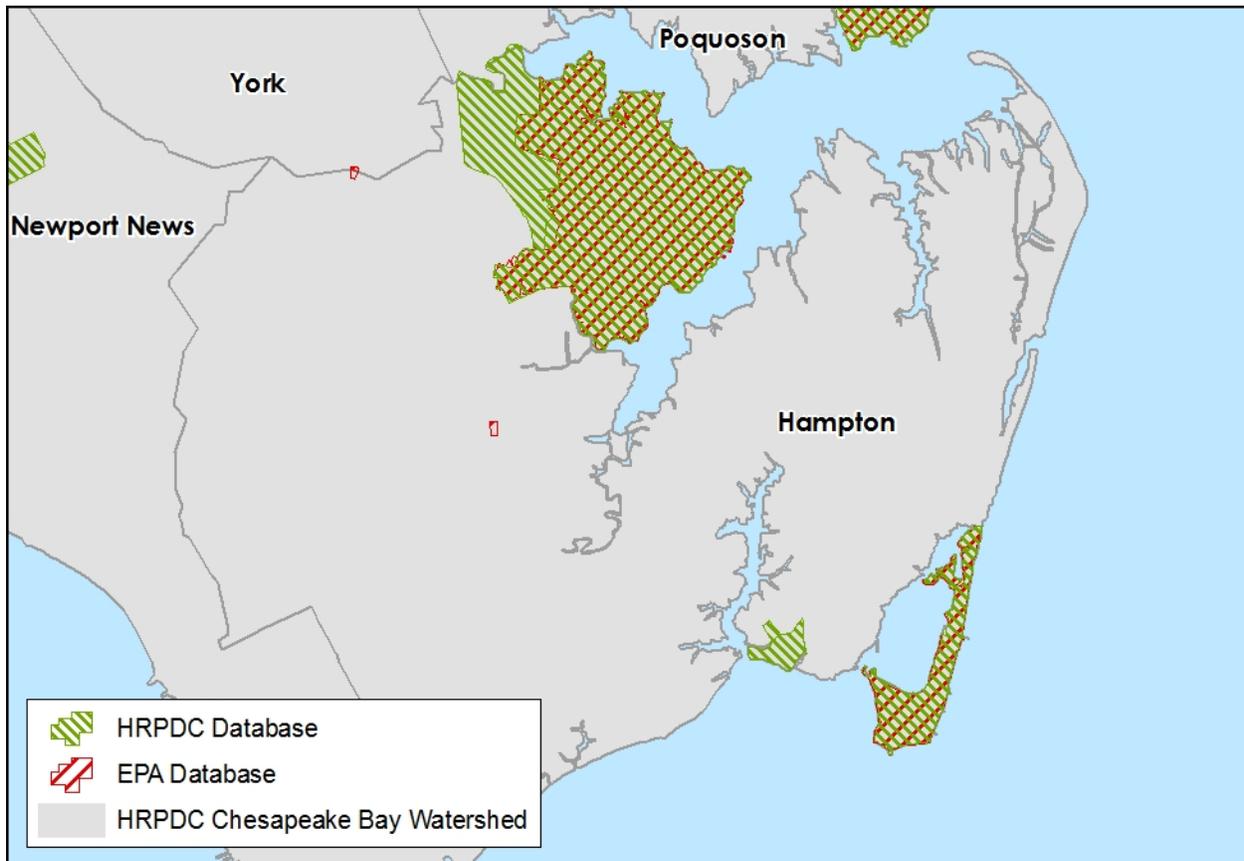


There were no major inconsistencies in Gloucester identified in the two datasets. There was a very slight difference of 0.00017 acres between the two datasets, with HRPDC’s area slightly larger than that provided by the EPA.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Little Mumfort Island	Yes	0.76	0.76	0.00	0%	
TOTAL MILITARY	Yes	0.76	0.76	0.00	0%	
TOTAL OTHER FEDERAL	No	0.00	0.00	0.00	0%	
TOTAL FEDERAL	N/A	0.76	0.76	0.00	0%	

Table 5: EPA vs. HRPDC Datasets, Gloucester County

### Hampton

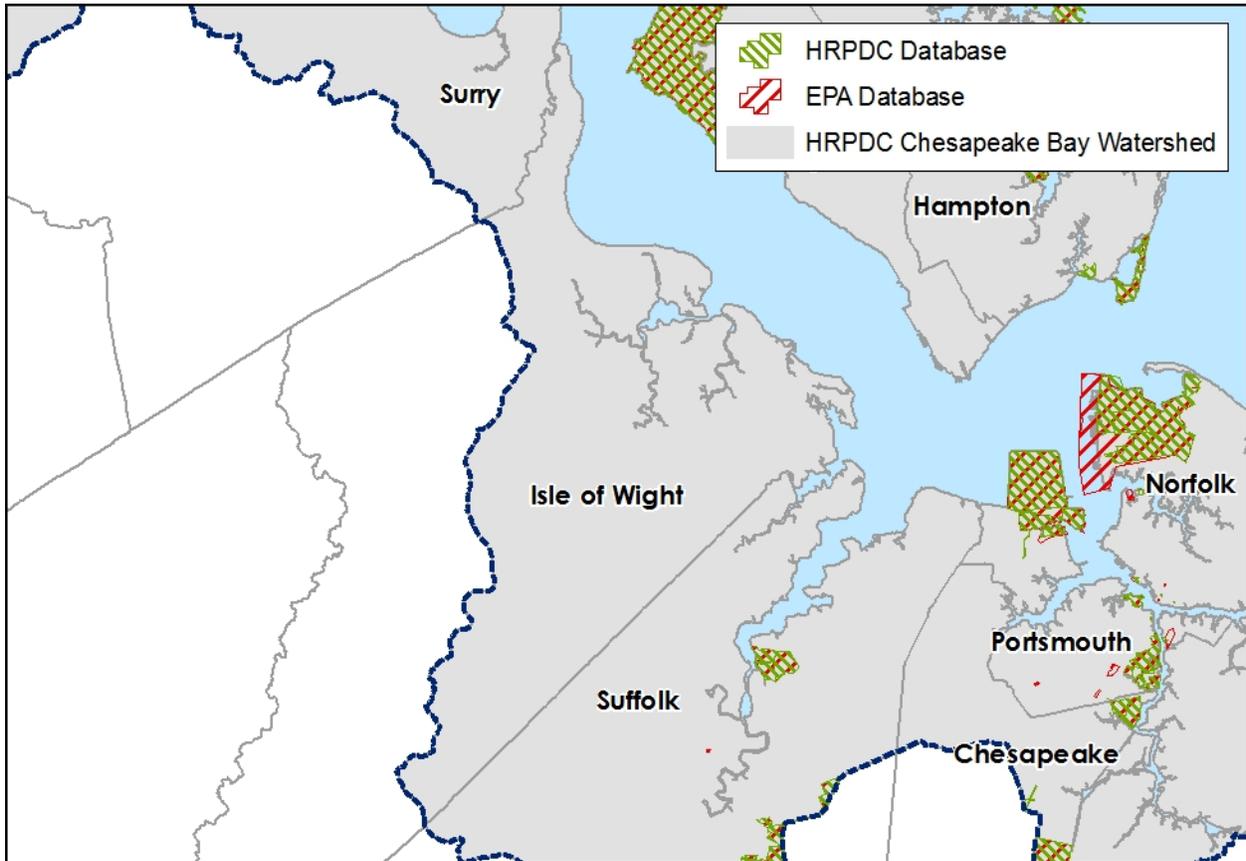


The EPA dataset did not contain NASA Langley, the Hampton National Cemetery, or the Veterans Affairs Medical Center. The HRPDC dataset did not contain the Army National Guard property.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Army National Guard	No	3.34	0.00	3.34	100%	Not in HRPDC Database
Fort Monroe	Yes	507.30	495.59	11.72	2%	
Hampton (Marcella Rd)	Yes	7.36	0.00	7.36	100%	Not in HRPDC Database
Hampton National Cemetery	No	0.00	12.36	-12.36	-100%	Not in EPA Database
Langley AFB	Yes	2,896.37	2,930.26	-33.89	-1%	
NASA Langley	Yes	0.00	722.35	-722.35	-100%	Not in EPA Database
Veterans Affairs Medical Center	No	0.00	101.65	-101.65	-100%	Not in EPA Database
<b>TOTAL MILITARY</b>	<b>Yes</b>	<b>3,411.04</b>	<b>4,148.19</b>	<b>-737.15</b>	<b>-18%</b>	
<b>TOTAL OTHER FEDERAL</b>	<b>No</b>	<b>3.34</b>	<b>114.01</b>	<b>-110.67</b>	<b>-97%</b>	
<b>TOTAL FEDERAL</b>	<b>N/A</b>	<b>3,414.37</b>	<b>4,262.20</b>	<b>-847.83</b>	<b>-20%</b>	

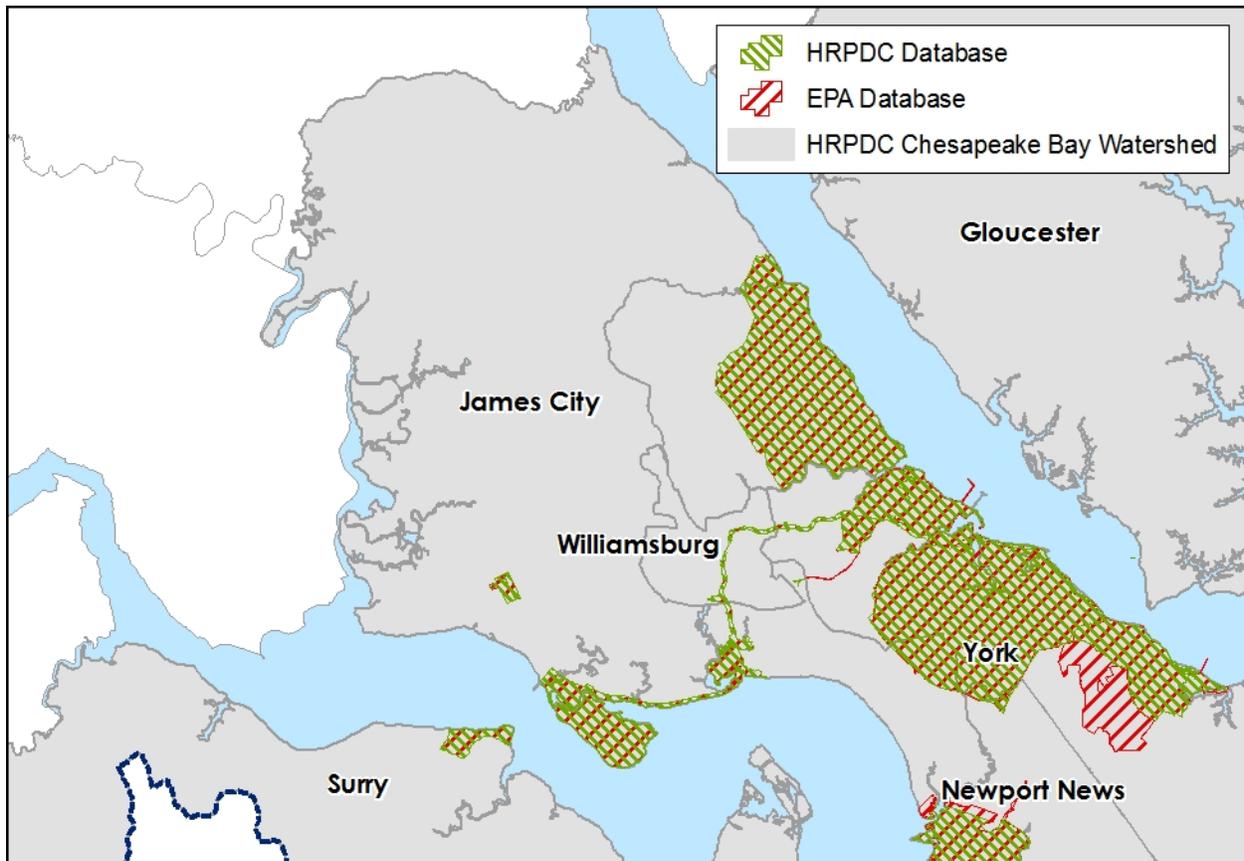
Table 6: EPA vs. HRPDC Datasets, Hampton

### Isle of Wight County



There were no federal facilities in Isle of Wight County identified in the two datasets.

### James City County

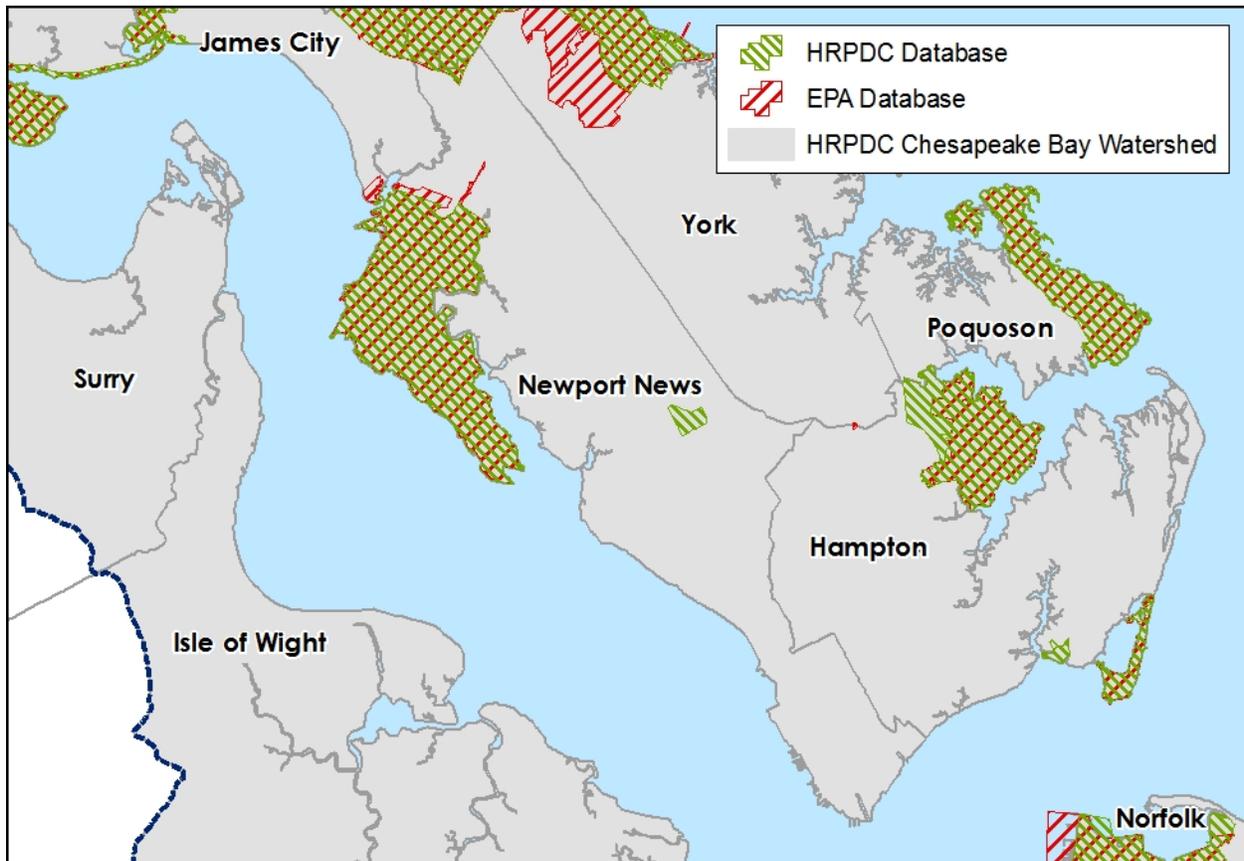


The boundary for the part of Ft. Eustis in James City County was not the same in the two datasets.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Colonial National Historical Park	No	2,815.37	2,818.10	-2.73	0%	
Fort Eustis	Yes	93.61	15.88	77.73	490%	Boundary discrepancy between EPA and HRPDC databases
Jamestown Settlement	No	0.00	49.58	-49.58	-100%	Not in EPA Database
NWS Yorktown	Yes	984.08	979.57	4.51	0%	
NWS Yorktown, Camp Peary	Yes	373.75	373.75	0.00	0%	
<b>TOTAL MILITARY</b>	Yes	1,451.44	1,369.20	82.24	6%	
<b>TOTAL OTHER FEDERAL</b>	No	2,815.37	2,867.68	-52.31	-2%	
<b>TOTAL FEDERAL</b>	N/A	4,266.81	4,236.88	29.93	1%	

Table 7: EPA vs. HRPDC Datasets, James City County

### Newport News

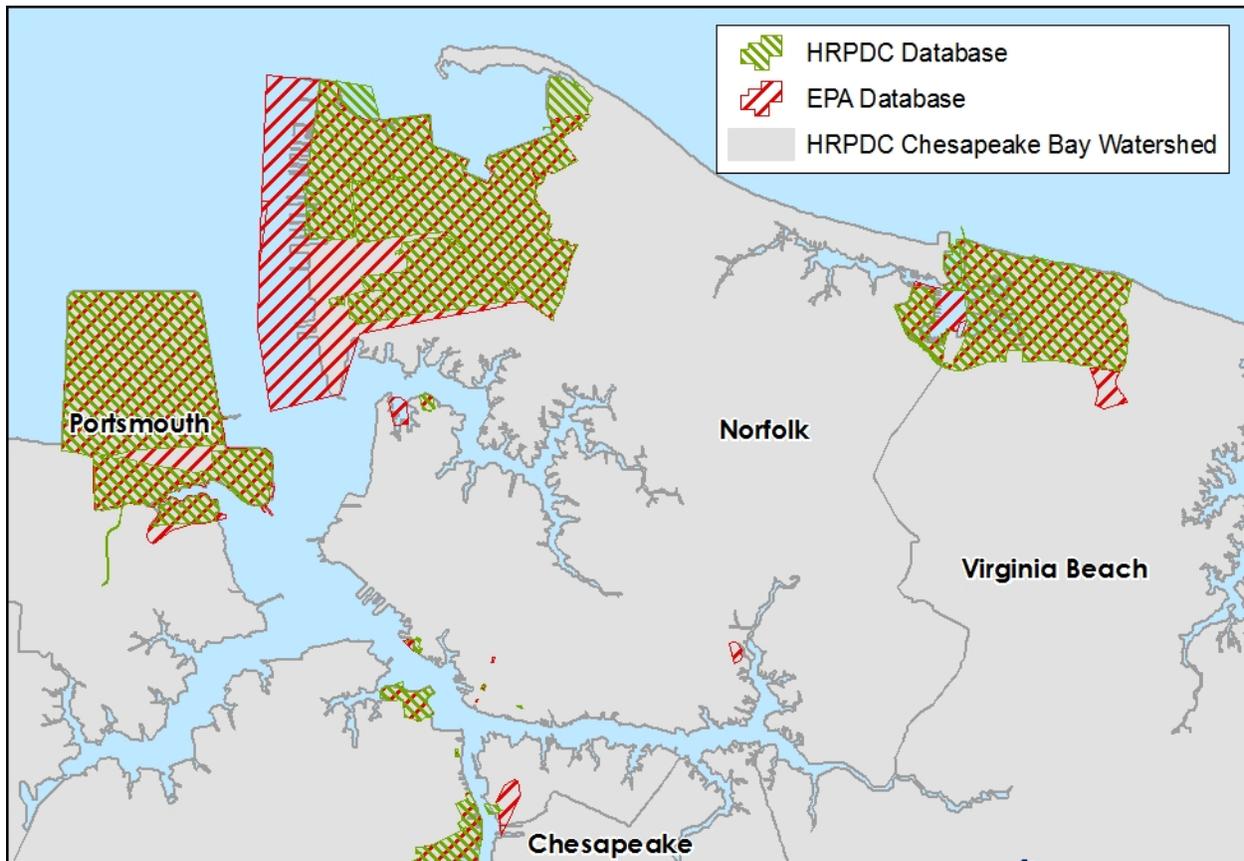


The EPA dataset did not contain the Jefferson Laboratory property. The boundaries for Ft. Eustis and Yorktown NWS differed. Of the two, the Ft. Eustis discrepancy is the more significant.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Fort Eustis	Yes	7,845.84	7,727.75	118.09	2%	Boundary discrepancy
Goose Island MR	No	59.25	59.24	0.00	0%	
Jefferson Lab	No	0.00	220.71	-220.71	-100%	Not in EPA Database
Yorktown NWS	Yes	190.23	198.47	-8.24	-4.15%	Boundary discrepancy
<b>TOTAL MILITARY</b>	<b>Yes</b>	<b>8,036.07</b>	<b>7,926.22</b>	<b>109.85</b>	<b>1%</b>	
<b>TOTAL OTHER FEDERAL</b>	<b>No</b>	<b>59.25</b>	<b>279.95</b>	<b>-220.70</b>	<b>-79%</b>	
<b>TOTAL FEDERAL</b>	<b>N/A</b>	<b>8,095.32</b>	<b>8,206.17</b>	<b>-110.85</b>	<b>-1%</b>	

Table 8: EPA vs. HRPDC Datasets, Newport News

### Norfolk



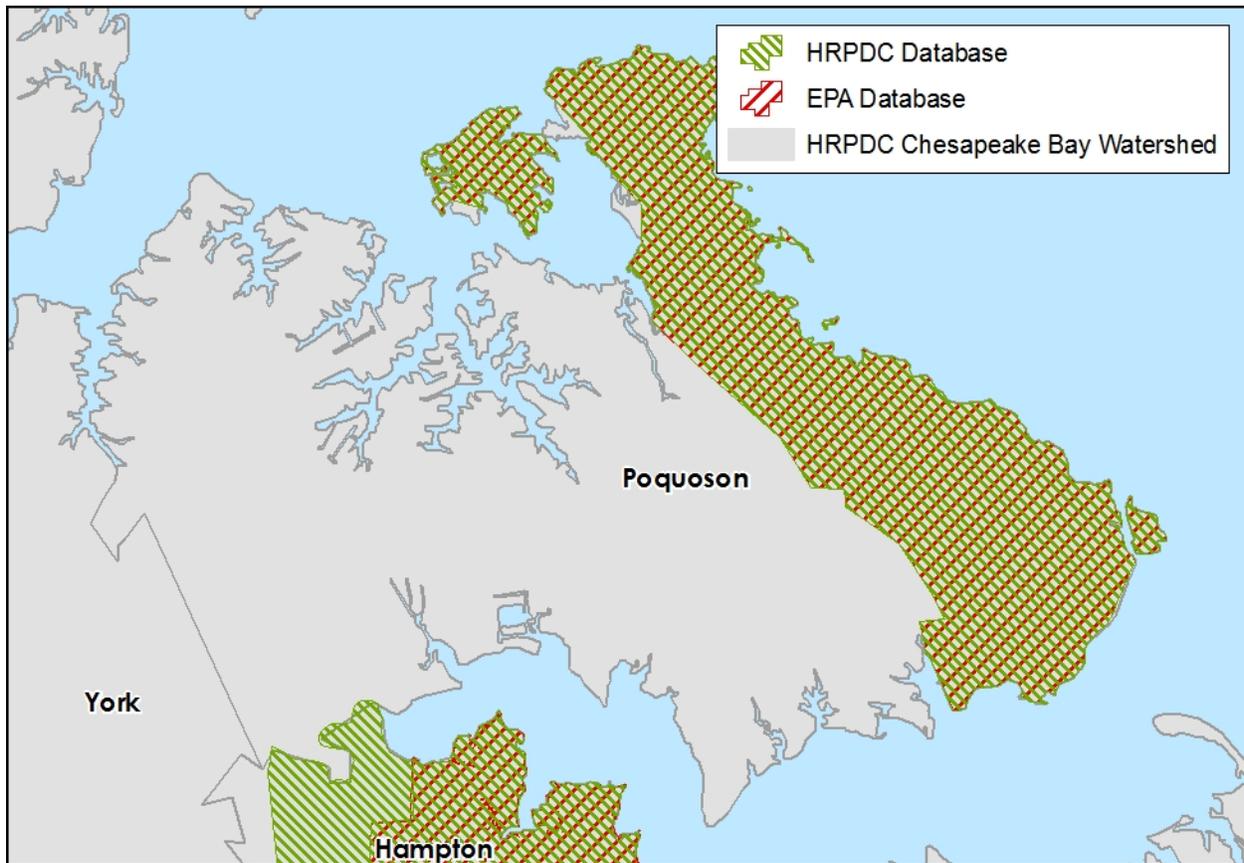
The Custom House, Federal Courthouse, and Army National Guard sites were not in the HRPDC database. The EPA database did not contain the Shore Patrol Headquarters facility. The Norfolk part of Joint Expeditionary Base Little Creek-Fort Story appears to be mostly water. The EPA database contains a polygon designated as part of the Navy’s Lafayette River Complex that appears to cover part of the Larchmont neighborhood. The Navy did not have this facility in their database. The boundaries for Fort Norfolk differed significantly, though the difference appears to be caused by the EPA boundary including water surrounding the facility. The boundary for the Norfolk Naval Base is the most serious discrepancy. The EPA’s boundary appears to include significant amounts of water, as well as the Norfolk International Terminal property. HRPDC’s boundary for the base was verified with the Navy.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Federal Building	No	1.05	2.16	-1.11	-51%	Building footprint vs. lot
Fort Norfolk	Yes	16.38	8.44	7.94	94%	
JEBLCFS	Yes	80.80	80.70	0.10	0%	Norfolk areas and Water
NAVSTA NORFOLK VA	Yes	7,056.02	4,523.27	2,532.75	56%	Significant Discrepancy - Verified with Navy

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Norfolk Army National Guard	Yes	18.36	0.00	18.36	100%	Not in HRPDC Database
NSA Norfolk, Lafayette River Complex (1)	Yes	19.82	19.82	0.00	0%	
NSA Norfolk, Lafayette River Complex (2)	Yes	45.55	0.00	45.55	100%	EPA Error – Navy (appears to cover part of Larchmont neighborhood and water)
Owen B. Pickett U.S. Custom House	No	0.24	0.00	0.24	100%	Not in HRPDC Database
SHORE PATROL HQ NORVA	Yes	0.00	1.48	-1.48	-100%	Not in EPA Database
ST. HELENA ANNEX	Yes	70.52	11.66	58.85	505%	Significant Discrepancy - Verified with Navy
Walter E. Hoffman U.S. Courthouse	No	1.18	0.00	1.18	100%	Not in HRPDC Database
TOTAL MILITARY	Yes	7,307.45	4,645.37	2,662.08	57%	
TOTAL OTHER FEDERAL	No	2.47	2.16	0.31	14%	
TOTAL FEDERAL	N/A	7,309.92	4,647.53	2,662.39	57%	

Table 9: EPA vs. HRPDC Datasets, Norfolk

### Poquoson

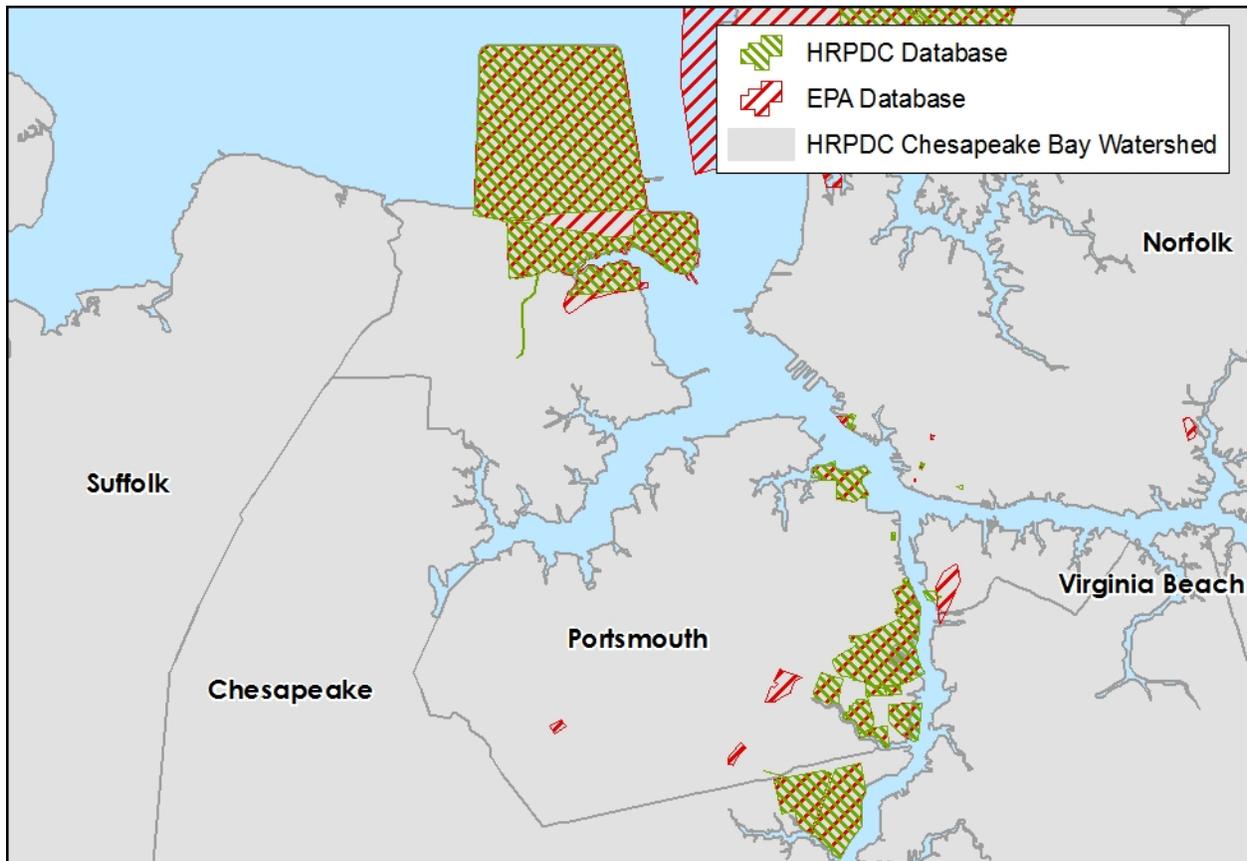


HRPDC’s boundary for NASA Langley appears to reach into Poquoson. NASA Langley is not included in the EPA database.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
NASA Langley	Yes	0.00	12.95	-12.95	-100%	Not in EPA Database
Plum Tree Island National Wildlife Refuge	No	3,063.94	3,063.91	0.03	0%	
TOTAL MILITARY	Yes	0.00	12.95	-12.95	-100%	
TOTAL OTHER FEDERAL	No	3,063.94	3,063.91	0.03	0%	
TOTAL FEDERAL	N/A	3,063.94	3,076.86	-12.92	0%	

Table 10: EPA vs. HRPDC Datasets, Poquoson

### Portsmouth



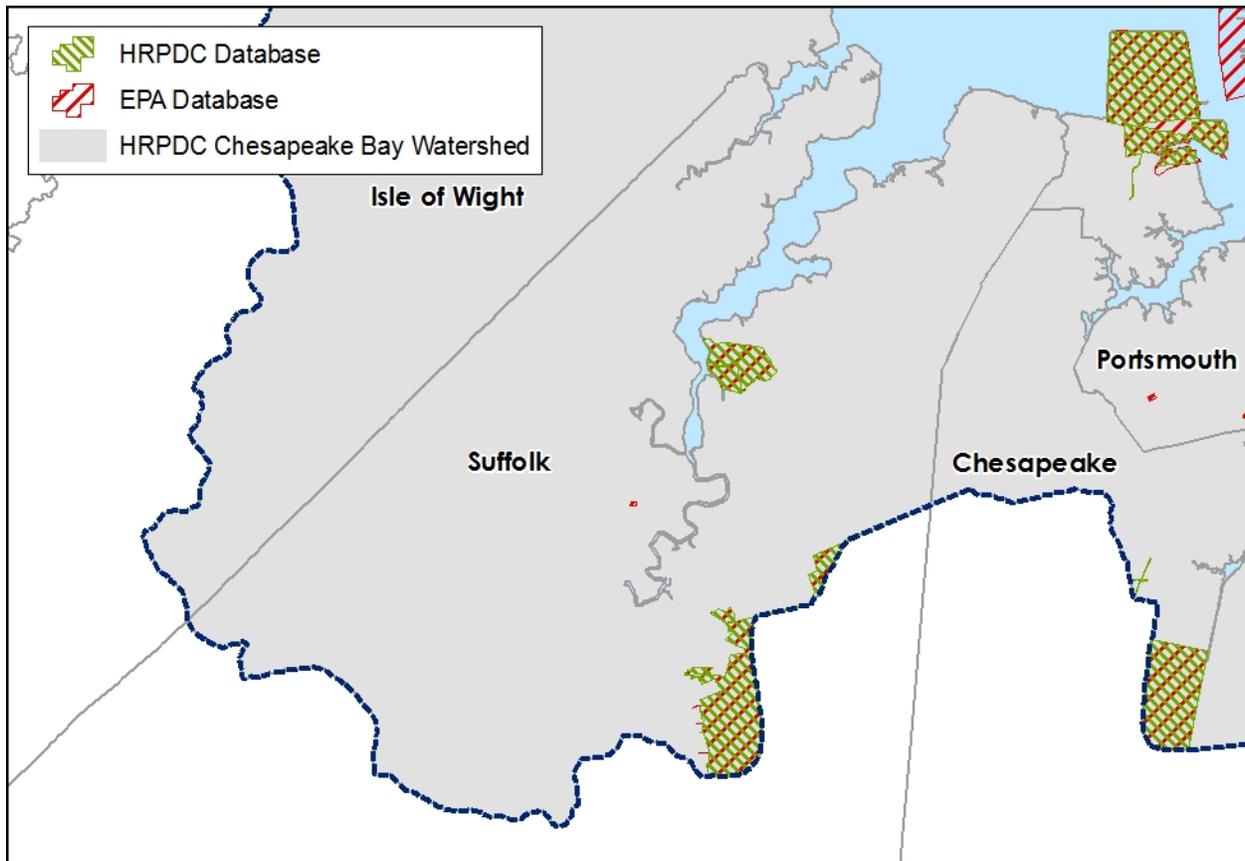
HRPDC’s database does not include the Army National Guard facility in Portsmouth, while EPA’s database does not include all of the U.S. Fifth District Coast Guard Command facility adjacent or near to the federal building. EPA’s boundary for Craney Island appears to include a large section that was sold to the City of Portsmouth by the Navy. EPA’s boundary for the Coast Guard base extends beyond HRPDC’s boundary. Discussions with the Navy indicated that several properties throughout the region are owned by the Navy but privately maintained as housing areas for base personnel. These areas would not be included in the Navy’s areas of responsibility regarding the Chesapeake Bay TMDL, so were excluded from HRPDC’s database, while the EPA’s retains them. Privately managed housing areas are not covered by the Navy’s permit, and development on these sites would be reviewed and approved by the City.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Army National Guard Portsmouth	Yes	10.54	0.00	10.54	100%	Not in HRPDC Database
CRANEY ISLAND	Yes	3,452.04	3,251.55	200.49	6%	Navy sold area to Portsmouth for landfill
Federal Building	No	1.25	1.01	0.24	24%	EPA polygon extends into Coast Guard Command

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
NAVAL MEDICAL CENTER	Yes	115.93	115.92	0.00	0%	
Naval Support Activity Norfolk Naval Shipyard	Yes	812.51	742.83	69.68	9%	Verified with Navy - Various outer properties
US Coast Guard Base	Yes	211.91	150.21	61.70	41%	Significant Discrepancy
US Fifth District Coast Guard Command	No	0.00	1.66	-1.66	-100%	Not in EPA Database
TOTAL MILITARY	Yes	4,602.92	4,260.51	342.41	8%	
TOTAL OTHER FEDERAL	No	1.25	2.67	-1.42	-53%	
TOTAL FEDERAL	N/A	4,604.17	4,263.18	340.99	8%	

Table 11: EPA vs. HRPDC Datasets, Portsmouth

### Suffolk

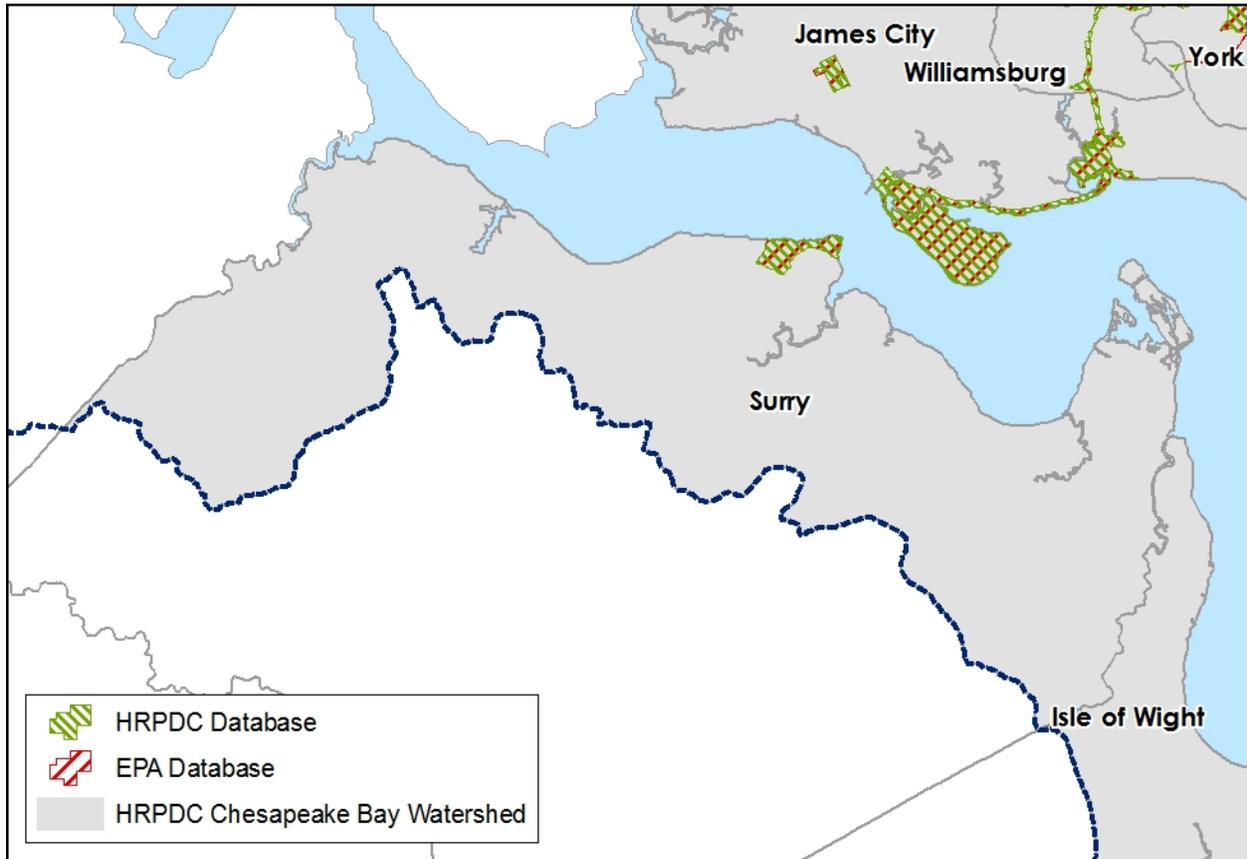


HRPDC’s database does not include the Suffolk Army National Guard facility. A former Naval facility near the Nansemond National Wildlife Refuge is included in both the EPA and HRPDC datasets, but the Navy states that it was sold to another party. Navy staff are looking into the transaction to determine to whom it was sold.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Great Dismal Swamp	No	2,497.56	2,496.61	0.94	0%	
Nansemond National Wildlife Refuge	No	423.70	422.86	0.84	0%	
NRTF Driver Naval Transmitter Station	Yes	392.96	393.95	-0.98	0%	Navy claims property was sold
Suffolk Army National Guard	Yes	6.55	0.00	6.55	100%	Not in HRPDC Database
<b>TOTAL MILITARY</b>	<b>Yes</b>	<b>399.51</b>	<b>393.95</b>	<b>5.56</b>	<b>1%</b>	
<b>TOTAL OTHER FEDERAL</b>	<b>No</b>	<b>2,921.26</b>	<b>2,919.47</b>	<b>1.78</b>	<b>0%</b>	
<b>TOTAL FEDERAL</b>	<b>N/A</b>	<b>3,320.77</b>	<b>3,313.42</b>	<b>7.35</b>	<b>0%</b>	

Table 12: EPA vs. HRPDC Datasets, Suffolk

### Surry County

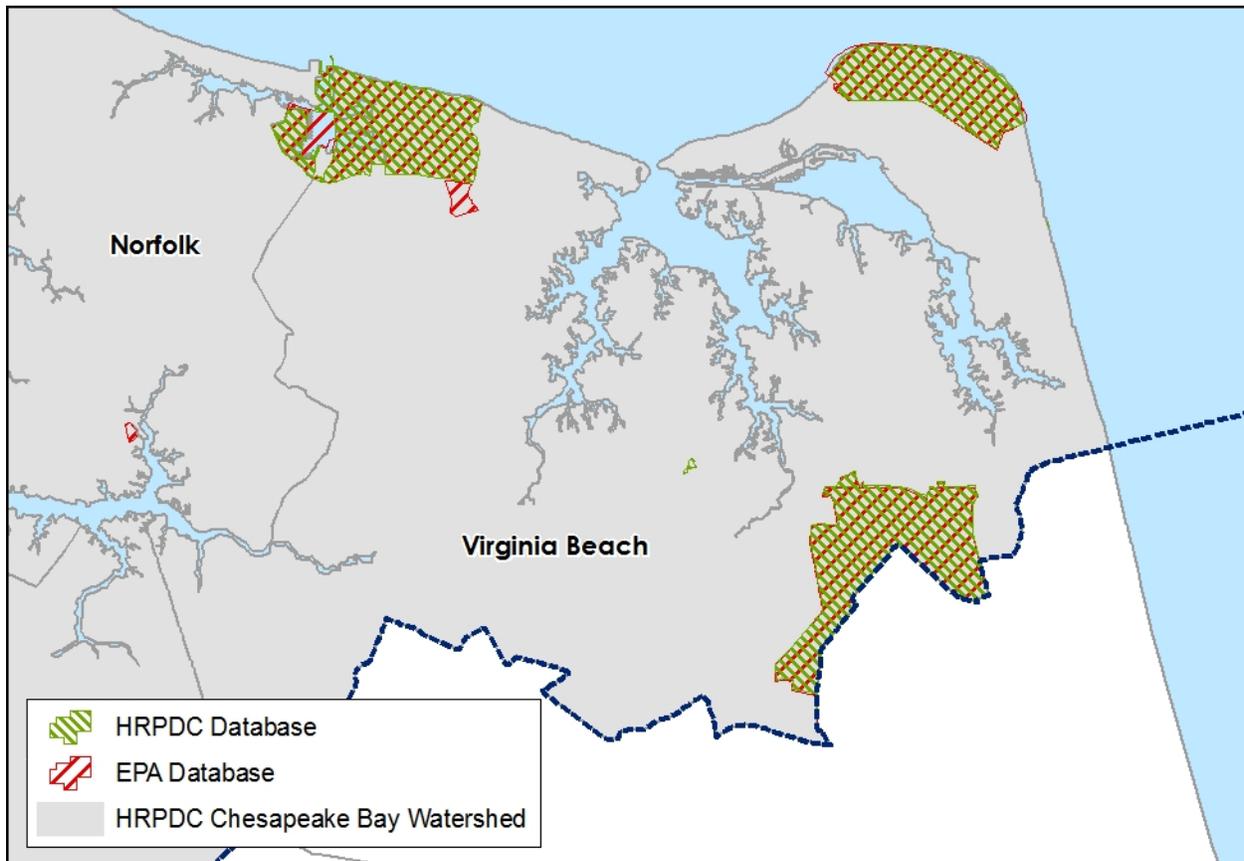


There were no major inconsistencies in Surry identified in the two datasets.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Colonial National Historical Park	No	456.49	456.49	0.00	0%	
TOTAL MILITARY	Yes	0.00	0.00	0.00	0%	
TOTAL OTHER FEDERAL	No	456.49	456.49	0.00	0%	
TOTAL FEDERAL	N/A	456.49	456.49	0.00	0%	

Table 13: EPA vs. HRPDC Datasets, Surry County

### Virginia Beach



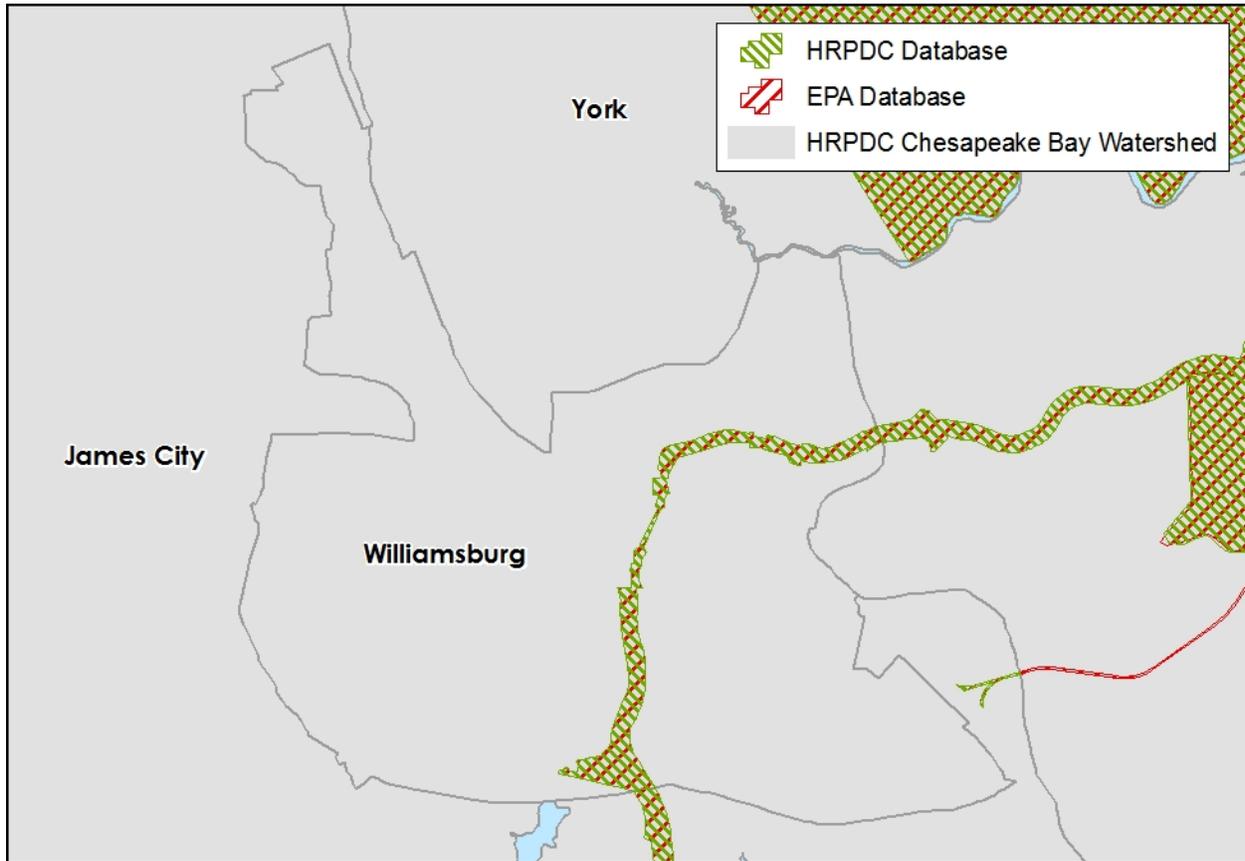
The 67<sup>th</sup> Street Beach Club and NEXCOM Headquarters facilities were not included in EPA’s dataset. The discrepancies for Fort Story and NAS Oceana are minor boundary issues. EPA’s boundary for Little Creek includes a significant amount of water as well as an off-base housing area that is privately maintained. Privately managed housing areas are not covered by the Navy’s permit, and development on these sites would be reviewed and approved by the City.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
67th Street Beach Club	Yes	0.00	0.12	-0.12	-100%	Not in EPA Database
Fort Story	Yes	1,516.18	1,469.72	46.46	3%	Boundary/shoreline discrepancy
Little Creek	Yes	2,286.53	2,024.27	262.26	13%	EPA includes outer PPV housing area; both areas include USCG facility
NAS Oceana	Yes	2,416.74	2,441.78	-25.04	-1%	Minor boundary discrepancy
NEXCOM Headquarters	Yes	0.00	9.74	-9.74	-100%	Not in EPA Database
<b>TOTAL MILITARY</b>	<b>Yes</b>	<b>6,219.46</b>	<b>5,945.64</b>	<b>273.82</b>	<b>5%</b>	

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
TOTAL OTHER FEDERAL	No	0.00	0.00	0.00	0%	
TOTAL FEDERAL	N/A	6,219.46	5,945.64	273.82	5%	

Table 14: EPA vs. HRPDC Datasets, Virginia Beach

### Williamsburg

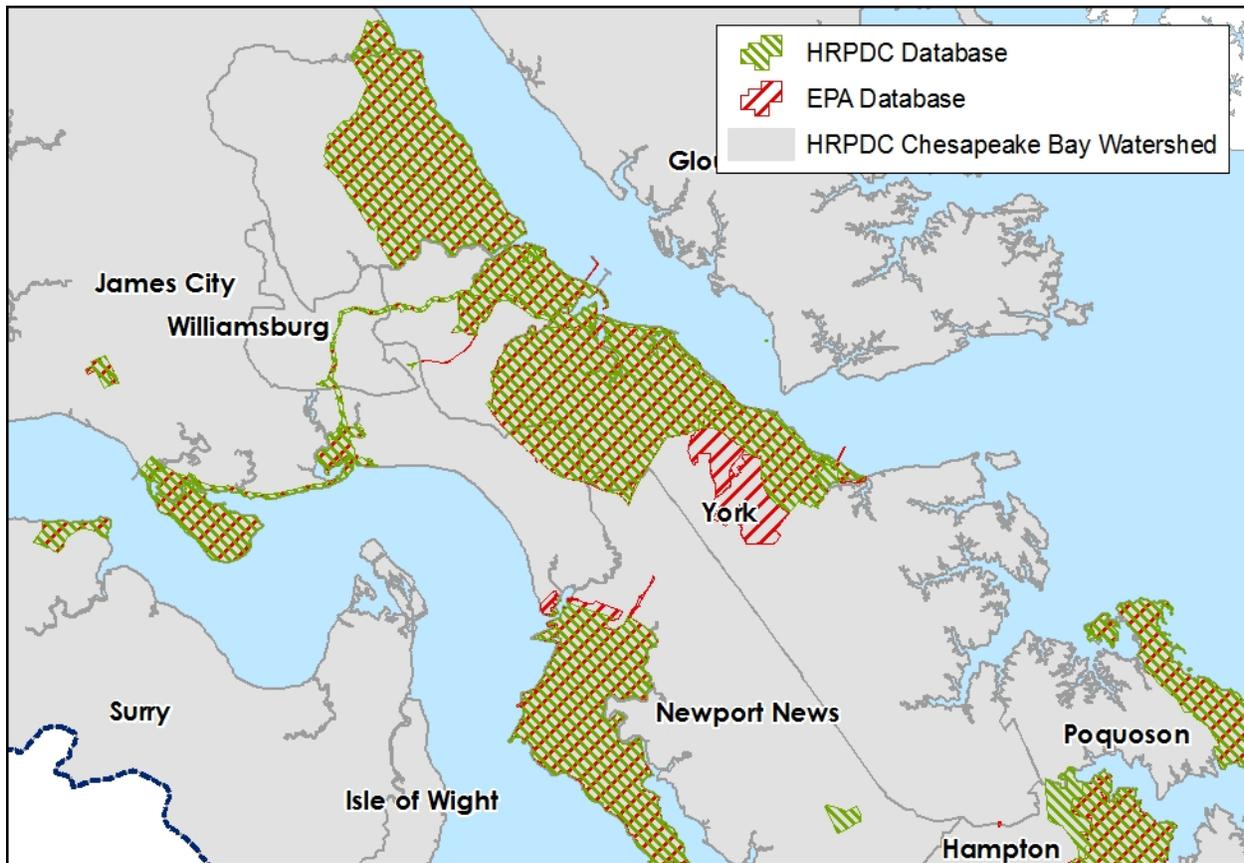


There were no major inconsistencies in Williamsburg identified in the two datasets.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Colonial National Historical Park	No	183.24	183.24	0.00	0%	
TOTAL MILITARY	Yes	0.00	0.00	0.00	0%	
TOTAL OTHER FEDERAL	No	183.24	183.24	0.00	0%	
TOTAL FEDERAL	N/A	183.24	183.24	0.00	0%	

Table 15: EPA vs. HRPDC Datasets, Williamsburg

### York County



The EPA dataset did not include a fuel depot that is part of the Yorktown NWS; this property was confirmed with the Navy. The HRPDC dataset did not include an Army National Guard facility in York. There are several boundary discrepancies concerning the Yorktown NWS and Colonial National Historic Park; it appears that several parcels have changed hands one or more times between the two agencies. While the owner appears to be debated, the area owned by the federal government remains the same. The EPA dataset’s boundary for the park includes two large areas that are not in the HRPDC dataset. The boundaries for the Coast Guard base are not consistent, but this appears to be due to the EPA’s including water and a pier in the facility.

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
Army National Guard York	Yes	2.09	0.00	2.09	100%	Not in HRPDC Database
Camp Peary	Yes	8,750.64	8,750.63	0.01	0%	
Colonial National Historic Park	No	5,856.51	3,831.30	2,025.21	53%	Major Discrepancy
NWS Yorktown	Yes	10,675.76	10,492.02	183.74	2%	Includes Cheatham Annex

Site	Military	EPA Area	HRPDC Area	Difference	% Diff.	Notes
U.S. Coast Guard Reservation	Yes	134.35	100.04	34.31	34%	Boundary discrepancy: water and pier
Yorktown Naval Weapon Station Fuel Depot	Yes	0.00	119.95	-119.95	-100%	Not in EPA Database
TOTAL MILITARY	Yes	19,562.84	19,462.64	100.20	1%	
TOTAL OTHER FEDERAL	No	5,856.51	3,831.30	2,025.21	53%	
TOTAL FEDERAL	N/A	25,419.35	23,293.94	2,125.41	9%	

Table 16: EPA vs. HRPDC Datasets, York County