

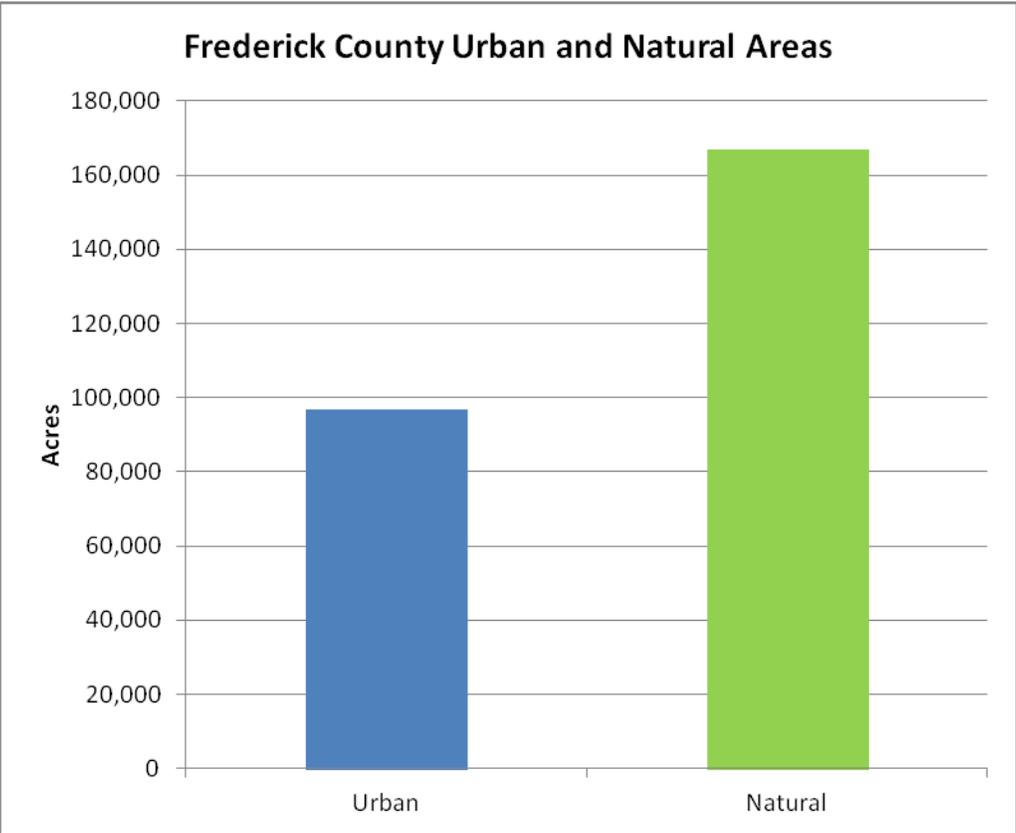
MD Estimates for the Chesapeake Bay Phase 6 Watershed Model

Land-Use, Version 1: Frederick County Summary

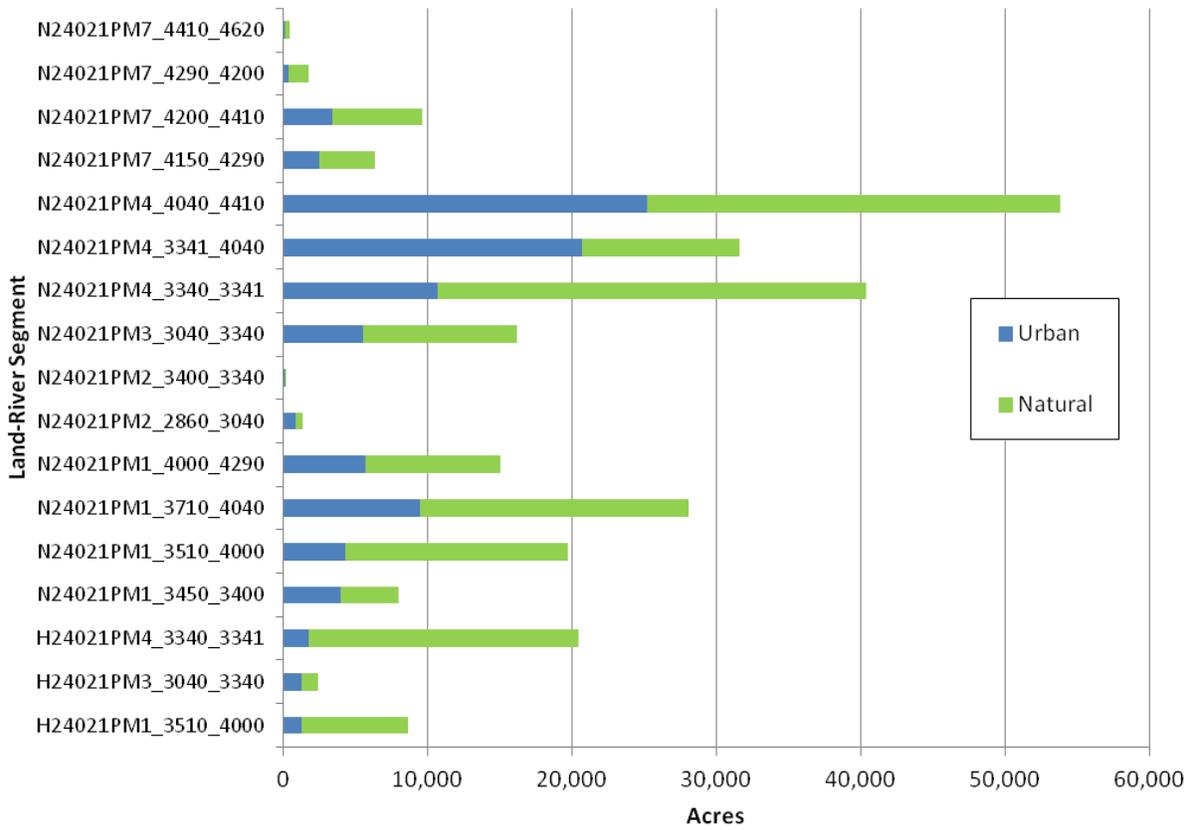
Note: The estimates presented in this summary were provided by Maryland for 2012 conditions to the Chesapeake Bay Program for input into the Phase 6 watershed model land-use. Estimates were provided for urban and natural land-uses only. Per Chesapeake Bay Program decision rules, agricultural land-use acres in the watershed model are based on the United States Department of Agriculture (USDA) census data. Therefore, there was no reason for Maryland to provide estimates for agricultural lands to the Chesapeake Bay Program.

Frederick County Urban and Natural Areas by Segment

Land-River Segment	Urban (Acres)	Natural (Acres)
H24021PM1_3510_4000	1,220.0	7,429.4
H24021PM3_3040_3340	1,255.4	1,136.1
H24021PM4_3340_3341	1,745.9	18,664.1
N24021PM1_3450_3400	3,973.6	3,972.4
N24021PM1_3510_4000	4,258.9	15,429.5
N24021PM1_3710_4040	9,458.7	18,591.7
N24021PM1_4000_4290	5,640.8	9,409.9
N24021PM2_2860_3040	877.1	485.7
N24021PM2_3400_3340	84.5	96.8
N24021PM3_3040_3340	5,527.6	10,628.9
N24021PM4_3340_3341	10,698.6	29,693.7
N24021PM4_3341_4040	20,707.1	10,891.5
N24021PM4_4040_4410	25,206.2	28,647.6
N24021PM7_4150_4290	2,463.9	3,873.3
N24021PM7_4200_4410	3,390.8	6,247.2
N24021PM7_4290_4200	351.7	1,393.2
N24021PM7_4410_4620	62.8	327.3
	96,923.4	166,918.5



Frederick County Urban and Natural Areas by Segment



Frederick County Urban Area by Segment

Land-River Segment	Canopy Over Impervious (Acres)	Impervious - No Canopy (Acres)	Canopy Over Turf (Acres)	Turf - No Canopy (Acres)
H24021PM1_3510_4000	86	232	85	735
H24021PM3_3040_3340	17	43	62	69
H24021PM4_3340_3341	161	492	91	1,337
N24021PM1_3450_3400	68	332	193	1,516
N24021PM1_3510_4000	258	866	887	2,010
N24021PM1_3710_4040	396	1,869	1,802	7,635
N24021PM1_4000_4290	194	1,168	1,178	4,454
N24021PM2_2860_3040	5	17	5	76
N24021PM2_3400_3340	2	7	5	20
N24021PM3_3040_3340	124	672	384	2,115
N24021PM4_3340_3341	502	2,527	2,045	8,001
N24021PM4_3341_4040	541	4,206	2,363	13,597
N24021PM4_4040_4410	708	5,065	3,887	15,546
N24021PM7_4150_4290	85	586	342	1,451
N24021PM7_4200_4410	120	732	426	2,112
N24021PM7_4290_4200	23	48	32	249
N24021PM7_4410_4620	7	4	8	44
	3,297	18,865	13,795	60,967

Method Summary

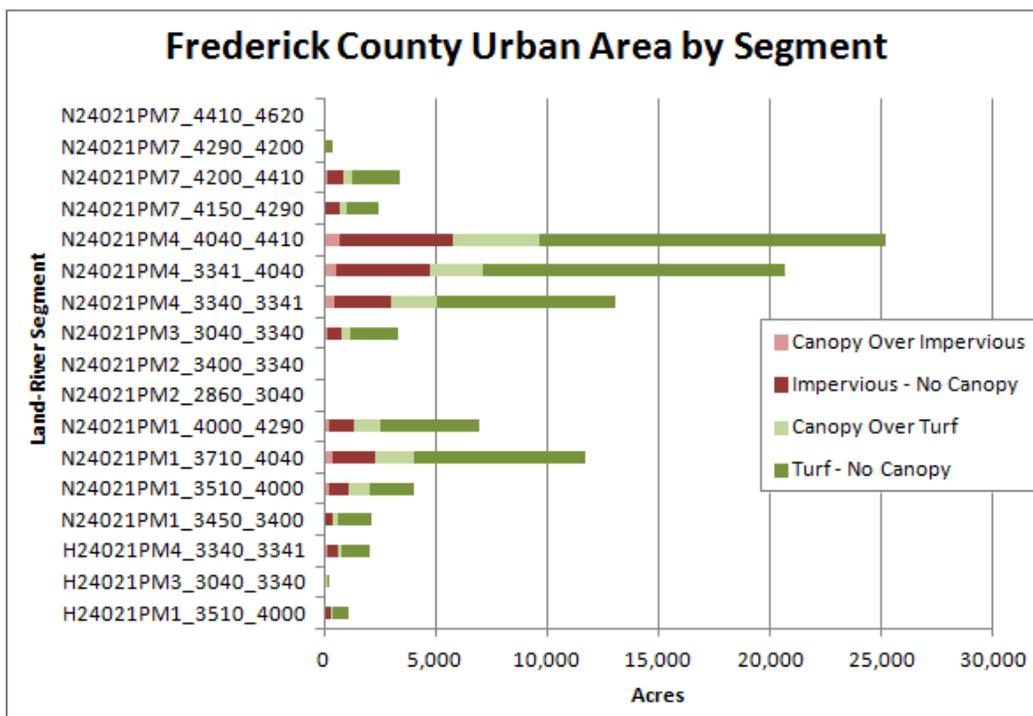
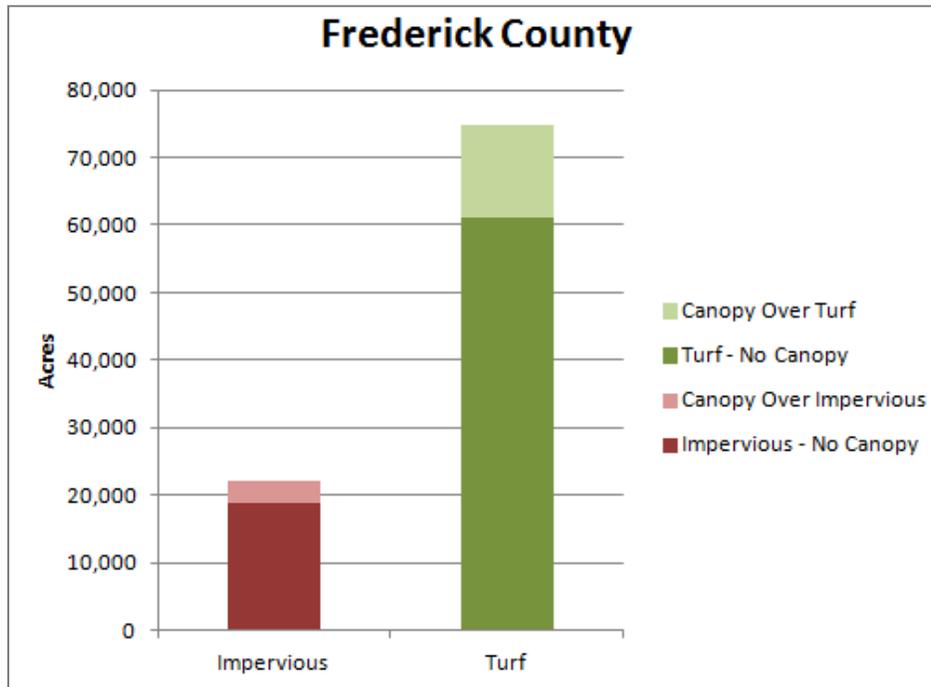
Turf: Calculated by applying the ratio of Chesapeake Bay Phase 5.3.2 Watershed Model urban pervious acres to impervious acres to the Phase 6 2012 impervious acres. MD acknowledges the inaccuracy of these turf acres. Turf estimates should be significantly improved upon in the final model Land Use, scheduled for completion in September 2016, and will utilize MD's sampling and statistical modeling approach.

Impervious: Calculated using 2005 planimetric data provided by the County. Projected to 2012 conditions using MDP data for residential and non-residential parcels developed between the data imagery year and 2012 and NAVTEQ roads data. Coefficients were applied to correct for the features missing from the planimetric dataset: patios, pools, recreational features, and secondary sidewalks. Lastly, estimates were adjusted down to account for tree canopy over impervious surface.

Canopy Over Turf: All mapped tree canopy (University of Maryland's 1 m resolution tree canopy cover data) that is not delineated as forest (> 1 acre of contiguous canopy cover and > 120 ft. wide) or associated with wetlands and is located within MD's urban mask. The urban mask contains Phase 5.3.2 model urban and suburban zones, all parcels that have a >\$10,000

improvement value and are not Agriculture or large-lot Residential development, and all road right-of-ways.

Canopy Over Impervious: Calculated as the intersection of the impervious surface data provided by the county and the University of Maryland’s 1 m resolution tree canopy cover data. The intersect areas were adjusted up to account for any features missing from the county impervious surface data, based on the average percent of mapped impervious cover covered by canopy in the county.



Frederick County Natural Area by Segment

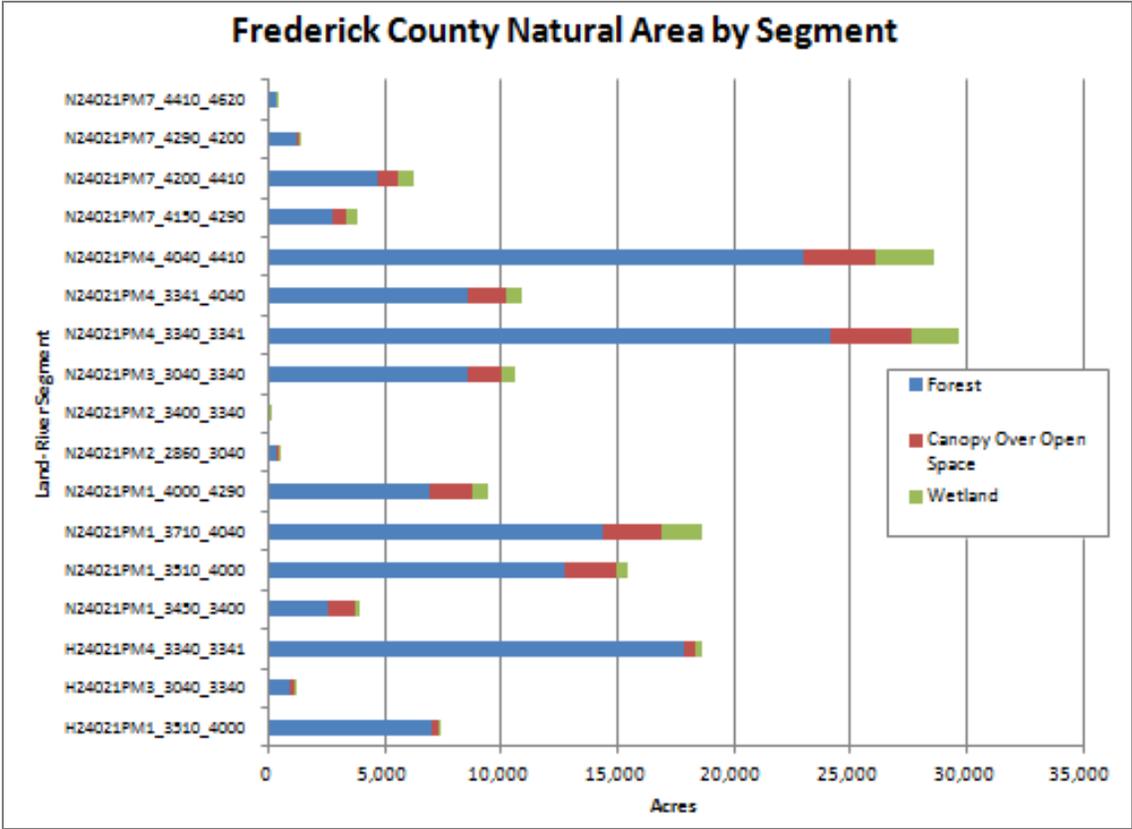
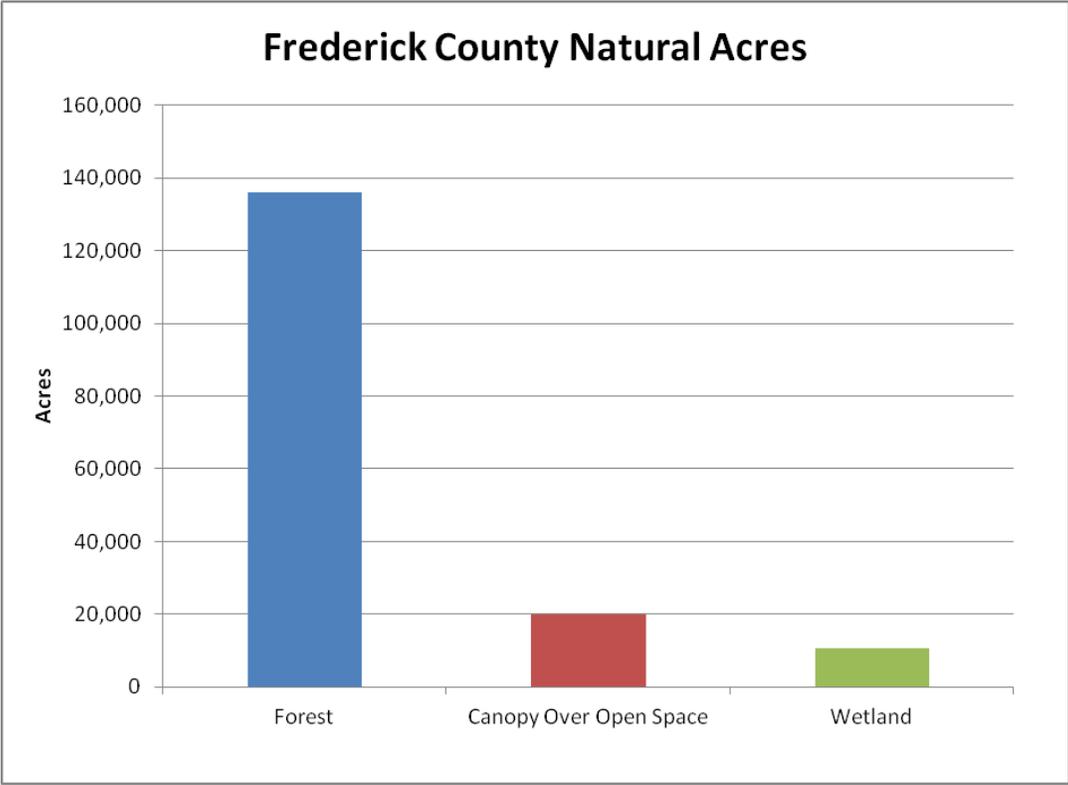
Land-River Segment	Forest (Acres)	Canopy over Open Space (Acres)	Wetland (Acres)
H24021PM1_3510_4000	7,034.8	287.2	107.3
H24021PM3_3040_3340	952.0	166.0	18.1
H24021PM4_3340_3341	17,890.2	450.1	323.8
N24021PM1_3450_3400	2,527.1	1,196.4	248.8
N24021PM1_3510_4000	12,694.8	2,298.7	436.0
N24021PM1_3710_4040	14,397.1	2,500.6	1,694.1
N24021PM1_4000_4290	6,954.6	1,840.8	614.5
N24021PM2_2860_3040	336.3	113.4	36.0
N24021PM2_3400_3340	53.9	34.4	8.5
N24021PM3_3040_3340	8,599.1	1,446.3	583.5
N24021PM4_3340_3341	24,173.7	3,457.9	2,062.1
N24021PM4_3341_4040	8,579.1	1,634.0	678.5
N24021PM4_4040_4410	23,038.3	3,079.7	2,529.7
N24021PM7_4150_4290	2,759.7	543.7	569.9
N24021PM7_4200_4410	4,704.0	843.1	700.1
N24021PM7_4290_4200	1,172.7	117.8	102.8
N24021PM7_4410_4620	316.0	10.6	0.7
	136,183.4	20,020.6	10,714.5

Method Summary

Forest: Contiguous tree canopy cover (University of Maryland’s 1 m resolution tree canopy cover data) that is greater than 1 acre in size and greater than 120 ft in width. This area excludes any canopy cover associated with wetlands.

Canopy over Open Space: All tree canopy cover that is not forest , is not associated with wetlands, and falls outside MD's urban mask. The urban mask contains Phase 5.3.2 model urban and suburban zones, all parcels that have a >\$10,000 improvement value and are not Agriculture or large-lot Residential development, and all road right-of-ways.

Wetlands: Estimated using NWI and DNR wetland delineations, with open water areas removed. The acres presented here include tidal wetlands, but it should be noted that the Chesapeake Bay Program Partnership recently decided to move tidal wetlands from the watershed model to the estuarine water quality model.



Frederick County Land-River Segments

