

## Selection of Priority 8-Digit Watersheds for Forest Conservation in Montgomery County

Section 22A-12 of the Montgomery County Forest Conservation Law (Chapter 22A of the Montgomery County Code) applies different reforestation ratios (and resulting forest mitigation requirements) depending on whether applicants reforest within or outside of a “priority 8-digit watershed, Special Protection Area, or the Patuxent Primary Management Area.” All forest mitigation to comply with Montgomery County Forest Conservation Law must take place within Montgomery County.

### Data Source

Forest canopy layers were extracted from the U.S. Geological Survey (USGS) National Land Cover Database (NLCD) data captures for 2001 and 2019, the widest timeframe available. The NLCD provides nationwide data on land cover and land cover change at a 30-meter resolution. Both the 2001 and 2019 layers were clipped by Maryland Department of Natural Resources’ 8-digit watersheds of Montgomery County, and the area and percentage of forest in both 2001 and 2019 were calculated for each 8-digit watershed.

### Methodology

Two metrics were used to rank 8-digit watersheds by highest priority for forest mitigation: percent forest loss in each 8-digit watershed between 2001 and 2019, and percent of forest canopy cover in each 8-digit watershed in 2019.

To determine if forest was lost in each 8-digit watershed during the 18-year timeframe, the percent of forest canopy cover in 2019 was subtracted from the percent of forest canopy cover in 2001.

To determine the percent of forest canopy cover in each 8-digit watershed, the area of forest in each watershed in 2019 was divided by the total area of that watershed.

Percent of forest lost in each 8-digit watershed was scored as follows:

- If loss was between 4.8-6.7%, a score of 4 was given.
- If loss was between 2.9-4.8% a score of 3 was given.
- If loss was between 1-2.9% a score of 2 was given.
- If loss was below 1% or up to 0.9% gain, a score of 1 was given.

Percent of forest canopy in each 8-digit watershed was scored as follows:

- If forest cover was between 19% and 24.98% a score of 4 was given.
- If forest cover was between 24.99% and 30.95%, a score of 3 was given.
- If forest cover was between 30.96% and 36.93%, a score of 2 was given.

- If forest cover was between 36.94% and 42.9%, a score of 1 was given.

Scores were then averaged for a final ranking of each 8-digit watershed between 1 (lowest priority for reforestation) and 4 (highest priority for reforestation), in order to encourage the creation and protection of forests in watersheds where forest loss is high and the area of forest cover is low, relative to other watersheds in the county.

Priority 8-Digit Watersheds

8-Digit Watershed	Priority Ranking
Cabin John Creek*	4
Anacostia River*	3.5
Lower Potomac*	3
Rock Creek*	3
Seneca Creek	2.5
Upper Potomac	1.5
Patuxent/Rocky Gorge Dam	1.5
Patuxent/Brighton Dam	1
Lower Monocacy River	1

\*Highlighted rows indicate the priority 8-digit watersheds.

Special Protection Areas (SPAs), the Patuxent Primary Management Area (PMA), and the same watershed as the activity subject to the Forest Conservation Law, are also considered “priority,” to support reforestation in those areas for TMDL, MS4 permit, and drinking water purposes. The boundaries of the priority 8-digit watersheds and Special Protection Areas can be viewed at:

<https://mcplanning.maps.arcgis.com/apps/mapviewer/index.html?webmap=b919aa4e77b9459aa64cf8eefc9f65e> . The Patuxent Primary Management Area is defined in the Guidelines for Environmental Management of Development in Montgomery County, at: <https://montgomeryplanning.org/planning/environment/environmental-guidelines-reports/environmental-guidelines/>.