

# Catoctin Mountain Park

Maryland



## A Forested Gem of the Mid-Atlantic

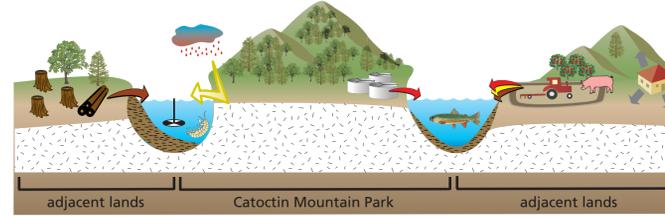
Catoctin Mountain Park originated as a Recreation Demonstration Area in 1936 and is managed today for its recreational use and the conservation of its cultural and natural resources.

The park encompasses 5,810 acres of mixed hardwood forest located in the mountains of the Catoctin Ridge in north-central Maryland. Two high-quality streams bisect the park and the unique three million year old geology forms a number of cliffs and scenic vistas. Management issues include the effects of white-tailed deer overpopulation, exotic invasive plants, gypsy moth, hemlock woolly adelgid, and dogwood anthracnose. Water quality degradation is also a concern as residential and agricultural activity increase along the park's boundary.



## Water Quality and Hydrology

*Headwaters' protection promotes pristine water resources*

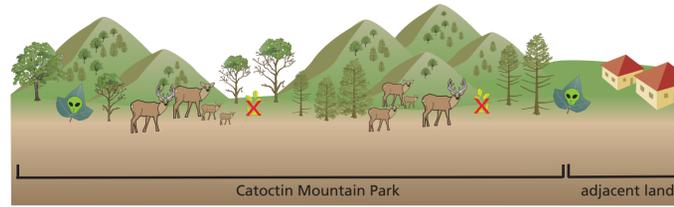


Streams of excellent quality are an important natural component of Catoctin Mountain Park. The headwaters of Big Hunting Creek and Owens Creek are highly valued for their native populations of brook trout, natural beauty, and superior water quality. Streams also provide habitat for diverse macroinvertebrate communities. The future integrity of water resources is threatened by sediment, pesticide, and nutrient inputs from residential development and agricultural and logging activities adjacent to the park, and by toxic runoff from acid rain deposition over the impermeable quartzite bedrock.



## Biodiversity

*Deer overgrazing degrades forest condition*



White-tailed deer are a natural component of this forest ecosystem, but overstocked populations can have negative effects on forest regeneration. Deer grazing can greatly reduce the number of seedlings and saplings in the forest, thus altering the natural patterns of forest succession and providing new opportunities for non-native invasive plant species to move into the forest.

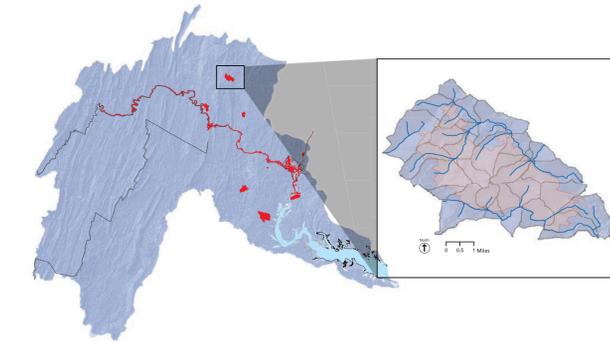


A fallen tree stump covered in colorful shelf fungus.

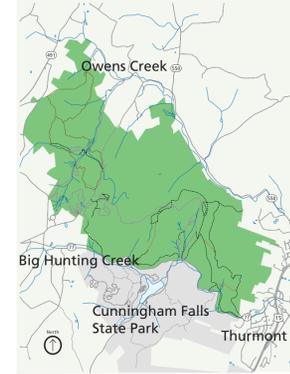


The invasive plant, Mile-A-Minute, is aptly named and requires constant control measures.

## Catoctin Mountain Park Watershed



(Above left) Potomac River watershed and National Capital Region Network parks (red). (Above right) Catoctin Mountain Park watershed and boundary.



Park map showing major roads and waterways.



## Vital Signs Monitoring

*Assembling the puzzle*

Park vital signs monitoring is designed to inform managers of the condition of water, air, plants and animals, and the various ecological, biological, and physical processes that act on those resources. This site-specific data will provide parks the information needed for ecologically sound management of the natural resources.

In Catoctin Mountain Park, data are being collected on **Water Quality and Hydrology** and **Biodiversity**, with reference to park specific concerns as well as understanding regional issues.



The deer density data shown in this table was collected by driving through Catoctin Mountain Park at night and counting the number of deer visible in a spotlight. These counts were then scaled up to the entire park. The deer density threshold for a forested park is 10 deer per square kilometer. Deer density counts have been well over this threshold for the length of the monitoring record, which is problematic for vegetation growth (see photo below), while the density has been decreasing since monitoring began.

year	density (deer/sq km)	95%CI	density (deer/sq mi)	95%CI
2006	34.87	30.12-40.36	90.31	78.01-104.53
2005	28.39	23.77-33.90	73.53	61.56-87.80
2004	40.17	35.30-46.95	104.04	91.42-121.60
2003	74.54	63.08-88.08	193.05	163.37-228.12
2002	60.01	44.70-80.56	155.42	114.99-208.65
2001	71.75	61.49-83.73	185.83	159.25-216.86
2000	71.04	50.99-98.46	183.99	132.06-255.01

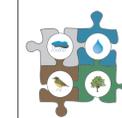


The deer browse-line is evident by the lack of understory in this Catoctin forest.

### Resource Values

### Resource Stressors

- Freshwater flow: Big Hunting and Owens Creeks
- Native species: brook trout
- Forests: hemlock and chestnut oak
- Agriculture: crops, animal farms and apple orchards
- Scenic vistas
- Development: suburban/commercial
- White-tailed deer: overpopulation
- Invasive/exotic plants
- Insect pests: woolly hemlock adelgid



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