

flow attenuation by use of open vegetated areas and swales, retention (wet ponds) and detention (dry ponds) or combinations of these. Poor drainage characteristics in some parts of the County limit the use of standard infiltration techniques. An applicant must prove that the preferred techniques are not feasible in order to receive approval for the less preferred methods.

8. FLORA AND FAUNA

Habitat for native flora and fauna is lost when vacant land and forest cover are converted to other land uses. The deterioration of available habitat and the decline in diversity of native plant and animal communities also are caused by forest fragmentation, the invasion of non-native, more aggressive species, and the application of herbicides and pesticides.

* Montgomery County is home to a number of plant and animal species listed as endangered by the Federal Government, as well as several species being considered for listing. The Maryland Natural Heritage Program listed 267 plants and 76 animals in the state as rare, endangered, or threatened in 1987. Of the 267 plant species listed, over 100 species are believed to be found in Montgomery County. The County is thought to have the highest concentration of endangered and rare plant species on the northeast coast, due largely to the diverse habitat in the Potomac River floodplain and the Great Falls Natural Heritage Area. Natural Heritage Areas, designated by the State of Maryland, are composed of plant or animal communities that are considered to be among the best statewide examples of their type, with at least one species that is endangered, threatened, or in need of conservation.

In addition to those two places, Montgomery County has a large variety of habitats that house rare and endangered species: rock outcroppings, steep rocky slopes, bogs and other wet areas, fertile stream valleys, meadows, and fields. Chain Bridge flats, on the Potomac River, is the only known site of the Mossy-Cup Oak in the County.

A very rare Maryland species, the Crested Dwarf Iris, grows in Gaithersburg.

Four species of birds that have been found in the County are among the species in the greatest danger of disappearing from the state's or nation's wild breeding stock. They are the Bald Eagle, Short-eared Owl, Loggerhead Shrike, and Bachman's Sparrow.

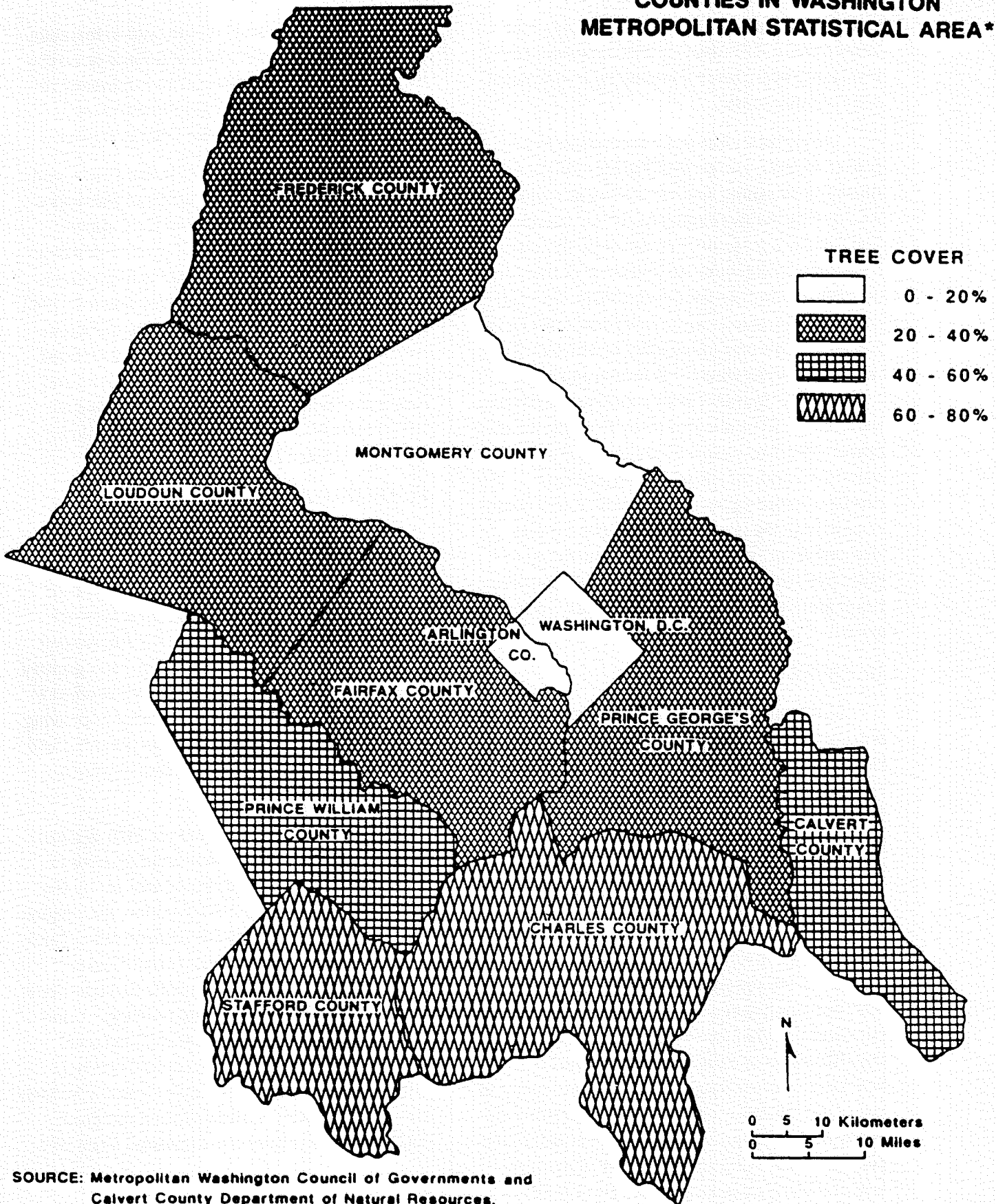
9. TREES

Trees produce the oxygen we breathe, absorb stormwater, moderate our climate, and provide a home for plants and animals. They also are viewed as an amenity that helps create a sense of community. However, they often are cleared so that a property might be used more profitably. In growing recognition of their aesthetic and environmental worth, the County has begun to take steps to preserve and replenish its woodlands.

* Montgomery County has the least amount of forest cover among counties comprising the Washington, D.C., MSA. The County has undergone two periods of deforestation. Agricultural clearing in the early 20th century reduced tree cover to 22 percent of the total land area. After a period of tree regeneration lasting until the mid-1960s, during which the tree cover increased to 32 percent, the County was further urbanized, which reduced the amount of forested land to between 16 and 22 percent, depending on whether estimates of urban tree cover are included. Between 1965 and 1985, the County lost commercially valuable timber at a rate that was the highest among the Washington region's major jurisdictions. Declining tree cover and the fragmentation of the remaining forest areas into smaller tracts has been blamed for the decline of certain animal species which depend on the existence of "deep woods."

* There has been a concerted effort to plant trees. About 250,000 trees have been planted along the County's streets with public funding, while an additional 200,000 to 300,000 have been planted by private individuals or groups, within

**AVERAGE FOREST COVER FOR
WASHINGTON, D.C. AND
COUNTIES IN WASHINGTON
METROPOLITAN STATISTICAL AREA***



SOURCE: Metropolitan Washington Council of Governments and Calvert County Department of Natural Resources.

*Does not include scattered tree cover in urban areas.

public rights-of-way. In the down-county area known as the Suburban District, however, tree loss is outpacing tree replanting by an estimated ratio of three-to-one.

*** Maryland's Forest Conservation Act, passed in 1991, allows the Planning Board to require tree retention and replanting as a condition during the development review process. The County's program, mandated by this state legislation, will require an inventory of trees on properties proposed for development. For each acre of trees cleared, one-quarter acre must be replaced, up to a prescribed limit, after which the rate of tree replacement will increase to 2 acres for each acre cleared. Under some circumstances, replanting will be allowed away from the development site. The state will establish a Forest Conservation Fund, which will be funded from penalties levied upon anyone found not in compliance with the law. Other strategies include "fees in lieu of" when areas cannot be found to plant trees on site and the enlargement of existing forest areas that would function as tree "receiving areas."**

10. PARKS

Montgomery County's extensive park system combines conservation areas with areas primarily intended for recreation. The parks' ability to restore and conserve nature depends on how the parks are used, and on the air and water that flow to them from beyond their boundaries. The County will continue to be challenged to balance the need for conservation and recreation areas in the County's parks.

*** About 70 square miles of the County's total area of 495 square miles are devoted to parkland and open space. Sixty percent of this parkland is owned by the County, and is spread over 320 parks, ranging in size from the 3,500-acre Little Bennett Regional Park in Clarksburg to the 1/10-acre Philadelphia Park in downtown Silver Spring. A primary purpose of over half of the parkland in the County is to protect stream valleys and watersheds from urban run-off, flood-**

ing, sedimentation, and erosion, and to maintain a habitat for wildlife in areas of limited or no disturbance. In addition to these environmental resource functions, the park system provides recreational opportunities for County residents.

*** Park acquisition began in the 1930's, and peaked in the 1960's. Early parkland purchases, made possible by the passage of the Capper-Crampton Act of 1930, focused on stream valley acquisition in the urban ring along Sligo Creek, Rock Creek, and Cabin John Creek. Between 1940 and 1960, Montgomery County's population increased 300 percent, and the County responded by quadrupling the amount of its parkland and open space holdings, which reached a total of 16,000 acres by 1970. About 11,300 acres have been added since 1970.**

11. AIR QUALITY

As scientific understanding of the threat posed to the environment and public health by airborne pollutants has increased, so have calls for cleaner air. The most significant federal response to date is the 1990 Clean Air Act Amendments. As a result of this legislation, Montgomery County will participate in a region-wide effort to plan for and attain ambitious goals for improving air quality. Regional transportation planning will be one of the functions of government most affected by the legislation.

*** For almost every year since 1970, regional levels of ozone and carbon monoxide have exceeded federal air quality standards set by the 1970 Clean Air Act. The Washington, D.C. region is one of 16 areas nationwide categorized as "serious non-attainment" areas for ozone. Ozone forms part of a family of chemicals that contribute to what is generally referred to as smog. Ozone levels exceed the 0.12 parts per million (ppm) standard by 15 to 33 percent, typically on hot, muggy summer days. The region is also a "moderate non-attainment" area for carbon monoxide (CO), although levels have decreased since 1973.**