



**MONTGOMERY COUNTY PLANNING DEPARTMENT**  
 THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**MCPB**  
 3/26/09  
 Item #7

March 20, 2009

**MEMORANDUM**

TO: Montgomery County Planning Board

VIA: Mark Pfefferle, Acting Chief *MP*  
 Environmental Planning Division

FROM: Katherine Nelson for the Planning Department *(Signature)*  
 (301) 495-4622

SUBJECT: Forest Conservation Program Annual Report

**Recommendation: Transmit Annual Report to Maryland Department of Natural Resources (DNR)**

**Overview of FY2008**

The State Forest Conservation Law requires all jurisdictions to report to DNR each year regarding efforts to implement and enforce the law. In addition to presenting these findings to the Planning Board and ultimately to the State, we would also like to highlight other aspects of the forest conservation program and forest related issues to the Planning Board.

<b>Data Requested by State DNR</b>	
<b>Man Hours spent on the program</b>	19,002
<b>Exemptions &amp; NRI/FSDs</b>	232
<b>Forest Conservation Plans Approved</b>	77
<b>Financial Security/Bonds Required</b>	TBD
<b>In-Lieu Fees Collected</b>	\$134,078
<b>In-Lieu Fees Spent</b>	\$30,000
<b>Mitigation Bank Use</b>	43.29 acres
<b>Enforcements Actions</b>	37

Forest Conservation Plan Data:	Acres
<b>Tract Area of Forest Conservation Plans</b>	2408
<b>Existing Forest w/in Plan</b>	577
<b>Forest Loss During Development</b>	113
<b>Planting Requirements</b>	153
<b>Easements Established</b>	679

This and other more detailed information will be forwarded to the State. See attached Table historic data.

## Program Database Development

In an effort to standardize and automate the annual report process, staff has been involved in a multi-year effort to create a database for the forest conservation program. We are currently in the process of transferring our historical paper record to the new system and are about 75% complete. This database, derived for thousands of forest conservation files, will correct past inconsistencies of record-keeping. Also, because this information is now geo-referenced we will have much more flexibility in analyzing the accomplishments of the forest conservation program. Under the new system data can be analyzed not only over time, but also spatially, such as within certain planning areas or watersheds.

A primary goal for next year will be to develop a mechanism whereby data may be reported and retrieved via Hansen as well as GIS. This database will populate Hansen for the early years of the program, and Hansen will populate this database from that point forward. As a part of this effort all Forest Conservation Program scanned are available online. We will also establish linkages between our forest conservation database and our easement and bank databases, as these contain interrelated information.

## Closing Out Files

Over the past year staff has put a considerable amount of effort into determining the status of nearly 2000 forest conservation files. The following is an outline of the process being followed and the resulting actions of this effort.

### *Process*

- What's the **status** of the plan?
  - Was a Forest Conservation Plan required or was it exempt?
  - What was the **Board action** on the plan?
  - Has the site been **subdivided** and/or **platted**?
  - Was the **construction** on the site **completed**?
  - If planting was required, was it completed satisfactorily?
  - Was a security **bond posted**, has the bond been **released**?
- Has the **forest data** associated with plan been recorded or verified?
  - If forest was **cleared**, **how much**?
  - What **mitigation** was required, if any?

- Planting or retention?
  - Onsite or offsite?
- Was an **easements** required as part of the plan?
  - Was the easement **legally recorded**?
    - By plat or by other legal document?
  - Was the easement digitized and documented?

*Results*

- If the status determination is that the plan is active or under review, after entering any applicable forest conservation or easement data, it is **re-filed**.
- If questions come up about a plan’s status, forest conservation data, or bond, it is classified as “**Unresolved**” and is **investigated** by forest conservation inspectors.
- If the final inspection has taken place, the forest conservation data has been entered, and the easement digitized, the files are **purged** of extraneous material, **scanned**, and **archived** offsite.

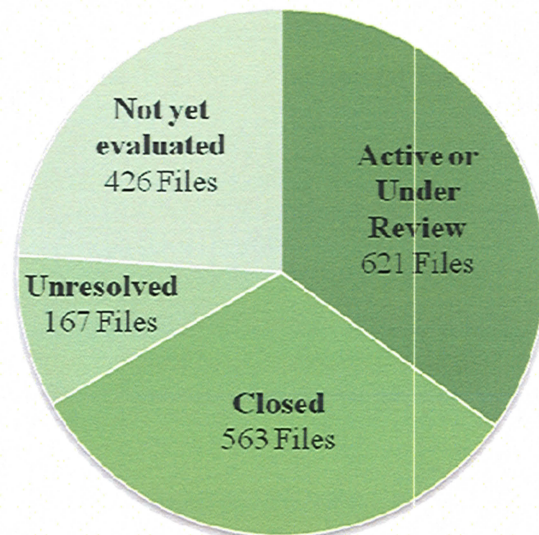
The process of evaluating forest conservation activity on some 3900 plan areas, including more than 2100 exemptions is about 90% complete.

Of the nearly 1800 forest conservation plan files, 426 remain to be processed as described above.

**Easements Database Development**

Forest Conservation Easements granted to our agency in response to the forest conservation law may be recorded on property plats or on other legal documents County land records. As a part of our process for tracking Forest Conservation Program data, a GIS database of Forest Conservation Easements is updated to keep track of the Planning Board’s property interests associated with Forest Conservation Plans.

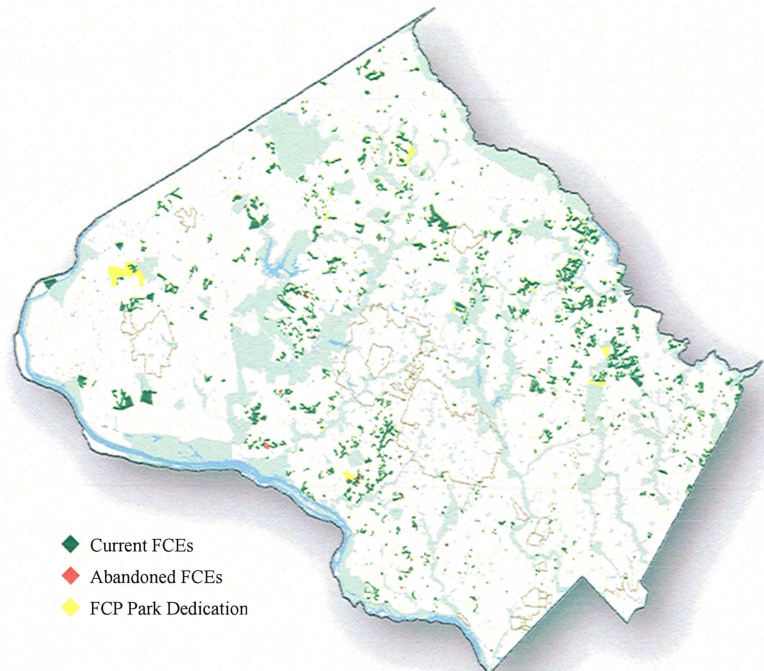
This year we have made significant strides in both the number of easements tracked and the way in which we track them. The total acreage tracked in our GIS Forest Conservation Easement Layer has increased to 150% of the acreage total at this time last year. We now have 1,809 easements digitized, covering 6,369 acres. This is 2% of the county’s land area or roughly the size of Little Bennett Regional, Rock Creek Regional, and Paint Branch Stream Valley parks combined. Easements range from 5,000 square feet to 161.5 acres but the average size is about 3.5 acres.



We also now track easements that have been abandoned or reshaped subsequent to the original easement documentation and all legal documents associated with the “life” of that easement are cataloged into the database. Hyperlinks to the legal documents associated with those easements have been established. So far abandoned areas have been digitized totaling 17 acres.

Many types of easements can be found on record plats. Easement types tracked on this database include areas delineated on legal documents that are established for the preservation of forest and other natural areas:

- Category I Easements— onsite, offsite, or as a forest conservation banks (making up 80% of the layer’s acreage). This is type provides the highest level of forest protection and makes up over 80% of the easements currently tracked.
- Pre-Forest Conservation Law easements
- Scenic Easements
- Stream and wetland buffers drawn on plats
- Park dedication associated with forest conservation plans



Currently we have a group of easements previously digitized but whose type is still undetermined, making up 10% of the layer’s acreage.

Park dedication, while tracked because it meets the working definition of areas to be included in the easement layer, is not included in the figures for the easement layer acreage. This is because the dedication covers the whole parcel not the specific natural areas to be protected within it. Also, on rare occasions, the forest conservation easements are platted within these park areas and we do not wish to double-count easement acreage. Since beginning to track park dedications 28 parcels totaling 837 acres of park dedication been tracked.

In addition to the easement types and abandonments, the data now tracked in the easement layer includes all legal documents establishing or modifying easements and the dates those documents were made official, the easements’ acreage, and date when the easement was last created or updated. Hyperlinks to associated legal documents are also provided.

Improvements in data quality have also occurred this past year as a process was established to communicate any discrepancies observed in our property layer while digitizing forest

conservation easements. When incorrect property lines are flagged, they are edited by Research and Technology staff and then the easement layer is subsequently corrected in Environmental Planning.

Partially as a result of this communication between divisions, a major goal for getting beyond our backlog of digitizing forest conservation easements has been realized. This year staff has established protocols for new easements to be digitized by Research and Technology staff along with the property layer whenever a new digital submission of a record plat comes in. This is a major development toward long-term maintenance of the layer. However a challenge still exists to properly executing this protocol because, despite the requirement, only about 20% of plats are actually being submitted digitally by developers.

Finally, another breakthrough for easement layer came when staff uncovered a way to access all non-platted easements online. When the forest conservation plan indicates a required easement, but none appears on the plat, that property may be search using the Commission as a “grantee”. This way any documents establishing easements can be located and tracked.

## **GIS Forest Layer Update**

It is import to remember that there’s a great deal of forest in Montgomery County that will never come through the forest conservation program as part of a development project. For historical forest data, we rely on a series of air photos from 1951. However, broader forest analysis requires an accurate GIS layer. The original layer was developed along with all the base information for Montgomery County when the Department began integrating GIS with Planning efforts. We have updated this layer with every master plan update over a period of several years. This resulted in a layer that was not consistent throughout the County. Using it as a starting point, we utilized the 2008 aerial photo set to create a more accurate and consistent layer that can be periodically updated.

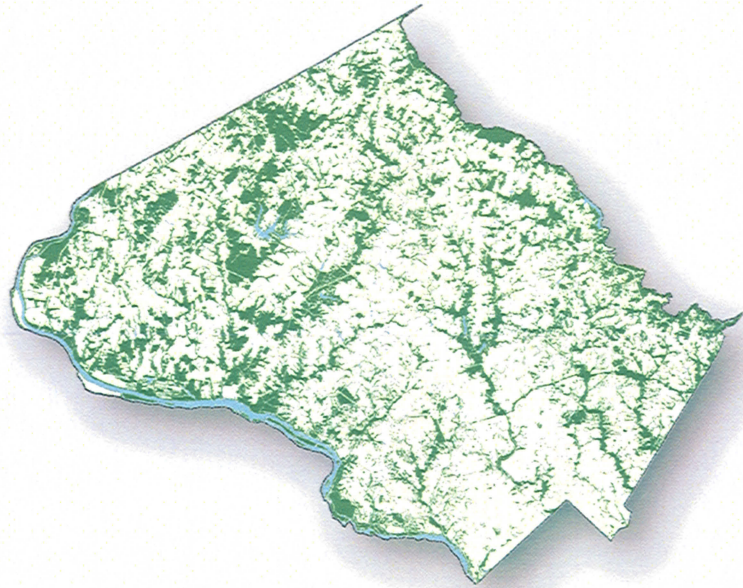
Several important criteria were used to determine the qualification of a patch of land as forest. The patch must first meet the size and density requirements—it must be at least 50 feet wide, at least 10,000 square feet, and have at least 100 trees per acre that are at least 7 years old. We wanted to be fairly certain that a young forest had the potential for canopy closure before defining it as forest. For these areas it was also important that the forest floor be intact and undisturbed. Areas that had mature trees, but were obviously being maintained as lawn in the understory were excluded from the forest layer. Other important criteria included determining breaks in the forests. A paved road would create a break in forest patches, but long driveways and bike paths that initially created breaks in the forest canopy were not recorded as such since it was assumed that the canopy would eventually be able to close over this narrow area. Streams generally did not break forest patches, although open floodplain areas where wet conditions precluded forest growth were excluded from the layer.

This effort was done for the entire county using a grid-by-grid approach. The WSSC grid layer was used as a framework. All of the editing decisions were made at this grid level which is a scale of approximately 1:7000. As a result, the forest layer is reliable at that resolution, but at closer views the forest layer may not be completely accurate. This is especially true in older

established neighborhoods that have an incredibly fragmented forest with an extensive and intricate edge.

*Preliminary Forest Analysis:*

- 29% of the county is forested
- The agriculture reserve is 34% forested
- The urban ring is 13% forested.
- Corridor areas outside the urban ring are 18% forested
- Other suburban areas are 38% forested



A complementary urban forest canopy layer is currently being developed by the Department of Environmental Protection. This layer will include areas of canopy that may cover lawn structures or road. This layer should be complete by FY2010.

### **Rock Creek Park Reforestation Project**

The reforestation program using in-lieu fees began last spring with a 1.5 acre planting taking place at Reddy Branch Stream Valley Park. The second planting took place last fall with 2.5 acres planted in Rock Creek Park in Chevy Chase. This area had already been the subject of invasive control by the Parks Department and had been ready for forest planting for quite some time. Fee-in-lieu money was used for further site preparation plant material and deer protection. Parks have also enlisted the help of established volunteer group who specialize in invasive control to help with maintenance.

With the future of this program in mind, and in an effort to cut costs, staff is currently looking for alternative sources for plant materials. Department of Parks staff at Pope Farm is developing a program to begin raising the trees that will be needed for future planting efforts. This will not only guarantee better cost effectiveness, but also increase the quality of plant materials.

### **Barriers to Forest Regeneration**

Forest regeneration, even within a natural forest system, has become an increasing challenge in Montgomery County in recent years. The main culprit is a hungry deer population that is largely out of control. In some areas of the County there may be as much as ten times as many deer as would be found in a more balanced environment. Normal understory plants such as

blueberries, huckleberries, and mayflowers and young trees are nibbled away. Non-native invasive plants which deer are not adapted to eat take advantage of the opportunity to grow without competition. The effect of these factors increases in a planted forest setting. Without constant maintenance and aggressive deer protection planted forests will not successfully reach maturity.

We would like to emphasize that the value of existing forest is continuing to increase due to the fact the natural regeneration is severely hindered and forest planting requires significant and lengthy maintenance in order to be successful. This increasing value of existing forest should be a factor that is strongly considered as the forest conservation program continues to evolve so that this value is part of decisions about forest disturbance due to development.

attachment  
KN:ss

## Montgomery County Forest Conservation Program Annual Report Composite 1994 - 2008\*

Fiscal Year	Total Plans	Number Exempt	Number FCPS	Net Tract Area	Existing Forest	Forest Retained	Forest Cleared	Forest Planted (acres)		Total	Number	Non-compliance		Implementation Costs
								Onsite	Offsite			Enforcement Fees		
1994	119	46	73	1437.5	501.7	303.4	193.4	91.2	27.0	118.1	0		0	NR
1995	309	103	206	2403.8	869.8	586.7	254.5	151.6	19.6	171.3	1	\$	482.33	\$ 108,410.00
1996	213	125	88	3696.1	1164.4	698.6	437.4	286.4	54.8	341.2	1	\$	44,353.78	\$ 134,113.00
1997	182	103	79	2194.7	674.4	448.1	202.2	109.0	23.5	132.5	0		0	\$ 184,182.00
1998	291	194	97	2198.7	690.1	473.5	236.0	123.4	38.1	161.5	6	\$	1,267.00	\$ 190,700.00
1999	230	142	88	2627.6	648.9	455.8	194.8	98.7	22.9	121.6	11	\$	8,417.00	\$ 138,400.00
2000	296	196	100	2489.7	1112.8	935.7	236.1	82.5	18.7	101.2	11	\$	70,598.00	\$ 212,094.00
2001	334	250	84	1674.7	729.2	482.1	263.0	94.5	27.3	121.8	0	\$	6,000.00	\$ 222,698.00
2002	318	223	95	2135.0	926.8	675.5	252.0	70.5	25.4	95.9	1	\$	8,500.00	\$ 267,411.00
2003	421	330	91	1719.3	744.4	426.2	318.2	151.5	15.5	167.0	0		NR	NR
2004	452	431	57	1570.0	591.0	366.3	220.1	77.8	24.0	101.8	19	\$	10,900.00	\$ 341,191.75
2005	501	440	61	1951.2	676.8	560.6	104.2	85.6	13.7	99.4	35	\$	19,800.00	\$ 250,318.90
2006	476	435	41	749.0	320.5	225.9	66.3	14.5	32.5	47.0	40	\$	50,150.00	\$ 333,197.00
2007	409	339	70	1814.6	550.7	440.0	112.4	156.1	65.5	221.6	46	\$	33,790.00	\$ 620,330.00
2008	309	232	77	2408.0	577.0	465.0	113.0	130.0	23.0	153.0	37		TBD	TBD
<b>15-Year Totals</b>	<b>4,551</b>	<b>3,589</b>	<b>1,307</b>	<b>31,070.1</b>	<b>10,778.6</b>	<b>7,543.3</b>	<b>3,203.3</b>	<b>1,723.2</b>	<b>431.6</b>	<b>2,154.8</b>	<b>208</b>	<b>\$</b>	<b>254,258.11</b>	<b>\$ 3,003,045.65</b>

\*This data is compiled from two different tracking systems and therefore, at this time, not completely accurate. This will be corrected and finalized in the FY 2009 Annual Report.