

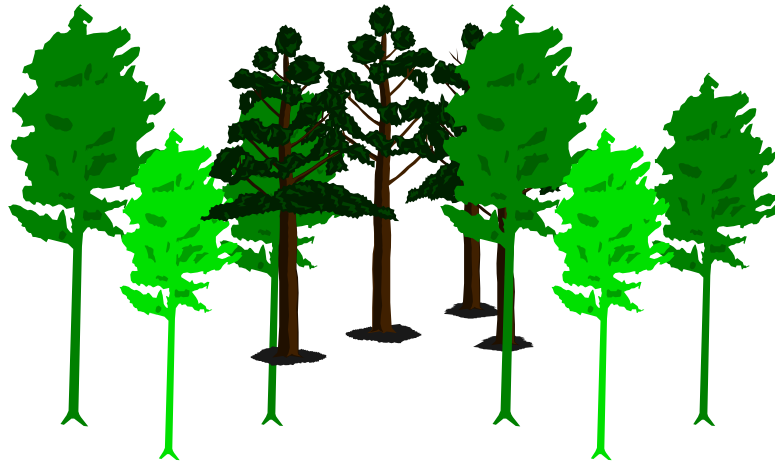
APPENDIX C: FOREST STAND DELINEATION

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FOREST STAND DELINEATION SUMMARY

FOR
National Park Service
U.S. Department of the Interior

C&O Canal National Historic Park
West of Sharpsburg, Maryland
@ C & O Canal Mile Marker 74.3



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FSA# 5819.0

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Site Presentation

The proposed project is located at Canal mile marker 74.3, west of Sharpsburg, MD on the property of the C&O Canal National Historic Park administrated by the U.S. Department of the Interior. It is also located on ADC map page # 30 of Washington CO., Maryland Grid 650082.07 N – 1090792.74 E (NAD 83/88). The canal towpath is used for recreational purposes like hiking and biking. It is bordered by the Potomac River on the southwest and privately owned forest land on the northeast. There are historic sites located within the C&O Canal NHP area. On the northeast side of the canal, there is an old foundation of a house and cellar with a stone retaining wall running along the canal. Just northwest of the old foundation is an old stone culvert that goes under the canal. Northeast of the culvert, is part of an old stone dam that crosses the stream. This entire area is covered with a mature stand of eastern hardwoods.

The proposed project site is also being used by the Washington County Water & Sewer Department. They have water pumps in concrete vaults underground and electrical panels 10 to 12 feet above the ground between the towpath and the river. The facility is used for pumping water from the Potomac river to a water treatment facility and then on to the town of Sharpsburg, MD.

Methodology

Digital air photos were reviewed to locate probable forest stand locations. The County soil survey was reviewed to identify on-site soils. The site was visited on September 23, 2009 to identify, delineate and characterize the forest stands and habitat features.

The 1/10-acre fixed plot sampling procedure, having a 37.2 foot radius, was used to assess forest stand conditions. Structural diversity data was collected at each sampling point using a one hundredth acre plot having an 11.8 foot radius. The basal area of each sampling plot was measured with a 10 factor prism. The sampling data and structure analysis information was collected and summarized on stand summary sheets.

Soils - Slopes

The Washington County Soils Survey 2001 shows the soils which underlie the site consist of:

< 0.35 Co - Combs – fine sandy loam, 0 to 3% slopes

The Maryland Soils Data chart in the forest conservation manual shows that none of the soils listed above have a K or erodability factor greater than .35 or are listed as hydric soils.

There are steep slopes on the property see FSD drawing for location.

Flood Plain

This parcel does lie within the mapped 100 year floodplain per F.E.M.A. Flood Insurance Rate Map Community Panel No. 240070 0205A, dated May 1, 1978 for Washington County, Maryland.

Wetlands

There were no non-tidal wetlands observed on this site during the day of the sampling.

Critical Habitats/Endangered Species/Cultural Features/Historic Sites

No critical habitat of any kind was identified on the site. Various wildlife including deer, turkey, squirrel, rabbits and songbirds were observed during sampling visits. Some old stone features are found on the

site.

Forest Stand Summary Of Stand A

Size: 3.5 +/- Acres
Sample Plots: 3
Forest Structure: 15 (Priority)

The successional stage is classified as climax with a mixture of mature eastern hardwood species such as Box Elder, Silver Maple and Sycamore as a component along with a wide and diverse mix of species. The mix of other hardwoods species are American Elm, Paw Paw, and Ash. This stand is a Sycamore-Green ash-Box elder-Silver Maple forest stand association according to the Maryland Forest Conservation Manual it is a typical stand found along the Potomac River and its tributaries.

The dominant species within the plot are Sycamore, Box Elder, Ash and Silver Maple and the size class of the trees range from 12 to 29.9" dbh. There were also 9 specimen trees identified in this stand and are shown on the FSD plat. The basal area in trees greater than 7" dbh is 100 square feet per acre, a good level of stocking characteristic of this stand. There is 100% canopy closure and there is an average of 4 tree species per plot, a low level of species diversity due to the maturity of the forest.

The under story has 93% cover with 3 woody species per plot, a good level of diversity but this is common for this particular stand not much sunlight gets to the forest floor. The dominant species in the under story include box elder, paw paw, and spicebush. There is 100% herbaceous coverage composed of wood nettle, wild ginger, and grasses. Invasive species cover 2% of the plot and include multiflora rose.

Using the forest structure analysis for the April – October time period, this stand has an priority value of 15, which is a great forest structure. This stand has characteristics of Priority 1 areas for forest retention, because it is located in the Potomac River flood plain and provides a buffer for the river.

Forest Stand Summary Worksheet

Property Name: National Park Service, U.S. Department of the Interior

Prepared By: Shannon Stotler

Date: 10-16-09

Stand Variable	Stand <u>A</u> , <u>3.5</u> Ac.±	Stand _____, _____Ac.±
1. Dominant & Co dominant Species	sycamore, boxelder, silver maple, ash	
2. Successional Stage	climax	
3. Basal area in sq. ft. per acre	100	
4. Size class of dominant species	12-29.9"	
5. Percent of canopy closure	100%	
6. Number of tree species per plot	4	
7. Common under story species (3' to 20' ft tall)	boxelder, paw paw, spicebush	
8. % of under story cover (3' to 20')	93%	
9. # of woody plant species (3' to 20')	3	
10. Common herbaceous species (0' to 3' ft tall)	Wood nettle, wild ginger, grasses	
11. % of herbaceous & woody plant cover 0' to 3' tall	100%	
12. Major invasive species & % cover	Multi-flora rose 2% Tree of heaven N/A Grey stem honeysuckle N/A	
13. # of standing dead trees 6" dbh or greater	N/A	
14. % dead & downed woody debris	Some small diameter trees 5%	
15. Comments	Nice mature stand.	

FOREST STRUCTURE ANALYSIS – STAND # 1

The following parameters will be measured and evaluated at each site according to Figure D-2. Each parameter for each forest stand will be given a value of 3, 2, 1, or 0. Three represents the most valuable structure and, zero the least valuable. Upon completion of the sampling, the person preparing the FSD will calculate the forest structure value for each stand. This analysis along with the other forest stand data will be used to determine the retention potential of the stand.

To determine the total habitat values use the following scale:

Range of total habitat numbers from samples taken April – October:

15 – 21←	Priority forest structure
7 - 14	Good forest structure
0 - 6	Poor forest structure

In the winter and late fall, from November – March, only numbers 1,3,4,5,7 can be measured. During that time, the range of total habitat numbers will be:

11 - 15	Priority forest structure
6 - 10	Good structure
0 - 5	Poor forest structure

1.	Percent Canopy Closure of trees with a DBH greater than 7"	5.	Size Class of Dominant Trees
			Greater than 20" 3←
	70% - 100% 3←		7" - 19.9" 2
	40% - 69% 2		3" - 6.9 " 1
	10% - 39% 1		Less than 3" 0
	0% - 9% 0		
2.	Number of Understory Shrubs 1/100 acre	6.	Percent of Understory Herbaceous Coverage
	6 or more 3←		75% - 100% 3←
	4 - 5 2		25% - 74% 2
	2 - 4 1		5% - 24% 1
	0 - 1 0		0% - 4% 0
3.	Number of Dead Trees/tenth acre plot	7.	Number of Tree Species with a DBH greater than 7"/plot
	3 or more 3		6 or more 3
	2 2		4 - 5 2←
	1 1		2 - 4 1
	0 0←		0 - 1 0
4.	Percent of Dead and Downed Woody Material Present		
	15% - 100% 3		
	5% - 14% 2		
	0%– 1% 1←		
	0% 0		

