

APPENDIX A

**Amphibians of
Great Seneca Park and North Germantown Greenway**
(within and surrounding the proposed M-83 alignment)

| Class/Order/Family | Scientific Name | Common Name |
|------------------------------|----------------------------|---------------------------|
| Class Amphibia | | |
| Order Caudata | | |
| Family Ambystomatidae | <i>Ambystoma maculatum</i> | Spotted Salamander |
| Family Plethodontidae | <i>Desmognathus fuscus</i> | Northern Dusky Salamander |
| | <i>Plethodon cinereus</i> | Redback Salamander |
| Order Salientia | | |
| Family Bufonidae | <i>Bufo americanus</i> | American Toad |
| Family Hylidae | <i>Hyla versicolor</i> | Gray Treefrog |
| | <i>Hyla crucifer</i> | Spring Peeper |
| Family Ranidae | <i>Rana catesbeiana</i> | Bullfrog |
| | <i>Rana clamitans</i> | Green Frog |
| | <i>Rana palustris</i> | Pickerel Frog |
| | <i>Rana sylvatica</i> | Wood Frog |

APPENDIX B

**Forest Dwelling Bird Species of
Great Seneca Park and North Germantown Greenway**
(within and surrounding the proposed M-83 alignment)

| Family | Scientific name | Common name | Permanent Resident/Neotropical Migrant | Forest-interior-dwelling-species (FIDS) |
|-----------------------------|---------------------------------|---------------------------------------|--|---|
| Family Accipitridae | <i>Buteo lineatus</i> | Red-Shouldered Hawk | P | X |
| Family Tytonidae | <i>Strix varia</i> | Barred Owl | P | X |
| Family Picidae | <i>Melanerpes carolinus</i> | Red-bellied Woodpecker | P | X |
| | <i>Picoides pubescens</i> | Downy Woodpecker | P | |
| | <i>Colaptes auratus</i> | Northern Flicker | P | |
| | <i>Dryocopus pileatus</i> | Pileated Woodpecker | P | X |
| Family Tyrannidae | <i>Contopus virens</i> | Eastern Wood Pewee ¹ | N | X |
| | <i>Epidonax virescens</i> | Acadian Flycatcher | N | X |
| | <i>Myiarchus crinitus</i> | Great Crested Flycatcher ¹ | N | X |
| Family Vireonidae | <i>Vireo olivaceus</i> | Red-eyed Vireo | N | X |
| Family Corvidae | <i>Cyanocitta cristata</i> | Blue Jay | P | |
| Family Paridae | <i>Poecile carolinensis</i> | Carolina Chickadee | P | |
| | <i>Baeolophus bicolor</i> | Tufted Titmouse | P | |
| Family Sittidae | <i>Sitta carolinensis</i> | White-breasted Nuthatch ¹ | P | X |
| Family Troglodytidae | <i>Thryothorus ludovicianus</i> | Carolina Wren | P | |
| Family Sylviidae | <i>Poliptila caerulea</i> | Blue-gray Gnatcatcher | N | X |
| Family Turdidae | <i>Hylocichla mustelina</i> | Wood Thrush | N | X |
| | <i>Turdus migratorius</i> | American Robin | P | |
| Family Parulidae | <i>Seiurus motacilla</i> | Louisiana Waterthrush | N | X |
| Family Thraupidae | <i>Piranga rubra</i> | Summer Tanager | N | X |
| | <i>Piranga olivacea</i> | Scarlet Tanager | N | X |

Notes:

¹ Many prominent ornithologists recognize Eastern Wood Pewee, Great Crested Flycatcher, and White-breasted Nuthatch as forest-interior-dwelling birds. However, Maryland Partners in Flight does not include these birds in that category despite listing forest as their primary habitat.

APPENDIX C

State-Listed Rare Species
of Great Seneca Park and North Germantown Greenway
 (within and surrounding the M-83 alignment)

| Scientific name | Common name | Habitat | Location | State rank |
|---------------------------|-------------------|---------------|----------|------------|
| <i>Scirpus verecundus</i> | Bashful Bulrush | rock outcrop | GSP | S2S3 |
| <i>Juglans cinerea</i> | Butternut | floodplain | GSP | S2S3 |
| <i>Castanea dentata</i> | American Chestnut | upland forest | NGG/GSP | S2S3 |
| <i>Fraxinus nigra</i> | Black Ash | seepage slope | NGG | S3 |

State Rank

S1 Highly state rare. Critically imperiled in Maryland because of state rarity (typically 5 or fewer estimated occurrences or very few remaining individuals or acres in the State) or because of some factors(s) making it especially vulnerable to extirpation.

S2 State rare. Imperiled in Maryland because of rarity (typically 6-20 estimated occurrences or few remaining individuals or acres in the State) or because of some factor(s) making it vulnerable to becoming extirpated.

S3 Watch List. Rare to uncommon in Maryland, worthy of attention due to limited distributions, declining populations, or ecological vulnerabilities, and it may be susceptible to large-scale disturbances.

**APPENDIX D Woody Plants: Rare or Uncommon in Montgomery County
In Great Seneca Park and North Germantown Greenway
(within and surrounding the proposed M-83 alignment)**

| Family | Scientific Name | Common Name | Uncommon or Rare | Location |
|-------------------------------------|----------------------------------|-------------------------|-----------------------------|-----------------|
| WILLOW FAMILY - Salicaceae | | | | |
| | <i>Populus grandidentata</i> | Bigtooth Aspen | UC | |
| WALNUT FAMILY - Juglandaceae | | | | |
| | <i>Juglans cinerea</i> | Butternut | R | GSP |
| BIRCH FAMILY - Betulaceae | | | | |
| | <i>Betula lenta</i> | Black Birch | UC | NGG |
| | <i>Castanea dentata</i> | American Chestnut | R as nut-bearing | Both |
| | <i>Castanea pumila</i> | Chinquapin | UC | NGG |
| | <i>Quercus stellata</i> | Post Oak | UC | GSP |
| | <i>Quercus imbricaria</i> | Shingle Oak | UC | Both |
| ROSE FAMILY - Rosaceae | | | | |
| | <i>Physocarpus opulifolius</i> | Ninebark | UC/R | NGG |
| | <i>Aronia arbutifolia</i> | Red Chokeberry | UC | NGG |
| | <i>Amelanchier laevis</i> | Smooth Juneberry | UC | Both |
| | <i>Crataegus macrosperma</i> | Variable Hawthorne | UC/R | NGG |
| HEATH FAMILY - Ericaceae | | | | |
| | <i>Epigaea repens</i> | Trailing Arbutus | UC | NGG |
| | <i>Vaccinium corymbosum</i> | Blue Highbush Blueberry | R | NGG |
| OLIVE FAMILY - Oleaceae | | | | |
| | <i>Fraxinus nigra</i> | Black Ash | R | NGG |
| | <i>Chionanthus virginicus</i> | Fringe-tree | UC | Both |
| MADDER FAMILY - Rubiaceae | | | | |
| | <i>Cephalanthus occidentalis</i> | Buttonbush | UC | GSP |

**Herbaceous Plants: Rare or Uncommon in Montgomery County
In Great Seneca Park and North Germantown Greenway**
(within and surrounding the M-83 alignment)

| Family | Scientific Name | Uncommon or Rare | Common Name | Location |
|---|------------------------------------|---------------------|---------------------------------------|----------|
| FERNS AND FERN ALLIES | | | | |
| ROYAL FERN FAMILY - Osmundaceae | <i>Osmunda regalis</i> | UC | Royal Fern | NGG |
| CLIFF FERN FAMILY - Woodsiaceae | <i>Woodsia obtusa</i> | R | Blunt-lobed Cliff Fern | NGG |
| WOOD FERN FAMILY - Dryopteridaceae | <i>Dryopteris marginalis</i> | UC | Marginal Wood Fern | NGG |
| BRACKEN FAMILY - Dennstaedtiaceae | <i>Pteridium aquilinum</i> | UC | Bracken Fern | NGG |
| POLYPODY FAMILY - Polypodiaceae | <i>Polypodium virginianum</i> | UC | Rock Polypody | NGG |
| MONOCOTS | | | | |
| GRASS FAMILY - Poaceae | <i>Dichanthelium linearifolium</i> | UC | Low Panic Grass | NGG |
| SEDGE FAMILY - Cyperaceae | <i>Scirpus verecundus</i> | R | Bashful Bulrush | GSP |
| | <i>Carex atlantica</i> | UC | Eastern Sedge | NGG |
| | <i>Carex Leptalea</i> | R | Bristle-stalk Sedge | NGG |
| LILY FAMILY - Liliaceae | <i>Veratrum viride</i> | UC | False Hellebore | NGG |
| | <i>Lilium superbum</i> | UC | Turk's-Cap Lily | NGG |
| | <i>Maianthemum canadense</i> | UC | Canada Mayflower | NGG |
| AMARYLLIS FAMILY - Amaryllidaceae | <i>Hypoxis hirsuta</i> | UC | Yellow Stargrass | NGG |
| ORCHID FAMILY - Orchidaceae | <i>Isotria verticillata</i> | UC | Large Whorled Pogonia | NGG |
| | <i>Platanthera clavellata</i> | R | Little-Club-spur Orchid | NGG |
| | <i>Aplectrum hyemale</i> | UC | Putty-root Orchid | NGG |
| | <i>Goodyera pubescens</i> | UC | Rattlesnake Plantain | Both |
| DICOTS | | | | |
| SANDALWOOD FAMILY - Santalaceae | <i>Comandra umbellata</i> | UC/R | Bastard-toadflax Hairy Forked | NGG |
| PINK FAMILY - Caryophyllaceae | <i>Paronychia fastigiata</i> | R | Chickweed | NGG |
| | <i>Silene stellata</i> | UC | Starry Campion | NGG |
| | <i>Silene caroliniana</i> | UC | Wild Pink | NGG |
| CROWFOOT FAMILY - Ranunculaceae | <i>Anemone quinquefolia</i> | UC | Wood Anemone | NGG |
| | <i>Aquilegia canadensis</i> | UC | Columbine | NGG |
| MUSTARD FAMILY - Cruciferae | <i>Cardamine bulbosa</i> | UC | Spring Cress | NGG |
| | <i>Chrysopsis americanum</i> | UC | Water-mat | NGG |
| SAXIFRAGE FAMILY - Saxifragaceae | | | | |
| WOOD SORREL FAMILY - Oxalidaceae | <i>Oxalis violacea</i> | UC | Violet Wood-sorrel Primrose-leaved | NGG |
| VIOLET FAMILY - Violaceae | <i>Viola primulifolia</i> | UC | Violet American Dog | NGG |
| | <i>Viola conspersa</i> | R | Violet | NGG |
| GINSENG FAMILY - Araliaceae | <i>Aralia nudicaulis</i> | UC | Wild Sarsaparilla | NGG |
| | <i>Panax trifolius</i> | UC | Dwarf Ginseng Short-toothed | NGG |
| MINT FAMILY - Lamiaceae | <i>Pycnanthemum muticum</i> | UC | Mt. Mint | NGG |
| | <i>Cunila origanoides</i> | UC | Dittany | NGG |
| FIGWORT FAMILY - Scrophulariaceae | <i>Chelone glabra</i> | UC | White Turtlehead Downy Yellow | NGG |
| | <i>Aureolaria virginica</i> | UC | Foxglove Hairy | NGG |
| COMPOSITE FAMILY - Asteraceae | <i>Eupatorium pubescens</i> | UC | Thoroughwort | NGG |

APPENDIX E

**Trees, Shrubs, and Woody Vines of
Great Seneca Park and North Germantown Greenway**
(within and surrounding the proposed M-83 alignment)

| Family | Scientific Name | Common Name |
|--|--|---|
| PINE FAMILY - Pinaceae | <i>Juniperus virginiana</i> <i>Pinus virginiana</i> | Red Cedar Virginia Pine |
| GREENBRIER FAMILY - Smilacaceae | <i>Smilax glauca</i> <i>Smilax rotundifolia</i> | Glaucous Greenbrier Common Greenbrier |
| WILLOW FAMILY - Salicaceae | <i>Salix nigra</i> <i>Populus grandidentata</i> <i>Populus deltoides</i> | Black Willow Bigtooth Aspen Eastern Cottonwood |
| WALNUT FAMILY - Juglandaceae | <i>Juglans cinerea</i> <i>Juglans nigra</i> <i>Carya tomentosa</i> <i>Carya glabra</i> | Butternut Black Walnut Mockernut Hickory Pignut Hickory |
| BIRCH FAMILY - Betulaceae | <i>Corylus americana</i> <i>Carpinus caroliniana</i> <i>Betula lenta</i> <i>Betula nigra</i> <i>Alnus serrulata</i> | Hazelnut Ironwood Black Birch River Birch Smooth Alder |
| BEECH FAMILY - Fagaceae | <i>Castanea dentata</i> <i>Castanea pumila</i> <i>Quercus alba</i> <i>Quercus stellata</i> <i>Quercus prinus</i> <i>Quercus rubra</i> <i>Quercus velutina</i> <i>Quercus palustris</i> <i>Quercus coccinea</i> <i>Quercus imbricaria</i> | American Chestnut Chinquapin White Oak Post Oak Chestnut Oak Red Oak Black Oak Pin Oak Scarlet Oak Shingle Oak |
| ELM FAMILY - Ulmaceae | <i>Ulmus americana</i> | American Elm |
| MAGNOLIA FAMILY - Magnoliaceae | <i>Liriodendron tulipifera</i> | Tulip Poplar |
| LAUREL FAMILY - Lauraceae | <i>Sassafras albidum</i> <i>Lindera benzoin</i> | Sassafras Spicebush |
| WITCH HAZEL FAMILY - Hamamelidaceae | <i>Hamamelis virginiana</i> | Witch-Hazel |
| PLANE-TREE FAMILY - Platanaceae | <i>Platanus occidentalis</i> | Sycamore |
| ROSE FAMILY - Rosaceae | <i>Physocarpus opulifolius</i> <i>Aronia arbutifolia</i> <i>Amelanchier arborea</i> <i>Amelanchier laevis</i> <i>Crataegus macrosperma</i> <i>Rubus hispidus</i> <i>Rubus flagellaris</i> <i>Rubus occidentalis</i> <i>Rubus argutus</i> <i>Prunus serotina</i> | Ninebark Red Chokeberry Downy Juneberry Smooth Juneberry Variable Hawthorn Swamp Dewberry Northern Dewberry Black Raspberry Tall Blackberry Black Cherry |
| LEGUME FAMILY - Leguminosae | <i>Robinia pseudo-acacia</i> | Black Locust |

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|--|--|---|
| CASHEW FAMILY - Anacardiaceae | <i>Rhus copallina</i> <i>Toxicodendron radicans</i> | Winged sumac Poison Ivy |
| HOLLY FAMILY - Aquifoliaceae | <i>Ilex opaca</i> <i>Ilex verticillata</i> | American Holly Winterberry |
| STAFF-TREE FAMILY - Celastraceae | <i>Euonymus americanus</i> | Strawberry bush |
| MAPLE FAMILY - Aceraceae | <i>Acer rubrum</i> <i>Acer negundo</i> | Red Maple Box Elder |
| VINE FAMILY - Vitaceae | <i>Parthenocissus quinquefolia</i> <i>Vitis labrusca</i> <i>Vitis vulpina</i> | Virginia Creeper Fox Grape Winter Grape |
| ST. JOHN'S-WORT FAMILY - Hypericaceae | <i>Ascyrum hypericoides</i> | St. Andrew's Cross |
| SOUR GUM FAMILY - Nyssaceae | <i>Nyssa sylvatica</i> | Black Gum |
| DOGWOOD FAMILY - Cornaceae | <i>Cornus florida</i> <i>Cornus amomum</i> | Flowering Dogwood Silky Dogwood |
| HEATH FAMILY - Ericaceae | <i>Chimaphila maculata</i> <i>Rhododendron nudiflorum</i> <i>Kalmia latifolia</i> <i>Epigaea repens</i> <i>Gaylussacia baccata</i> <i>Vaccinium stamineum</i> <i>Vaccinium vacillans</i> <i>Vaccinium corymbosum</i> <i>Vaccinium atrococcum</i> | Spotted Wintergreen Pinxster Azalea Mountain Laurel Trailing Arbutus Black Huckleberry Deerberry Lowbush Blueberry Blue Highbush Blueberry Black Highbush Blueberry |
| EBONY FAMILY - Ebenaceae | <i>Diospyros virginiana</i> | Persimmon |
| OLIVE FAMILY - Oleaceae | <i>Fraxinus americana</i> <i>Fraxinus pennsylvanica</i> <i>Fraxinus nigra</i> <i>Chionanthus virginicus</i> | White Ash Green Ash Black Ash Fringe-tree |
| MADDER FAMILY - Rubiaceae | <i>Mitchella repens</i> <i>Cephalanthus occidentalis</i> | Partridge Berry Buttonbush |
| HONEYSUCKLE FAMILY - Caprifoliaceae | <i>Viburnum prunifolium</i> <i>Viburnum recognitum</i> <i>Viburnum acerifolium</i> <i>Sambucus canadensis</i> | Black-haw Viburnum Arrowwood Viburnum Maple-leaved Viburnum Elderberry |

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| Family | Scientific Name | Common Name | |
|--|------------------------------------|--|--------------------|
| FERNS & FERN ALLIES | | | |
| CLUB MOSS FAMILY - Lycopodiaceae | <i>Lycopodium lucidulum</i> | Shining Clubmoss | |
| ADDER'S-TONGUE FAMILY - Ophioglossaceae | <i>Botrychium virginianum</i> | Rattlesnake Fern | |
| ROYAL FERN FAMILY - Osmundaceae | <i>Osmunda regalis</i> | Royal Fern | |
| | <i>Osmunda cinnamomea</i> | Cinnamon Fern | |
| CLIFF FERN FAMILY - Woodsiaceae | <i>Woodsia obtusa</i> | Blunt-lobed Cliff Fern | |
| | <i>Onoclea sensibilis</i> | Sensitive Fern | |
| | <i>Athyrium thelypteroides</i> | Silvery Glade Fern | |
| | <i>Athyrium filix-femina</i> | Lady Fern | |
| MARSH FERN FAMILY - Thelypteridaceae | <i>Thelypteris noveboracensis</i> | New York Fern | |
| WOOD FERN FAMILY - Dryopteridaceae | <i>Dryopteris marginalis</i> | Marginal Wood Fern | |
| | <i>Dryopteris intermedia</i> | Intermediate Wood Fern | |
| | <i>Polystichum acrostichoides</i> | Christmas Fern | |
| BRACKEN FAMILY - Dennstaedtiaceae | <i>Dennstaedtia punctilobula</i> | Hay-scented Fern | |
| | <i>Pteridium aquilinum</i> | Bracken Fern | |
| SPLEENWORT FAMILY - Aspleniaceae | <i>Asplenium platyneuron</i> | Ebony Spleenwort | |
| POLYPODY FAMILY - Polypodiaceae | <i>Polypodium virginianum</i> | Rock Polypody | |
| MONOCOTS | | | |
| GRASS FAMILY - Poaceae | <i>Andropogon virginicus</i> | Broom-sedge | |
| | <i>Dichanthelium linearifolium</i> | Low Panic Grass | |
| | <i>Dichanthelium clandestinum</i> | Deer-tongue Grass | |
| | <i>Dichanthelium boscii</i> | Bosc's Panic Grass | |
| | <i>Cinna arundinacea</i> | Wood-reed | |
| | <i>Danthonia spicata</i> | Poverty Grass | |
| | <i>Glyceria striata</i> | Fowl Meadow Grass (Nerved Manna Grass) | |
| | <i>Eragrostis pectinacea</i> | Pink Grass | |
| | <i>Triodia flava</i> | Purple-top | |
| | <i>Hystrix patula</i> | Bottle-brush Grass | |
| | SEDGE FAMILY - Cyperaceae | <i>Scirpus verecundus</i> | Bashful Bulrush |
| | | <i>Scirpus atrovirens, var. georgianus</i> | Dark Green Bulrush |
| <i>Carex cephalophora</i> | | Oval-headed Sedge | |
| <i>Carex atlantica</i> | | Eastern Sedge | |
| <i>Carex leptalea</i> | | Bristle-stalk Sedge | |
| <i>Carex willdenowii</i> | | Willdenow's Sedge | |
| <i>Carex nigromarginata</i> | | Black-edged Sedge | |
| <i>Carex crinita</i> | | Fringed Sedge | |
| <i>Carex swanii</i> | | Swan's Sedge | |
| <i>Carex debilis</i> | | White-edged Sedge | |
| <i>Carex laxiculmis</i> | | Spreading Sedge | |
| <i>Carex intumescens</i> | | Bladder Sedge | |
| ARUM FAMILY - Araceae | | <i>Arisaema triphyllum</i> | Jack-in-the-Pulpit |
| RUSH FAMILY - Juncaceae | <i>Symplocarpus foetidus</i> | Skunk Cabbage | |
| | <i>Juncus tenuis</i> | Path Rush | |
| | <i>Luzula echinata</i> | Sea Urchin Woodrush | |

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|--|--|---|
| LILY FAMILY - Liliaceae | <i>Veratrum viride</i> <i>Uvularia perfoliata</i> <i>Uvularia sessilifolia</i> <i>Lilium superbum</i> <i>Erythronium americanum</i> <i>Maianthemum canadense</i> <i>Smilacina racemosa</i> <i>Medeola virginiana</i> <i>Polygonatum biflorum</i> <i>Smilax herbacea</i> | False Hellebore Perfoliate Bellwort Sessile Bellwort Turk's-Cap Lily Trout lily Canada Mayflower Solomon's Plume Indian Cucumber Solomon's Seal Carrion Flower |
| YAM FAMILY - Dioscoreaceae | <i>Dioscorea villosa</i> | Wild Yam |
| AMARYLLIS FAMILY - Amaryllidaceae | <i>Hypoxis hirsuta</i> | Yellow Stargrass |
| IRIS FAMILY - Iridaceae | <i>Sisyrinchium mucronatum</i> | Blue-eyed Grass |
| ORCHID FAMILY - Orchidaceae | <i>Isotria verticillata</i> <i>Platanthera clavellata</i> <i>Tipularia discolor</i> <i>Aplectrum hyemale</i> <i>Goodyera pubescens</i> | Large Whorled Pogonia Little-Club-spur Orchid Crane-fly Orchid Putty-root Orchid Rattlesnake Plantain |
| DICOTS | | |
| NETTLE FAMILY - Urticaceae | <i>Boehmeria cylindrica</i> | Bog-hemp |
| SANDALWOOD FAMILY - Santalaceae | <i>Comandra umbellata</i> | Bastard Toadflax |
| BUCKWHEAT FAMILY - Polygonaceae | <i>Tovara virginiana</i> <i>Polygonum sagittatum</i> <i>Polygonum arifolium</i> | Jumpseed Arrow-leaved Tearthumb Halberd-leaved Tearthumb |
| PURSLANE FAMILY - Portulacaceae | <i>Claytonia virginica</i> | Spring Beauty |
| PINK FAMILY - Caryophyllaceae | <i>Paronychia fastigiata</i> <i>Silene stellata</i> <i>Silene caroliniana</i> | Hairy Forked Chickweed Starry Campion Wild Pink |
| CROWFOOT FAMILY - Ranunculaceae | <i>Ranunculus abortivus</i> <i>Ranunculus recurvatus</i> <i>Thalictrum polygamum</i> <i>Anemonella thalictroides</i> <i>Hepatica americana</i> <i>Anemone quinquefolia</i> <i>Aquilegia canadensis</i> <i>Cimicifuga racemosa</i> | Kidney-leaved Crowfoot Hooked Crowfoot Tall Meadow-rue Rue Anemone Hepatica Wood Anemone Columbine Black Cohosh |
| BARBERRY FAMILY - Berberidaceae | <i>Podophyllum peltatum</i> | May-apple |
| POPPY FAMILY - Papaveraceae | <i>Sanguinaria canadensis</i> | Bloodroot |
| MUSTARD FAMILY - Cruciferae | <i>Dentaria laciniata</i> <i>Cardamine bulbosa</i> <i>Cardamine pennsylvanica</i> | Cut-leaved Toothwort Spring Cress Pennsylvania Bitter-cress |
| SAXIFRAGE FAMILY - Saxifragaceae | <i>Saxifraga virginensis</i> <i>Chrysosplenium americanum</i> | Early Saxifrage Water-mat |
| ROSE FAMILY - Rosaceae | <i>Potentilla canadensis</i> <i>Geum canadense</i> | Dwarf Cinquefoil White Avens |

APPENDIX E

**Herbaceous Plants of
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(within and surrounding the proposed M-83 alignment)

| Family | Scientific Name | Common Name |
|--|---|--|
| LEGUME FAMILY - Fabaceae | <i>Desmodium nudiflorum</i> <i>Lespedeza procumbens</i> <i>Lespedeza virginica</i> <i>Amphicarpa bracteata</i> | Naked-flowered Tick-trefoil Trailing Bush-clover Slender Bush-clover Hog Peanut |
| FLAX FAMILY - Linaceae | <i>Linum virginianum</i> | Yellow Flax |
| WOOD SORREL FAMILY - Oxalidaceae | <i>Oxalis violacea</i> <i>Oxalis stricta</i> | Violet Wood-sorrel Upright Wood-sorrel |
| GERANIUM FAMILY - Geraniaceae | <i>Geranium maculatum</i> | Wild Geranium |
| SPURGE FAMILY - Euphorbiaceae | <i>Acalypha virginica</i> | Virginia Three-seeded Mercury |
| BALSAM FAMILY - Balsaminaceae | <i>Impatiens capensis</i> | Spotted Touch-me-not |
| ST. JOHN'S-WORT FAMILY - Hypericaceae | <i>Hypericum punctatum</i> | Dotted St. John's-wort |
| ROCKROSE FAMILY - Cistaceae | <i>Lechea racemulosa</i> | Pinweed |
| VIOLET FAMILY - Violaceae | <i>Viola sororia</i> <i>Viola cucullata</i> <i>Viola sagittata</i> <i>Viola hirsutula</i> <i>Viola primulifolia</i> <i>Viola conspersa</i> | Common Blue Violet Marsh Blue Violet Arrow-leaved Violet Southern Wood Violet Primrose-leaved Violet American Dog Violet |
| EVENING PRIMROSE FAMILY - Onagraceae | <i>Circaea quadrisulcata</i> | Enchanter's Nightshade |
| GINSENG FAMILY - Araliaceae | <i>Aralia nudicaulis</i> <i>Panax trifolius</i> | Wild Sarsaparilla Dwarf Ginseng |
| CARROT FAMILY - Apiaceae | <i>Sanicula canadensis</i> <i>Osmorhiza claytoni</i> <i>Cicuta maculata</i> <i>Oxypolis rigidior</i> | Black Snakeroot Hairy Sweet Cicely Water Hemlock Water Dropwort |
| HEATH FAMILY - Ericaceae | <i>Monotropa uniflora</i> | Indian Pipe |
| PRIMROSE FAMILY - Primulaceae | <i>Lysimachia quadrifolia</i> | Whorled Loosestrife |
| DOGBANE FAMILY - Apocynaceae | <i>Apocynum cannabinum</i> | Indian Hemp |
| MORNING GLORY FAMILY - Convolvulaceae | <i>Ipomoea pandurata</i> | Wild Potato-vine |
| BORAGE FAMILY - Boraginaceae | <i>Hackelia virginiana</i> | Stickseed |
| MINT FAMILY - Lamiaceae | <i>Trichostema dichotomum</i> <i>Scutellaria integrifolia</i> <i>Scutellaria elliptica</i> <i>Prunella vulgaris</i> <i>Hedeoma pulegioides</i> <i>Satureja vulgaris</i> <i>Pycnanthemum muticum</i> <i>Cunila organoides</i> <i>Lycopus virginicus</i> <i>Mentha arvensis</i> <i>Collinsonia canadensis</i> | Blue Curls Hyssop Skullcap Hairy Skullcap Heal-all Pennyroyal Wild Basil Short-toothed Mt. Mint Dittany Virginia Bugleweed Wild Mint Stoneroot |
| NIGHTSHADE FAMILY - Solanaceae | <i>Solanum carolinense</i> | Horse-nettle |
| FIGWORT FAMILY - Scrophulariaceae | <i>Chelone glabra</i> <i>Veronica officinalis</i> <i>Aureolaria virginica</i> | White Turtlehead Speedwell Downy Yellow Foxglove |

APPENDIX E

**Herbaceous Plants of
Great Seneca Park and North Germantown Greenway**
(within and surrounding the proposed M-83 alignment)

| Family | Scientific Name | Common Name |
|--------------------------------------|-----------------------------------|----------------------------|
| LOPSEED FAMILY - Phrymaceae | <i>Phryma leptostachya</i> | Lopseed |
| BEDSTRAW FAMILY - Rubiaceae | <i>Galium aparine</i> | Cleavers |
| | <i>Galium triflorum</i> | Fragrant Bedstraw |
| | <i>Galium circaezans</i> | Wild Licorice |
| | <i>Galium tinctorium</i> | Clayton's Bedstraw |
| | <i>Houstonia purpurea</i> | Large Houstonia |
| LOBELIA FAMILY - Lobeliaceae | <i>Lobelia inflata</i> | Indian Tobacco |
| COMPOSITE FAMILY - Asteraceae | <i>Elephantopus carolinianus</i> | Elephant's-foot |
| | <i>Eupatorium fistulosum</i> | Hollow Joe-Pye |
| | <i>Eupatorium pubescens</i> | Hairy Thoroughwort |
| | <i>Eupatorium perfoliatum</i> | Boneset |
| | <i>Eupatorium coelestinum</i> | Mistflower |
| | <i>Eupatorium rugosum</i> | White Snakeroot |
| | <i>Solidago bicolor</i> | Silver-rod |
| | <i>Solidago caesia</i> | Blue-stemmed Goldenrod |
| | <i>Solidago nemoralis</i> | Gray Goldenrod |
| | <i>Solidago juncea</i> | Early Goldenrod |
| | <i>Solidago altissima</i> | Tall Goldenrod |
| | <i>Solidago rugosa</i> | Rough-stemmed Goldenrod |
| | <i>Solidago graminifolia</i> | Grass-leaved Goldenrod |
| | <i>Aster divaricatus</i> | White Wood Aster |
| | <i>Aster pilosus</i> | White Heath Aster |
| | <i>Aster lateriflorus</i> | Calico Aster |
| | <i>Aster simplex</i> | Tall White Aster |
| | <i>Conyza canadensis</i> | Horseweed |
| | <i>Plantain-leaved Pussy-toes</i> | Antennaria plantaginifolia |
| | <i>Gnaphalium obtusifolium</i> | Sweet Everlasting |
| | <i>Ambrosia artemisiifolia</i> | Ragweed |
| | <i>Erechtites hieracifolia</i> | Fireweed |
| | <i>Hieracium venosum</i> | Veined Hawkweed |
| | <i>Hieracium paniculatum</i> | Panicled Hawkweed |

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Fraxinus nigra in the District of Columbia Area and in Virginia

H. A. ALLARD

The report of the occurrence of the Black Ash, *Fraxinus nigra* Marsh. in the District of Columbia area and in Virginia appears to rest upon little more than mere unauthenticated statement, as the following discussion would indicate.

FRAXINUS NIGRA IN THE DISTRICT OF COLUMBIA AREA

The oldest list of plants of the District area is the *Florula Columbiensis*, or a *List of Plants found in the District of Columbia arranged according to the Linnean System under their respective Classes and Orders, etc. and exhibiting their generally received Common Names and Time of Flowering*, during the years 1817 and 1818. Printed for the Washington Botanical Society by Jacob Gideon. *Jen.* 1819. There is no mention of the Black Ash in this unpretentious little booklet.

The next list of plants for the District area was *Florae Columbianae Prodromus, Exhibens Enumerationem Plantarum, quae hactenus exploratae sunt, or A Prodromus of the Flora Columbiensis, exhibiting a list of All the Plants which have as yet been collected. Compiled by John A. Breckon, M. D., Washington, 1830. Printed by Jonathan Elliot, and sold at his store on Pennsylvania Avenue.*

Breton lists for the first time *Fraxinus sambucifolia*, now regarded as a synonym for *F. nigra*. He gives no place of occurrence, but refers to the work *Flora Borealis Americana*, by Andreus Michaux, Tome 2, Paris, 1803, illustration No. 122.

In *Remarks on the Flora of the Potomac* by Wm. H. Seaman, published in Field and Forest 1 (1): 21-25, 1875, no mention is made of *Fraxinus nigra*.

In the *Flora Columbiensis, a catalogue of the plants growing without cultivation in the District of Columbia*, by Dr. George Vasey. Prof. J. W. Chickering, Dr. E. Foreman, Prof. Wm. H. Seaman, and Mr. L. F. Ward, Committee of Potomac-side Naturalists' Club. Field For. 1: 83-87, 1876; 2: 13-15; 31-33; 45-46; 61-84; 86-88; 103-105, 1876. Addenda, Op. Cit. 3: 145-164. 1878, only 3 species of *Fraxinus* were listed, i. e., *F. americana* L., *F. pubescens* Lam. (now *F. pennsylvanica* Marsh.), and *F. viridis* Michx. (now *F. lanceolata* Borkh.). *Fraxinus nigra* was omitted.

No mention is made of *Fraxinus nigra* in *List of Plants added to the flora of Washington from April 1, 1882, to April 1, 1884*, by Lester F. Ward, Proc. Biol. Soc. Wash. 2: 84-87. 1884.

Additions to the Flora of Washington and Vicinity, from April 1, 1881, to April 1, 1886, was published by F. H. Knowlton. Proc. Biol. Soc. Wash. III: 106-132. 1886. This list includes mosses, liverworts and lichens, in addition to the vascular plants. *Fraxinus nigra* is not mentioned.

In 1906 P. L. Ricker prepared mimeographed data, *A List of the Vascular Plants of the District of Columbia and Vicinity*, for the use of the Botanical Society of Washington. In this list the names of all plants of Ward's Flora, and its supplements, were included under their original numbers, to distinguish them from species not previously reported, which were without numbers. The names followed Britton's Manual. The black ash was not included.

In 1881 Lester F. Ward published his list, *Guide to the Flora of Washington and Vicinity*, usually known as *Ward's Flora*. Bull. U. S. Nat'l. Mus. 26: 1-264, with map. 1881. The Black Ash is noted as a "disappearance", in a long list of 146 plants.

In *The Flora of the District of Columbia and Vicinity*, by A. S. Hitchcock and Paul C. Standley, Contrib. U. S. Nat'l. Herbarium 21, 1919, the Black Ash again appears and its distribution is given as "Swamps and along creeks. Apr. - May. Northern States, south to Va." One would gain the impression that it is common now.

This ash is also listed in *A Check List of Plants in the Washington-Baltimore Area*, by Frederick J. Hermann, 1941, prepared for the Conference on District Flora. This check list is compiled from the preceding work, now out of print, and its supplements issued later, but with the addition of all plants known to occur in an enlarged area to be covered by a new local flora. This enlarged area extends from the Pennsylvania-Maryland boundary southward to the Rappahannock River, and from Chesapeake Bay westward to the Bull Run and Catoctin Mountain area, inclusive.

FRAXINUS NIGRA IN VIRGINIA AND WEST VIRGINIA

It is now of some interest to note how the southern range of the Black Ash is treated in the more important botanical works of recent years.

The Handbook of the Trees of the Northern States and Canada, 1907, by E. B. Hough, distinctly maps the range of the Black Ash, as covering the mountains of West Virginia and Virginia, even as far south as North Carolina, and perhaps into that State.

In *The Native and Naturalized Trees of Illinois*, by R. B. Miller and L. R. Tehon, Bull. of the Natural History Survey of the State of

Illinois, XVIII, 1929, the range includes West Virginia, but Virginia is excluded.

The *Illustrated Flora of the Northern States and Canada*, by Britton and Brown, second ed., 1913, mentions it as a northern species with a distribution south to Virginia.

In the *Manual of the Trees of North America*, by C. S. Sargent, 1921, the distribution of the Black Ash is given as the mountains of West Virginia, with no mention of Virginia.

In *A Guide to the Trees*, by Carleton C. Curtis, 1925, the Black Ash is given a range from eastern Canada to Manitoba south to Delaware and Arkansas, excluding Virginia and West Virginia.

In the *Check List of the Forest Trees of the United States and Ranges*, by George B. Sudworth, U. S. Dept. Agric. Misc. Cir. 92, 1927, it is discussed as occurring in West Virginia, and in the mountains of Virginia.

In *Trees and Shrubs of Minnesota* by Carl Otto Rosendahl and Frederic K. Butters, 1928, the Black Ash is said to range to Virginia.

In Gray's New Manual (7th ed.), 1908, the range of the black ash is given as extending to Delaware, Virginia, and Arkansas; West Virginia is not mentioned.

Deam's *Trees of Indiana*, 2nd, Revised Ed., 1932, includes Virginia in its distribution.

The Standard Cyclopedia of Horticulture, by L. H. Bailey, 1935, gives the range of the Black Ash as extending from Canada to Virginia.

The *Trees of the Southeastern States*, by W. C. Coker and H. R. Totten, 2nd Ed., 1937, makes no mention of the Black Ash in Virginia, although the scope of their work includes this state.

E. N. Munn in *The Distribution of Important Forest Trees of the United States*, U. S. Dept. Agric. Misc. Pub. No. 287, 1938, shows a map, p. 164, with the distribution of the Black Ash covering northern Virginia and nearly all of West Virginia.

The *Manual of Cultivated Trees and Shrubs*, by Alfred Rehder, 2nd Ed., 1940, gives the range of the Black Ash as in West Virginia, but does not include Virginia.

In the *Flora of Indiana*, by Charles C. Deam, 1940, the range includes West Virginia only.

The writer has never met with the black ash in the District of Columbia, nor in the Bull Run mountain area where he has collected very intensively. It was therefore not included in *The Vegetation and Plants of Bull Run Mountain, Virginia*, by H. A. Allard and F. C. Leonard, Caslatana S, 1943.

In the new mimeographed *Check List of the Native and Naturalized Trees of the United States, Including Alaska*, prepared by Forest Service, U. S. Dept. of Agriculture, 1944, the range southward includes West Virginia but not Virginia. This more recent Check List supersedes Sudworth's Check List previously mentioned.

Dr. W. A. Dayton of the U. S. Forest Service who very kindly supplied this information for the writer, found no mention of the Black Ash as occurring in the District of Columbia or in Virginia, in records of tree ranges prepared by Mr. Sudworth, formerly connected with the Forest Service.

HERBARIUM RECORDS

The only convincing evidence of the occurrence of a plant in an area is authentic herbarium material from localities within that area. It is of interest to note that the herbarium of the District of Columbia flora contains no specimens of *Fraxinus nigra*, and the collections of the U. S. National Herbarium contain but one specimen designated as coming from Virginia. This specimen, with no locality or date of collection given except Virginia, bears an original label, written in pencil, *Fraxinus americana L.*, with the signature of J. Ball. This information is on a small piece of paper which has been pasted on the herbarium sheet. There is no other datum except the phrase, "Ex. Herb., John Ball, 1890." It is obvious that the specimen of leaf and fruit is that of *Fraxinus nigra*, as Jonathan Wright has pronounced it. It has been given the U. S. Nat. Herbarium accession number 681565.

There is one specimen of this ash in the Herbarium of the National Arboretum from the District of Columbia area, but none from Virginia. There is no material of this species from these areas in the herbarium of the Forest Service.

John Ball did visit Virginia in October, 1884. In company with Dr. Asa Gray, he visited Luray and the Caverns briefly. From this point they travelled to Natural Bridge, thence to Roan Mountain on the borders of North Carolina and Tennessee, where they remained several days. This is attested by *Letters of Asa Gray*, in two volumes, edited by Jane Louing Gray, 1893. Whether or not this specimen was picked up on this hurried trip in Virginia cannot be said, but it seems doubtful.

¹This specimen, in fruit, was collected by I. Thuestrom, June 18, 1914, at Chesapeake Beach, Md., and is given the number 23145 in the collections of the U. S. National Arboretum. No further data are given so that it is not known whether it was a wild or a planted tree here.

Miss Elizabeth Ann Bartholomew of the herbarium of West Virginia University, Morgantown, has very kindly listed all specimens of the Black Ash there. None is present from Virginia, but material has been collected in West Virginia from Summers, Preston, Pocahontas and Randolph Counties.

Dr. H. A. Gleason of the New York Botanical Garden has kindly informed the writer that there are no specimens of the Black Ash in their collections from either Virginia or West Virginia, but material is present from Pennsylvania, New Jersey, Indiana, and Minnesota. This is of some interest since both Britton and Brown were officially connected with this institution and their range for *Fraxinus nigra* includes Virginia in their *Illustrated Flora*.

Dr. Jonathan Wright of Purdue University, Lafayette, Indiana, has very kindly informed the writer that of several hundred sheets of the Black Ash examined from various herbaria, including the Gray Herbarium at Cambridge, Mass., Ball's was the only specimen which he found purporting to come from Virginia.

Dr. M. L. Fernald, Director of the Gray Herbarium, has informed me that there is no material in the Gray Herbarium from either Virginia or West Virginia.

Dr. A. C. Smith, Curator of the Herbarium of the Arnold Arboretum, informs me that there is no material of *Fraxinus nigra* in that herbarium.

CONCLUSIONS

From the preceding discussion there appears to be no authentic evidence anywhere to show that the Black Ash (*Fraxinus nigra*) at present occurs in the District of Columbia area. It was first listed in the *Flora of the District of Columbia* by John Breckton in 1830. It seems to have disappeared by the time *Ward's Flora* made its appearance in 1881. No hint is given as to where it was found or whether it was a tree or shrubby growth. It may be presumed that it was found somewhere along the Potomac, since it is a tree of cold, damp soils in northern regions, and occurs in the higher mountain areas of West Virginia at the present time.

The Potomac and its tributaries extend their tentacles into the high mountain areas of Maryland, Virginia and West Virginia, or into the alpine heights as one of the earlier botanists of the area expressed it. This system, unquestionably, has afforded a convenient moving highway for the transport of many seeds and plants from the mountains to the sea, some of which may become established, at least as waifs, along the flood-plain areas.

In spite of its "disappearance" in *Ward's Flora*, this ash has again cropped up in the more recent lists, *Flora of the District of Columbia and Vicinity*, by Hitchcock and Standley, 1919, and Hermann's Check List of 1941, previously referred to.

There seems to be no authentic evidence at hand to show that *Fraxinus nigra* occurs in Virginia. The sole specimen from the John Ball Herbarium labeled Virginia cannot be considered satisfactory evidence of its occurrence in this State. The locality may have been West Virginia, if it came from the Virginias at all. As a matter of fact the John Ball Herbarium was European, and John Ball himself did very little collecting in Virginia, although he secured many specimens from this country by exchange.

It is well established that the Black Ash occurs in West Virginia. There is ample evidence of its occurrence here in authentic herbarium material. Its occurrence in West Virginia is usually in the region formerly covered with great coniferous forests of Red Spruce (*Picea rubens Sarg.*) and Hemlock (*Tsuga canadensis* (L.) Carr.) in the Canaan Mountain - Cabin Mountain area, and in the Blackwater River drainage basin.

It is apparent that as the various botanists have prepared their text, in the works previously cited, there has been considerable uncertainty in the minds of some as to the proper range for the Black Ash. Those who gave its range into West Virginia and omitted Virginia surmised correctly so far as present data reveal. Those who have included Virginia appear to have followed their leaders rather faithfully, and somewhat erroneously, with nothing to support their claims.

While it is doubtful if the Black Ash will be found in the District of Columbia except as a waif which appears to have been its former status, the writer feels that it may occur sparingly in the higher, colder mountain areas of Virginia since it is a native of adjacent West Virginia.

It is obvious that there is a nice botanical problem here for the ardent and keeneyed botanist to solve. Does the Black Ash occur in Virginia? This question should be answered by collecting and preserving authentic, carefully labelled material in as many localities as possible for our own herbaria and for general distribution in the more important herbaria elsewhere.

Atlas and Annotated List of *Carex* (Cyperaceae) of Maryland and the District of Columbia

CHRISTOPHER T. FRYE¹ AND CHRISTOPHER LEA^{2,3}

¹Maryland Department of Natural Resources, Wildlife and Heritage Service, Tawes State Office Building, E-1, 580 Taylor Ave., Annapolis, MD 21401

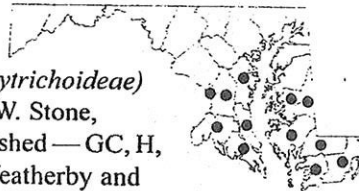
²National Park Service, 7206 National Seashore Lane, Berlin, MD 21811

***Carex leptalea* Wahlenberg ssp. *harperi* (Fernald)**

W. Stone

Harper's Bristle-stalked Sedge *Leptocephalae* (Polytrichoideae)
(KM; *C. leptalea* Wahlenberg var. *harperi* (Fernald) W. Stone, misapplied — BR, F, T; infraspecific taxa not distinguished — GC, H, HS; *C. leptalea* Wahlenberg var. *harperi* (Fernald) Weatherby and Griscom; *C. harperi* Fernald)

Similar to ssp. *leptalea*; perigynia longer (3.5-5.0 mm), more narrowly ellipsoid, and more strongly overlapping; the staminate portion of spike more obscured by the perigynia. Southern expression of the species. Seepages, often on *Sphagnum*, floodplains. [DE, VA]. Infrequent, WS, ES.



Carex leptalea* Wahlenberg ssp. *leptalea

Bristle-stalked Sedge *Leptocephalae* (Polytrichoideae)
(KM; *C. leptalea* var. *leptalea* — BR, F, T; infraspecific taxa not distinguished — GC, H, HS, RB, SC)

Small, distinctive sedge, with narrow (0.5-1.3 mm) leaves and spikes solitary on culms. Similar to ssp. *harperi*; perigynia shorter (2.5-3.5 mm) and more broadly ellipsoid; staminate portion of spike more prominent. Northern expression of the species. Seepages; edges of fens; usually on *Sphagnum*. [DE, PA, VA, WV]. Frequent, AP; infrequent, RV, PD.

