

REPORT ON BOTANICAL INVENTORY OF GEORGE WASHINGTON MEMORIAL PARKWAY PROPERTY IN MARYLAND AND WASHINGTON, D.C. - PART TWO

DECEMBER 10, 2000
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BACKGROUND

Part One of the report on the botanical inventory of George Washington Memorial Parkway (GWMP) property in Maryland was delivered to the Natural Resources Specialist in late October. That section consisted of the purpose of the inventory, the literature search, the methods used in the field surveys, and the results of the survey. This second part of the report, due by the end of December, gives a brief description of each of the six survey sites and then a complete inventory of species found for each of the sites. The species list for each site designates the habitat and abundance at that site and also notes any state or global rare species as well as a few species that are uncommon or unusual for the region. Species are listed alphabetically by scientific name followed by common name. Each site was visited at least once and some were visited two or three times, but because of the limited time spent at each site, this is not a comprehensive survey. Sites are described as they are located from south to north along the Clara Barton Parkway.

SITE DESCRIPTIONS

LITTLE FALLS-BROOKMONT - The Little Falls-Brookmont site consists of a mature forest on a steep hillside in the Maryland section and a narrow wooded strip along the Parkway in the Washington D.C. section. Due to a southerly turn in the Potomac River above this area, the aspect of this site is west-southwest. Little Falls Stream bisects the site along its western side and the stream can only be crossed at the bridge at the southern end of the site.

This site contains mostly upland habitat with the only bottomland being along the edge of Little Falls near the above mentioned bridge. Upstream from the bridge, the stream borders are rocky and deeply eroded. Several trails wind through the uplands and the paved Capital Crescent Bicycle Trail abuts the upper part of the site.

Forest maturity is noted by the large size of many trees, including several White oaks (*Quercus alba*) over 80 feet tall with a diameter of over 18 inches. Large Tuliptrees (*Liriodendron tulipifera*) and Red oaks (*Q. rubra*) were also noted. Notable spring wildflowers include Spring beauty (*Claytonia virginica*), Rue anemone (*Anemonella thalictroides*), Star chickweed (*Stellaria pubera*), and Wild ginger (*Asarum canadensis*).

However, the integrity of this forest is deeply compromised by the invasion of an escaped cultivated vine, Akebia (*Akebia quintata*). The Akebia actually covers every plant under ten feet tall over acres and acres of woodland. Kudzu (*Pueraria lobata*) also carpets a sunny hillside in another section of the site.

The state endangered wildflower, Coville's phacelia (*Phacelia ranunculacea*) occurs here in two small colonies, one along a low terrace just 20 feet above the parkway and only 40 feet

from the D.C. line. The other colony is much higher up on the hill, almost to the bicycle trail. This species, although very rare in the state and regionally, is common along the upper floodplain of the Potomac River, but rarely has been found so far away from the river or so far up the slope.

One large specimen of Shumard's oak (*Quercus shumardii*) was seen during the survey. This tree, ranked as threatened in Maryland, is also more often found right along the river's edge. The occurrence of Shumard's oak at this site was the only one found during the current survey and the only known occurrence in the upland forest in this area.

DEFENSE MAPPING - The Defense Mapping site is divided into two parts by MacArthur Boulevard. The upper part consists of steep hillsides and several deep ravines just below the Defense Mapping Agency. Some portions of this section also have private homes. The lower part contains a flat terrace following the location of the old trolley line right-of-way and a narrow stretch of hillside between that terrace and the parkway. Both sections face southwest.

The upper part of the site contains a mature upland forest dominated by large Tuliptrees and Beech (*Fagus grandifolia*). The soil is relatively dry and the woodland is open with few invasives. Some species notable here include Moonseed (*Menispermum canadensis*), Black cohosh (*Cimicifuga racemosa*), and Maple-leaved viburnum (*Viburnum acerifolium*). A small seepage along the road supports a few wetland species such as Elderberry (*Sambucus canadensis*) Broad-leaved cattail (*Typha latifolia*), and Spearmint (*Mentha spicata*).

The lower part of the site, highly disturbed by the old trolley line and by current maintenance of the power lines, is quite weedy with only small specimens of native trees and a large stand of Bamboo (*Bambusa sp.*). However, this disturbed area is the location of the largest colonies of the state endangered Coville's phacelia found during this survey. Two colonies, separated by only a few hundred feet, each contain several thousand specimens of the rare phacelia. The plants spill down the hillside from the terrace to the edge of the parkway. Not only do they grow in this highly disturbed habitat but often in open sun where a tree has fallen.

MINNEHAHA CREEK - Most of the Minnehaha Creek site is taken up with the buildings and parking lot of Glen Echo Park. However, a thin wooded strip along the creek above the pedestrian bridge at the parking lot remains in a natural state. The creek banks below the pedestrian bridge were radically disturbed during the flood of May 1989, and the steep hillsides are now filled with weedy invasive species and replanted with trees and shrubs.

The small woodland between the bridge and MacArthur Boulevard is remarkably diverse for such a tiny area. Large specimens of Beech, Tuliptree, White oak, Red oak, and Mockernut hickory (*Carya tomentosa*) dominate the woods. Many native wildflowers carpet the ground layer including Spring beauty, Rue-anemone, Jack-in-the-pulpit (*Arisaema triphyllum*), False Solomon's-seal (*Smilacina racemosa*), and Star chickweed. Several clumps of the state threatened Narrow melicgrass (*Melica mutica*) were found in this woodland. The only occurrence of this species found during this survey, the melicgrass grows only in undisturbed upland woods. Despite the re-routing of the new trail, use of this area by the nearby Discovery Creek programs may threaten this occurrence because of careless wandering off trail, compacting of the soil, and seeds of invasive species coming in on shoes and clothes of walkers. It is recommended that large groups, particularly school groups, not be taken into this ecologically sensitive area.

A steep hillside between the parking lot and the parkway is carpeted with thousands of the state endangered species, Coville's phacelia, the second largest population found during this survey. Despite the very disturbed habitat and invasion by English ivy (*Hedera helix*), Garlic mustard (*Alliaria petiolata*), and other non-native species, the phacelia is holding its own here. Wild ramps (*Allium tricoccum*), a southern Appalachian species uncommon in our region but found occasionally along the Potomac River, was also found here near the phacelia population.

GLEN ECHO WOODS - The Glen Echo Woods contains a low-lying floodplain along an unnamed stream and high sloping hillsides between this stream and Cabin John Creek. Near MacArthur Boulevard and the old trolley line right-of-way is a young forest that is invaded with many non-native species like Japanese honeysuckle (*Lonicera japonica*). Even the more mature bottomland woods in the stream ravine contains many non-native species including Lesser celandine (*Ranunculus ficaria*), Gill-over-the-ground (*Glechoma hederacea*), and Daylily (*Hemerocallis fulva*) along with native species such as Spring beauty, Golden ragwort (*Senecio aureus*), and a small population of the ubiquitous endangered species, Coville's phacelia.

ROCK RUN - BELTWAY RAMPS - Although historical records (from 1882 to 1979) of at least seven plant species rare in Maryland are located in this area, construction of the David Taylor Model Basin and the beltway ramps from the Clara Barton Parkway destroyed almost all of the prime wooded habitat that supported these species. This site is the most disturbed of all sites inventoried during the current survey. Weedy, invasive shrubs such as Multiflora rose (*Rosa multiflora*) and Bush honeysuckle (*Lonicera morrowii*) dominate the narrow corridor along Rock Run. A low-lying meadow where Rock Run flows under the beltway does contain native grasses such as Broomsedge (*Andropogon virginicus*), Purple-top (*Tridens flava*), and Wild rye (*Elymus riparia*) as well as a large stand of Golden ragwort. The GWMP property just east of the beltway is mainly planted grass along and between the ramps to the beltway. Only narrow strips of natural woodland occur in this area.

BRICKYARD ROAD - Of all the sites visited during the survey of GWMP property in Maryland, the Brickyard Road site contains the highest quality forest, with many mature trees, a well-developed understory and shrub layer, and many spring wildflowers. The south-facing hillside contains several ravines, a few of which contain small streams or seeps. Large White oaks, Tuliptrees, and White ash (*Fraxinus americana*) dominate this upland woods. Even the upper slopes contain moist, rich soil as evidenced by the presence of PawPaw (*Asimina triloba*) and Spicebush (*Lindera benzoin*). There are three colonies of the state endangered species Coville's phacelia, two at the top of the hill and one on a low terrace. However, the upland sites are on not on park property, so it is highly recommended that this upland area be obtained by the Park Service in order to protect this population of Coville's phacelia and this high quality habitat.

The naturalness of the site is somewhat diminished by a large cut along a power line and this stretch contains most of the non-native species. However, invasive species have not taken over the native woodlands at this site as they have in so many other sites seen in the survey. The easternmost slopes support a drier, more acidic forest type dominated by Chestnut oak (*Quercus prinus*) with Mountain laurel (*Kalmia latifolia*) and Lowbush blueberry (*Vaccinium vacillans*) in the shrub layer. Crane-fly orchid (*Tipularia discolor*) occurs here in this habitat.

DEFENSE MAPPING SPECIES LIST 12/10/00 CRIS FLEMING

Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Box-elder	T	A	
Acer rubrum	Red maple	T	C	
Ailanthus altissima	Ailanthus	U	C	
Alliaria petiolata	Garlic mustard	T	A	
Arisaema triphyllum	Jack-in-the-pulpit	B	S	
Asimina triloba	PawPaw	B	C	
Bambusa sp.	Bamboo	U	A	
Celastris orbiculatus	Asiatic bittersweet	T	A	
Celtis occidentalis	Hackberry	U	C	
Cimicifuga racemosa	Black snakeroot	U	S	
Clematis dioscoreifolia	Japanese clematis	U	C	
Cornus florida	Flowering dogwood	U	S	
Dentaria laciniata	Cut-leaved toothwort	U	S	
Duchesnea indica	Indian strawberry	U	C	
Erigeron philadelphicus	Common fleabane	U	S	
Fagus grandifolia	Beech	U	S	
Galium aparine	Cleavers	T	A	
Glechoma hederacea	Gill-over-the-ground	T	A	
Hamamelis virginiana	Witchhazel	B	S	
Hedera helix	English ivy	T	C	
Hemerocallis fulva	Daylily	B	S	
Lindera benzoin	Spicebush	B	C	
Liriodendron tulipifera	Tuliptree	T	C	
Lonicera japonica	Japanese honeysuckle	T	A	
Lonicera morrowii	Bush honeysuckle	T	C	
Lysimachia nummularia	Moneywort	W	S	
Menispermum canadense	Moonseed	U	S	uncommon
Mentha spicata	Spearmint	W	S	
Osmorhiza claytoni	Sweet cicely	U	S	
Phacelia ranunculacea	Coville's phacelia	T	A	G4S1-E
Phlox divaricata	Wild blue phlox	U	S	
Platanus occidentalis	Sycamore	B	C	
Podophyllum peltatum	Mayapple	U	S	
Polygonum cuspidatum	Japanese knotweed	T	C	
Polystichum acrostichoides	Christmas fern	U	S	
Prunus serotina	Black cherry	T	C	

<i>Ranunculus bulbosa</i>	Bulbous buttercup	U	S
<i>Rhus radicans</i>	Poison ivy	T	A
<i>Robinia pseudoacacia</i>	Black locust	U	C
<i>Rosa multiflora</i>	Multiflora rose	T	A
<i>Rubus phoenicolasius</i>	Wineberry	T	A
<i>Sambucus canadensis</i>	Elderberry	W	S
<i>Sanicula gregaria</i>	Clustered snakeroot	U	C
<i>Saxifraga virginensis</i>	Early saxifrage	U	S
<i>Smilacina racemosa</i>	False Solomon's-seal	U	S
<i>Smilax rotundifolia</i>	Common greenbrier	T	C
<i>Stellaria media</i>	Common chickweed	T	C
<i>Stellaria pubera</i>	Star chickweed	U	S
<i>Typha latifolia</i>	Broad-leaved cattail	W	S
<i>Ulmus americana</i>	American elm	U	S
<i>Ulmus rubra</i>	Slippery Elm	T	A
<i>Verbesina alternifolia</i>	Wingstem	B	C
<i>Veronica hederifolia</i>	Ivy-leaved veronica	T	A
<i>Viburnum acerifolium</i>	Maple-leaved viburnum	U	S
<i>Vicia angustifolia</i>	Narrow-leaved vetch	U	S
<i>Vinca minor</i>	Periwinkle	T	A
<i>Vitis labrusca</i>	Fox grape	T	A

LITTLE FALLS-BROOKMONT SPECIES LIST 12/10/00 CRIS FLEMING

Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Box-elder	B	C	
Acer rubrum	Red maple	T	C	
Akebia quintata	Akebia	T	A	
Alliaria petiolata	Garlic mustard	T	A	
Ambrosia trifida	Giant ragweed	U	C	
Amelanchier arborea	Shadbush	U	S	
Anemonella thalictroides	Rue anemone	U	S	
Arabis laevigata	Smooth rockcress	U	S	
Arisaema triphyllum	Jack-in-the-pulpit	T	S	
Asarum canadensis	Wild ginger	B	S	
Asimina triloba	PawPaw	T	C	
Aster divaricatus	White wood aster	U	S	
Carya tomentosa	Mockernut hickory	U	C	
Claytonia virginica	Spring beauty	T	S	
Cornus florida	Flowering dogwood	U	C	
Corydalis flavula	Pale corydalis	U	S	
Duchesnea indica	Indian strawberry	U	C	
Erigeron philadelphicus	Common fleabane	U	C	
Fagus grandifolia	Beech	T	C	
Galium aparine	Cleavers	T	C	
Geranium maculatum	Wild geranium	U	S	
Glechoma hederacea	Gill-over-the-ground	T	A	
Hamamelis virginiana	Witchhazel	U	S	
Hedera helix	English ivy	T	C	
Hieracium venosum	Rattlesnakeweed	U	S	
Ilex opaca	American holly	U	S	
Kalmia latifolia	Mountain laurel	U	S	
Lamium purpureum	Purple deadnettle	U	C	
Lindera benzoin	Spicebush	B	C	
Liriodendron tulipifera	Tuliptree	T	A	
Lonicera japonica	Japanese honeysuckle	T	A	
Lonicera morrowii	Bush honeysuckle	T	C	
Lysimachia quadrifolia	Whorled loosestrife	U	S	
Osmorhiza claytoni	Sweet cicely	U	C	
Parthenocissus quinquefolia	Virginia creeper	U	C	
Phacelia ranunculacea	Coville's phacelia	U	S	G4S1-E

<i>Platanus occidentalis</i>	Sycamore	B	C
<i>Podophyllum peltatum</i>	Mayapple	U	C
<i>Polygonum cuspidatum</i>	Japanese knotweed	B	S
<i>Polystichum acrostichoides</i>	Christmas fern	U	S
<i>Pueraria lobata</i>	Kudzu	U	A
<i>Quercus alba</i>	White oak	U	C
<i>Quercus prinus</i>	Chestnut oak	U	C
<i>Quercus rubra</i>	Red oak	U	C
<i>Quercus shumardii</i>	Shumard's oak	U	S
<i>Ranunculus abortivus</i>	Aborted buttercup	U	S
<i>Ranunculus bulbosa</i>	Bulbous buttercup	U	C
<i>Ranunculus ficaria</i>	Lesser celandine	B	C
<i>Robinia pseudoacacia</i>	Black locust	T	C
<i>Rosa multiflora</i>	Multiflora rose	T	A
<i>Rubus phoenicolasius</i>	Wineberry	U	A
<i>Sanicula gregaria</i>	Clustered snakeroot	U	C
<i>Saxifraga virginensis</i>	Early saxifrage	U	S
<i>Smilax rotundifolia</i>	Common greenbrier	U	C
<i>Solidago caesia</i>	Blue-stemmed goldenrod	U	S
<i>Staphylea trifolia</i>	Bladdernut	B	S
<i>Stellaria media</i>	Common chickweed	T	C
<i>Stellaria pubera</i>	Star chickweed	U	S
<i>Ulmus americana</i>	American elm	U	S
<i>Ulmus rubra</i>	Slippery elm	B	S
<i>Vaccinium stamineum</i>	Deerberry	U	S
<i>Vaccinium vacillans</i>	Lowbush blueberry	U	C
<i>Veronica hederaefolia</i>	Ivy-leaved veronica	U	C
<i>Viburnum acerifolium</i>	Maple-leaved viburnum	U	S
<i>Vicia angustifolia</i>	Narrow-leaved vetch	U	S
<i>Vinca minor</i>	Periwinkle	U	C
<i>Viola pensylvanica</i>	Smooth yellow violet	B	S
<i>Vitus labrusca</i>	Fox grape	T	C
<i>Wisteria sinensis</i>	Chinese wisteria	T	C

G5S2-T

MINNEHAHA CREEK SPECIES LIST 12/10/00 CRIS FLEMING

Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Box-elder	T	C	
Acer platanoides	Norway maple	T	C	
Acer rubrum	Red maple	T	C	
Ailanthus altissima	Ailanthus	T	A	
Alliaria petiolata	Garlic mustard	T	A	
Allium tricoccum	Ramps	U	S	uncommon
Amelanchier arborea	Shadbush (planted)	U	S	
Anemonella thalictroides	Rue anemone	U	S	
Arabis laevigata	Smooth rockcress	U	S	
Arctium minus	Common burdock	U	C	
Arisaema triphyllum	Jack-in-the-pulpit	T	S	
Artemisia vulgaris	Mugwort	U	C	
Asimina triloba	PawPaw	T	C	
Asplenium platyneuron	Ebony spleenwort	U	S	
Aster divaricatus	White wood aster	U	S	
Barbarea vulgaris	Common wintercress	U	C	
Cardamine hirsuta	Hairy bittercress	U	C	
Carex crinita	Drooping sedge	W	S	
Carpinus caroliniana	Hornbeam	T	C	
Carya tomentosa	Mockernut hickory	U	S	
Celastrus orbiculatus	Asiatic bittersweet	T	C	
Celtis occidentalis	Hackberry	U	S	
Cercis canadensis	Redbud	U	C	
Cimicifuga racemosa	Black cohosh	U	S	
Claytonia virginica	Spring beauty	B	S	
Cornus amomum	Silky dogwood (planted)	B	S	
Cornus florida	Flowering dogwood	U	C	
Corydalis flavula	Pale corydalis	U	S	
Dactylis glomerata	Orchard grass	U	C	
Dentaria laciniata	Cut-leaved toothwort	U	C	
Dioscorea villosa	Wild yam	U	C	
Duchesnea indica	Indian strawberry	U	C	
Fagus grandifolia	Beech	U	C	
Galium aparine	Cleavers	T	C	
Geum canadensis	White avens	U	C	
Glechoma hederacea	Gill-over-the-ground	T	A	

Hamamelis virginiana	Witchhazel	U	S	
Hedera helix	English ivy	T	C	
Helianthus decapetalus	Thin-leaved sunflower	U	S	
Hystrix patula	Bottlebrush grass	U	S	
Lamium purpureum	Purple deadnettle	U	C	
Liquidambar styraciflua	Sweet gum (planted)	U	S	
Liriodendron tulipifera	Tuliptree	T	C	
Lonicera morrowii	Bush honeysuckle	T	C	
Melica mutica	Narrow melicgrass	U	S	G5S1-T
Morus alba	White mulberry	U	S	
Myrica pennsylvanica	Bayberry (planted)	U	S	
Onoclea sensibilis	Sensitive fern	W	S	
Osmorhiza claytoni	Sweet cicely	U	S	
Phacelia ranunculacea	Coville's phacelia	U	C	G4S1-E
Podophyllum peltatum	Mayapple	U	C	
Polygonum cuspidatum	Japanese knotweed	W	S	
Prunus serotina	Black cherry	U	C	
Quercus alba	White oak	U	S	
Quercus prinus	Chestnut oak	U	S	
Ranunculus bulbosa	Bulbous buttercup	U	C	
Ranunculus ficaria	Lesser celandine	B	S	
Robinia pseudoacacia	Black locust	T	C	
Rosa multiflora	Multiflora rose	T	C	
Rubus phoenicolasius	Wineberry	U	C	
Rumex crispus	Curled dock	T	C	
Sassafras albidum	Sassafras	U	S	
Saxifraga virginensis	Early saxifrage	U	S	
Smilacina racemosa	False Solomon's-seal	U	S	
Smilax rotundifolia	Common greenbrier	U	C	
Solidago caesia	Blue-stemmed goldenrod	U	S	
Stellaria media	Common chickweed	T	C	
Stellaria pubera	Star chickweed	U	S	
Tovara virginianum	Jumpseed	U	S	
Ulmus rubra	Slippery elm	B	C	
Veronica hederaefolia	Ivy-leaved veronica	U	C	
Vicia angustifolia	Narrow-leaved vetch	U	S	
Vinca minor	Periwinkle	U	C	
Vitus labrusca	Fox grape	T	C	

GLEN ECHO WOODS SPECIES LIST 12/10/00 CRIS FLEMING

Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Box-elder	T	C	
Acer rubrum	Red maple	T	C	
Alliaria petiolata	Garlic mustard	T	A	
Amelachier arborea	Shadbush	U	S	
Arisaema triphyllum	Jack-in-the-pulpit	B	C	
Asimina triloba	PawPaw	T	A	
Cardamine hirsuta	Hairy bittercress	T	C	
Carpinus caroliniana	Hornbeam	T	C	
Cercis canadensis	Redbud	U	C	
Claytonia virginica	Spring beauty	B	S	
Clematis dioscoreifolia	Japanese clematis	B	A	
Cornus florida	Flowering dogwood	U	C	
Dentaria laciniata	Cut-leaved toothwort	T	A	
Dicentra cucullaria	Dutchman's breeches	B	C	
Eleagnus umbellata	Autumn olive	U	S	
Euonymus sp.	Creeping euonymus	B	C	
Fagus grandifolia	Beech	T	C	
Forsythia viridissima	Forsythia	B	S	
Fraxinus americana	White ash	T	C	
Galium aparine	Cleavers	T	C	
Geum canadense	White avens	T	C	
Hedera helix	English ivy	T	C	
Hemerocallis fulva	Daylily	B	S	
Ilex opaca	American holly	U	C	
Juniperus virginiana	Eastern red-cedar	U	C	
Lindera benzoin	Spicebush	T	A	
Liriodendron tulipifera	Tuliptree	T	A	
Lonicera japonica	Japanese honeysuckle	T	A	
Lonicera morrowii	Bush honeysuckle	T	A	
Narcissus sp.	Daffodil	B	S	
Osmorhiza claytoni	Sweet cicely	U	C	
Phacelia ranunculacea	Coville's phacelia	B	S	G4S1-E
Pinus strobus	White pine	U	S	
Pinus virginiana	Virginia pine	U	C	
Platanus occidentalis	Sycamore	B	C	
Podophyllum peltatum	Mayapple	U	A	

<i>Polygonatum biflorum</i>	Solomon's seal	B	S	
<i>Polystichum acrostichoides</i>	Christmas fern	U	C	
<i>Quercus rubra</i>	Red oak	T	C	
<i>Ranunculus abortivus</i>	Aborted buttercup	B	S	
<i>Ranunculus ficaria</i>	Lesser celandine	B	A	
<i>Robinia pseudoacacia</i>	Black locust	U	C	
<i>Rosa multiflora</i>	Multiflora rose	T	C	
<i>Sagittaria latifolia</i>	Common arrowhead	W	S	
<i>Sambucus canadensis</i>	Elderberry	B	S	
<i>Senecio aureus</i>	Golden ragwort	B	C	
<i>Stellaria media</i>	Common chickweed	T	C	
<i>Stellaria pubera</i>	Star chickweed	T	S	
<i>Tipularia discolor</i>	Cranefly orchid	U	S	orchid
<i>Ulmus rubra</i>	Slippery elm	T	S	
<i>Vaccinium vacillans</i>	Lowbush blueberry	U	S	
<i>Veronica hederifolia</i>	Ivy-leaved veronica	T	A	
<i>Viburnum dentatum</i>	Southern arrowwood	T	C	
<i>Vitis labrusca</i>	Fox grape	T	S	

ROCK RUN & BELTWAY RAMPS SPECIES LIST 12/10/00 CRIS FLEMING

Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Boxelder	T	A	
Acer rubrum	Red maple	T	C	
Alliaria petiolata	Garlic mustard	T	A	
Andropogon virginicus	Broomsedge	B	S	
Arabis laevigata	Smooth rockcress	U	C	
Arisaema triphyllum	Jack-in-the-pulpit	T	S	
Asimina triloba	PawPaw	T	C	
Barbarea vulgaris	Common wintercress	T	C	
Cardamine hirsuta	Hairy bittercress	T	A	
Carex pennsylvanica	Pennsylvania sedge	U	S	
Carpinus caroliniana	Hornbeam	B	C	
Carya tomentosa	Mockernut hickory	U	C	
Celastris orbiculatus	Asiatic bittersweet	T	A	
Cerastium vulgare	Mouse-ear chickweed	T	A	
Cercis canadensis	Eastern redbud	U	C	
Cimicifuga racemosa	Black cohosh	U	S	
Claytonia virginica	Spring beauty	B	C	
Cornus florida	Flowering dogwood	U	C	
Coronilla varia	Crown vetch	B	C	
Dentaria laciniata	Cut-leaved toothwort	U	S	
Dioscorea villosa	Wild yam	U	S	
Duchesnea indica	Indian strawberry	T	C	
Elymus riparia	Riverbank wild rye	B	S	
Equisetum arvense	Common horsetail	B	S	
Erythronium americanum	Trout-lily	B	S	
Fraxinus americana	White ash	U	C	
Galium aparine	Cleavers	T	A	
Glechoma hederacea	Ground ivy	T	A	
Hamamelis virginiana	Witchhazel	B	S	
Ilex opaca	American holly	U	S	
Juniperus virginiana	Eastern red-cedar	U	C	
Lamium purpureum	Purple deadnettle	T	A	
Lindera benzoin	Spicebush	B	C	
Liriodendron tulipifera	Tuliptree	T	A	
Lonicera japonica	Japanese honeysuckle	T	A	
Lonicera morrowii	Bush honeysuckle	T	A	

<i>Microstegium vimineum</i>	Japanese stilt grass	T	A
<i>Myosotis laxa</i>	Smaller forget-me-not	U	S
<i>Nyssa sylvatica</i>	Black gum	U	S
<i>Osmorhiza claytoni</i>	Sweet cicely	U	C
<i>Oxalis violacea</i>	Violet woodsorrel	U	S
<i>Platanus occidentalis</i>	Sycamore	B	C
<i>Podophyllum peltatum</i>	Mayapple	U	S
<i>Polystichum acrostichoides</i>	Christmas fern	U	S
<i>Potentilla norvegica</i>	Rough cinquefoil	U	S
<i>Prunus serotina</i>	Black cherry	U	C
<i>Quercus alba</i>	White oak	U	A
<i>Ranunculus bulbosa</i>	Bulbous buttercup	U	C
<i>Ranunculus abortivus</i>	Aborted buttercup	T	C
<i>Rhodotypos scandens</i>	Jetbead	U	S
<i>Rosa multiflora</i>	Multiflora rose	T	A
<i>Rubus phoenicolasius</i>	Wineberry	T	C
<i>Rumex crispus</i>	Curled dock	U	C
<i>Sanguinaria canadensis</i>	Bloodroot	U	S
<i>Sassafras albidum</i>	Sassafras	U	C
<i>Senecio aureus</i>	Golden ragwort	B	A
<i>Smilax rotundifolia</i>	Common greenbrier	T	A
<i>Stellaria pubera</i>	Star chickweed	U	C
<i>Tilia americana</i>	Basswood	U	S
<i>Tovara virginianum</i>	Jumpseed	U	S
<i>Tridens flava</i>	Purpletop grass	B	S
<i>Ulmus rubra</i>	Slippery elm	B	C
<i>Vaccinium stamineum</i>	Deerberry	U	S
<i>Vaccinium vacillans</i>	Lowbush blueberry	U	C
<i>Verbesina alternifolia</i>	Wingstem	B	A
<i>Veronica hederifolia</i>	Ivy-leaved veronica	T	A
<i>Veronica serpyllifolia</i>	Thyme-leaved speedwell	U	C
<i>Viburnum dentatum</i>	Southern arrowwood	B	S
<i>Viburnum prunifolium</i>	Black haw	U	S
<i>Viola papilionacea</i>	Common blue violet	U	C

BRICKYARD ROAD SPECIES LIST 12/10/00 CRIS FLEMING

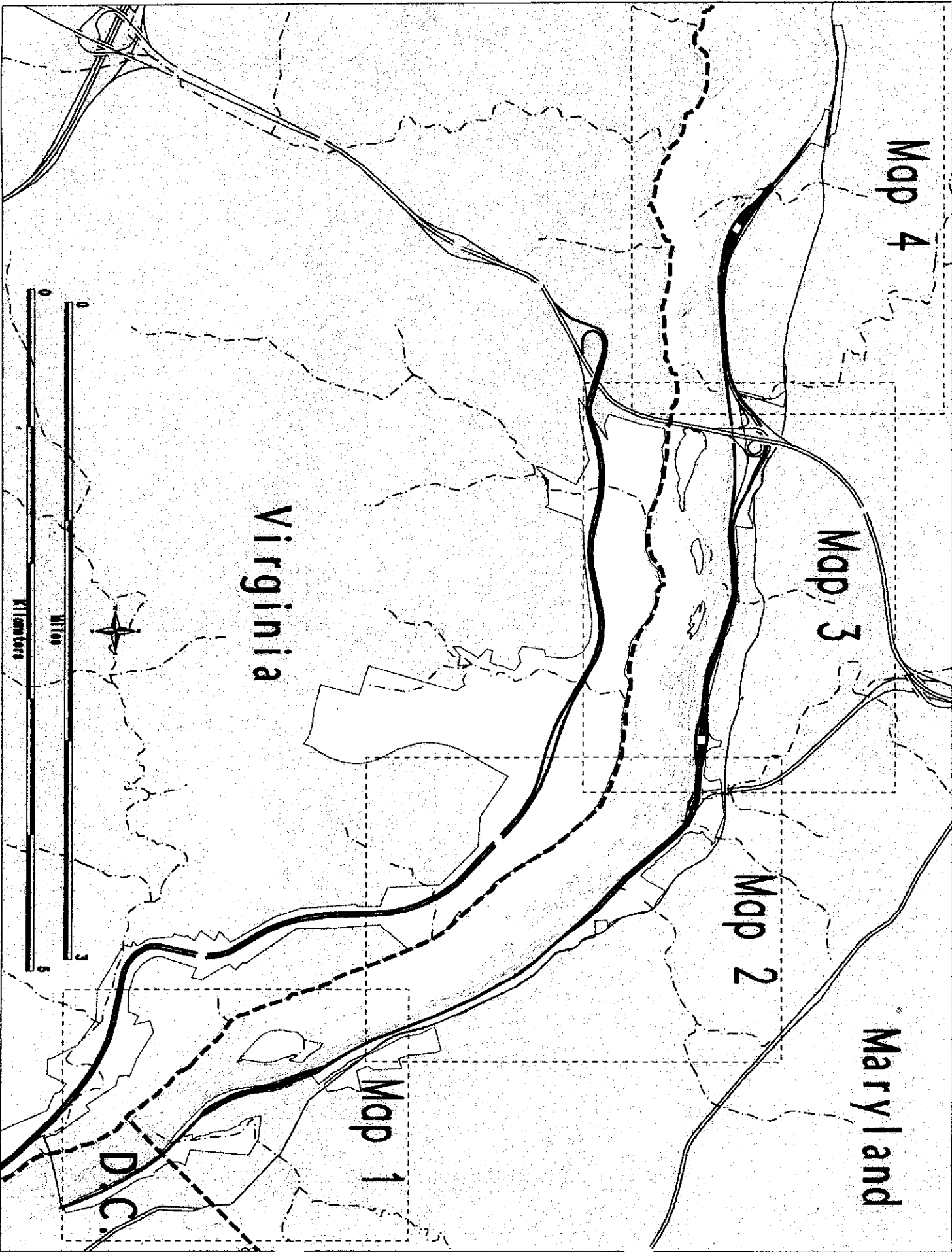
Key - Habitat at site: Wetland=W, Bottomland=B, Upland=U, Throughout=T

Abundance at site: Abundant=A, Common=C, Scarce=S

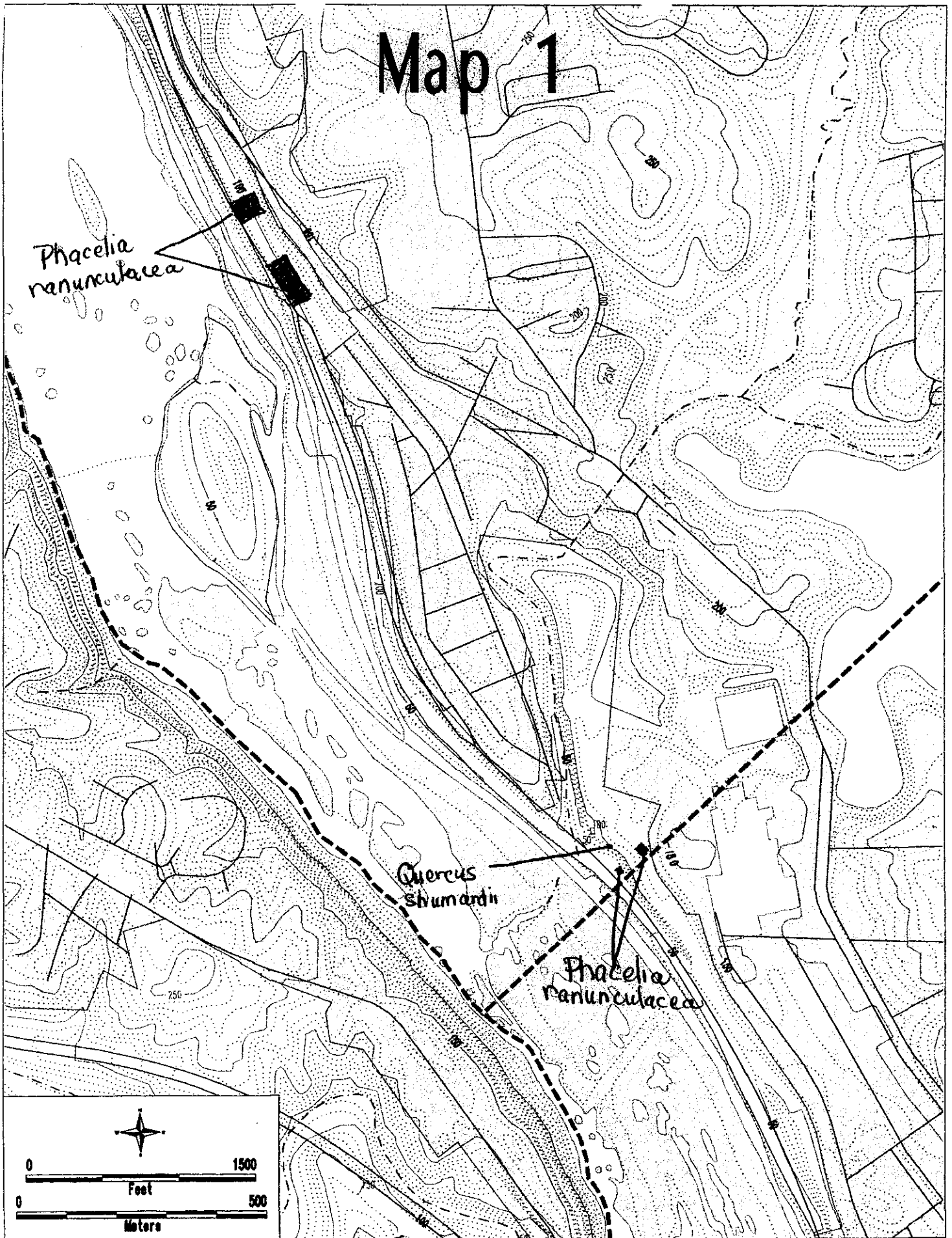
State Status: Globally rare=G1-3, State rare=G1-3, State Endangered=E, State Threatened=T

<u>Scientific Name</u>	<u>Common Name</u>	<u>Habitat</u>	<u>Abundance</u>	<u>Status</u>
Acer negundo	Boxelder	B	C	
Acer rubrum	Red maple	T	C	
Alliaria petiolata	Garlic mustard	U	A	
Arabis laevigata	Smooth rockcress	U	S	
Artemisia vulgaris	Mugwort	U	C	
Asimina triloba	PawPaw	BU	A	
Berberis thunbergii	Japanese barberry	U	S	
Cardamine bulbosa	Spring cress	W	S	
Carex pennsylvanica	Pennsylvania sedge	U	S	
Carpinus caroliniana	Hornbeam	B	C	
Carya tomentosa	Mockernut hickory	U	S	
Celtis occidentalis	Common hackberry	W	S	
Claytonia virginica	Spring beauty	T	C	
Cornus florida	Flowering dogwood	U	C	
Corydalis flavula	Pale corydalis	U	S	
Dentaria laciniata	Cut-leaved toothwort	U	C	
Epifagus virginiana	Beechdrops	U	S	
Fagus grandifolia	American beech	T	C	
Fraxinus americana	White ash	T	C	
Geum canadense	White avens	U	C	
Glechoma hederacea	Ground-ivy	T	A	
Hamamelis virginiana	Witch-hazel	B	S	
Hieracium venosum	Rattlesnake-weed	U	S	
Houstonia caerulea	Bluets	U	S	
Ilex opaca	American holly	U	S	
Iris pseudacorus	Yellow iris	W	S	
Juniperus virginiana	Eastern red-cedar	U	S	
Kalmia latifolia	Mountain laurel	U	C	
Lindera benzoin	Spicebush	B	A	
Liriodendron tulipifera	Tuliptree	T	A	
Lonicera japonica	Japanese honeysuckle	T	A	
Lonicera morrowii	Bush honeysuckle	U	C	
Luzula multiflora	Wood rush	U	S	
Mitchella repens	Partridge-berry	B	S	
Paulownia tomentosa	Paulownia	U	S	

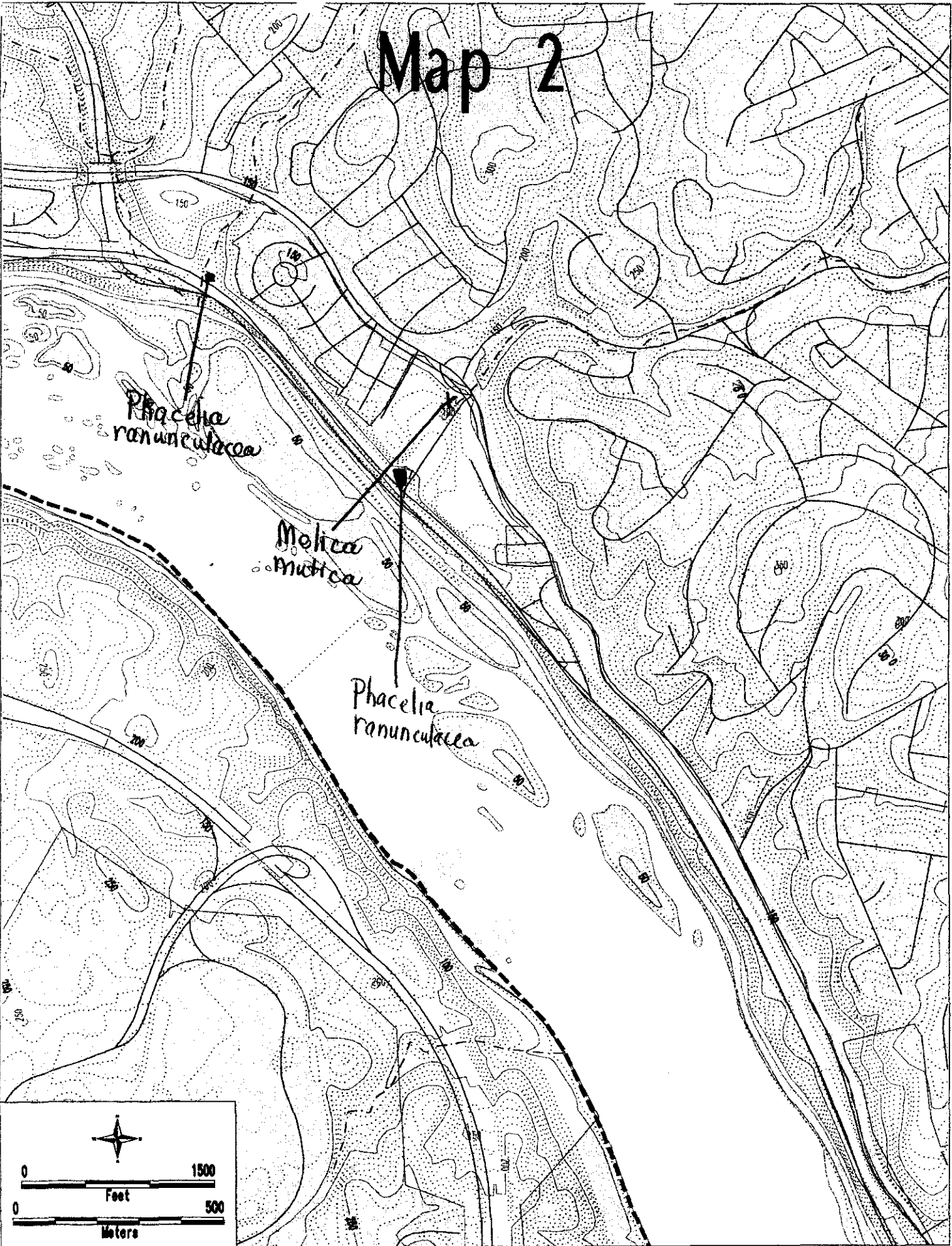
<i>Phacelia ranunculacea</i>	Coville's phacelia	U	S	G4S1-E
<i>Pinus virginiana</i>	Virginia pine	U	S	
<i>Platanus occidentalis</i>	Sycamore	B	C	
<i>Poa cuspidata</i>	Short-leaved bluegrass	U	S	
<i>Podophyllum peltatum</i>	Mayapple	U	C	
<i>Polystichum acrostichoides</i>	Christmas fern	U	C	
<i>Prunus avium</i>	Sweet cherry	U	S	
<i>Quercus alba</i>	White oak	U	A	
<i>Quercus prinus</i>	Chestnut oak	U	C	
<i>Quercus rubra</i>	Red oak	T	A	
<i>Quercus velutina</i>	Black oak	U	S	
<i>Ranunculus abortivus</i>	Aborted buttercup	U	S	
<i>Rhus radicans</i>	Poison ivy	T	C	
<i>Robinia pseudoacacia</i>	Black locust	U	S	
<i>Rosa multiflora</i>	Multiflora rose	T	C	
<i>Rubus phoenicolasius</i>	Wineberry	U	C	
<i>Rumex crispus</i>	Curled dock	U	S	
<i>Saxifraga virginensis</i>	Early saxifrage	U	S	
<i>Smilax rotundifolia</i>	Common greenbrier	B	C	
<i>Stellaria pubera</i>	Star chickweed	U	S	
<i>Taraxacum officinalis</i>	Common dandelion	U	C	
<i>Tipularia discolor</i>	Crane fly orchid	U	S	
<i>Typha latifolia</i>	Broad-leaved cattail	W	S	
<i>Ulmus americana</i>	American elm	U	S	
<i>Vaccinium vacillans</i>	Lowbush blueberry	U	C	
<i>Verbascum thapsus</i>	Common mullein	U	S	
<i>Verbesina alternifolia</i>	Wingstem	W	C	
<i>Veronica hederaefolia</i>	Ivy-leaved veronica	B	C	orchid
<i>Vinca minor</i>	Periwinkle	U	S	
<i>Vitis labrusca</i>	Fox grape	B	C	



Map 1

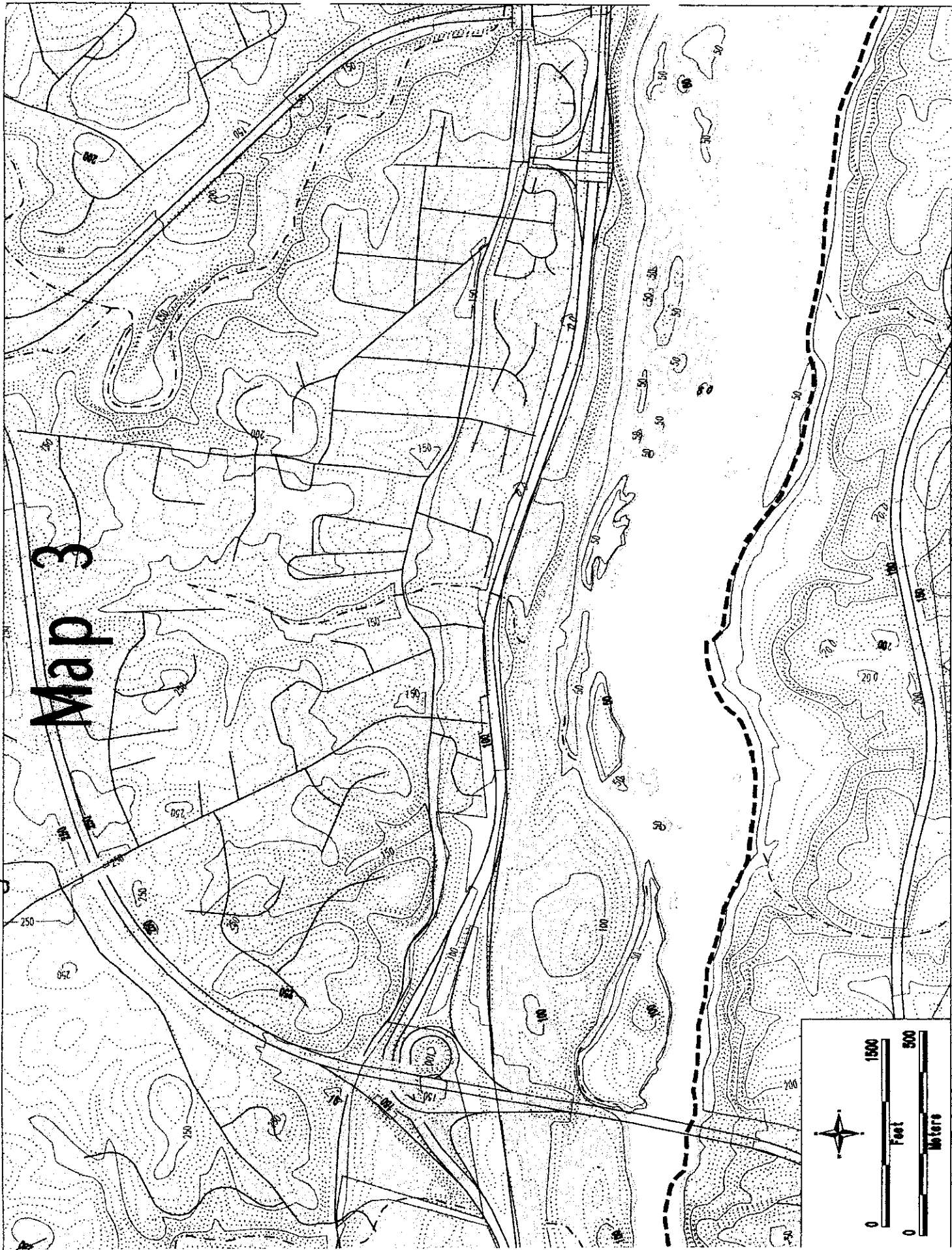


Map 2



Rock Run Beltway

Map 3



Map 4

Phacelia
canunculacea

