APPENDIX A
SPECIES FOUND WITHIN THE WATERSHED

Table A-1. Plants observed by Versar during 1996, September 1999, and June 2000 fieldwork in and around Ballenger Creek watershed, Frederick County, Maryland. An explanation of each wetland indicator status is located at the end of the table.

Scientific Name	Common Name	Wetland Indicator Status
Herbs		
Achillia millefolium	Yarrow	FACU
Agrimonia parviflora	Small flowered agrimony	FAC
Agrostis alba	Redtop	FACW
Alliaria petiolata	Garlic mustard	FACU-
Ambrosia artemisiifolia	Common ragweed	FACU
Ambrosia trifida	Great ragweed	FAC
Angelica atropurpurea	Angelica	OBL
Arctium minus	Common burdock	NI
Arisaema triphyllum	Jack-in-the-pulpit	FACW-
Anthemis arvensis	Field chamomile	NI
Asclepias incarnata	Common milkweed	NI
Asclepias syriaca	Swamp milkweed	OBL
Asplenium platyneuron	Ebony spleenwort	FACU
Aster pilosus	Heath aster	UPL
Berberis thunbergii	Japanese barberry	FACU
Bidens coronata	Tickseed sunflower	OBL
Bidens frondosa	Beggar ticks	FACW
Bohemeria cylindrica	False nettle	FACW+
Botrychium oneidense	Bluntlobe grapefern	NI
Campanulastrum americana	Tall bellflower	FAC
Carex lurida	Sallow sedge	OBL
Chrysanthemum leucanthemum	Ox-eye daisy	NI
Cichorium intybus	Chickory	NI
Cimicifuga racemosa	Black cohosh	NI
Circaea quadrisulcata	Enchanter's nighshade	FACU
Cirsium arvense	Canada thistle	FACU
Cirsium discolor	Field thistle	F
Cirsium muticum	Swamp thistle	OBL
Commelina communis	Asiatic dayflower	FAC-
Coronilla varia	Crown vetch	NI

Table A-1. (Continued)

Scientific Name	Common Name	Wetland Indicator Status
Herbs (Continued)		
Cuscuta gronovii	Dodder	NI
Cyperus erythrorhizos	Red rooted sedge	FACW+
Cyperus retrorsus	Barren cyperus	FAC-
Dactylis glomerata	Orchard grass	FACU
Daucus carota	Wild carrot	NI
Dianthus armeria	Deptford pink	NI
Dipsacus sylvestris	Common teasle	NI
Discorea villosa	Common wild yam	FAC+
Echinochloa crus-galli	Barnyard grass	FACU
Eleocharis obtusa	Spike rush	OBL
Equisetum arvense	Field horsetail	FAC
Eragrostis pectinacea	Purple love grass	FAC
Eupatorium coelestinum	Mistflower	FAC
Eupatoruim maculatum	Spotted joe pye weed	FACW
Eupatorium serotinum	Late flowering boneset	FAC-
Eupatorium perfoliatum	Thoroughwort boneset	FACW+
Eupatorium rugosum	White snakeroot	NI
Euphorbia corollata	Flowering spurge	NI
Euthamia graminifolia	Grass-leaved goldenrod	FAC
Festuca pratensis	Meadow fescue	FACU-
Fragaria vesca	Wood strawberry	U
Geum canadense	White avens	FACU
Glecoma hederacea	Gill-over-the-ground	FACU
Hydrocotyle americana	American water pennywort	OBL
Hypericum mutilum	Dwarf St. Johns-wort	FACW
Hypericum perforatum	Common St. Johns-wort	NI
Impatiens duthicae	Jewelweed	FACW
Impatience capensis	Jewelweed	FACW
Ipomoea hederifolia	Ivyleaf morning glory	NI
Ipomoea lacunosa	Small white morning glory	FACW
Iris verna	Vernal iris	OBL
Juncus effusus	Common rush	FACW+
Juncus tenuis	Slender rush	FAC-
Lactuca biennis	Tall blue lettuce	FACU-

Table A-1. (Continued)

Scientific Name	Common Name	Wetland Indicator Status
Herbs (Continued)		
Ligustrum vulgore	Privet	FACU+
Linaria vulgaris	Butter-and-eggs	NI
Lobelia cardinalis	Cardinal flower	FACW+
Lobelia inflata	Indian tobacco	FACU
Lonicera japonica	Japanese honeysuckle	FAC-
Lonicera morrowi	Morrow's honeysuckle	F-
Ludwigia palustris	Water purslane	OBL
Lychnis alba	White campion	NI
Lycopus virginicus	Virginia bugleweed	OBL
Lythrum salicaria	Purple loosestrife	FACW+
Maintheum racemosum	False Solomon's seal	FACU-
Mentha arvensis	Wild mint	NI
Mentha piperita	Peppermint	FACW+
Nepeta cataria	Catnip	FACU
Oenothera biennis	Evening primrose	FACU-
Ononclea sensibilis	Sensitive fern	FACW
Osmunda regalis	Royal fern	OBL
Oxalis eurapaea	Yellow wood sorrel	NI
Panicum virgatum	Switchgrass	FAC
Parthenocissus quinquefolia	Virginia creeper	FACU
Phalaris arundinacea	Reed canary grass	FACW+
Phlox maculata	Sweet William	FACW
Phragmites australis	Common reed	FACW
Phryma leptostachya	Lopseed	UPL
Physalis subglabrata	Smooth ground cherry	NI
Phytolacca americana	Pokeweed	FACU+
Pilea pumila	Clearweed	FACW
Plantago major	Common plantain	FACU
Podophyllum peltatum	Mayapple	FACU
Polygonatum cannaliculatum	Great Soloman's seal	FACU
Polygonum convolvulus	Black bind weed	FACU
Polygonum cuspidatum	Japanese knotweed	FACU-
Polygonum pennsylvanicum	Pennsylvania smartweed	FACW
Polygonum persicaria	Lady's thumb	FACW

Table A-1. (Continued)

Scientific Name	Common Name	Wetland Indicator Status
Herbs (Continued)		
Polygonum virginianum	Jumpseed	FAC
Polygonum punctatum	Dotted smartweed	OBL
Polystichum acrostichoides	Christmas fern	FACU-
Potentilla simplex	Common cinquefoil	FACU-
Ranunculus acris	Tall buttercup	FAC+
Rumex crispus	Yellow dock	FACU
Sanguinaria canadensis	Bloodroot	FACUNI
Saponaria officinalis	Bouncing Bette	FACU-
Schizachyrium scoparium	Little bluestem grass	FACU
Scirpus atrovirens	Dark green bulrush	OBL
Scirpus cyperinus	Woolgrass	FACW+
Setaria spp.	Bristly fox tail grass	UPL
Sicyos angulatus	Bur cucumber	FACU
Smilax rotundifolia	Greenbriar	FAC
Solanum carolinenese	Horse hettle	UPL
Solanum dulcamara	Bittersweet nightshade	FAC-
Solidago rugosa	Rough stemmed goldenrod	FAC
Solidago canadensis	Canada goldenrod	FACU
Symplocarpus foetidus	Skunk cabbage	OBL
Thelypteris noveboracensis	New York fern	FAC
Tridens flavus	Purple-top grass	FACU
Trifolium arvense	Rabbit’s foot clover	UPL
Typha latifolia	Broad-leaved cattail	OBL
Urtica dioica	Stinging nettle	FACU
Verbascum thapsus	Common mullien	UPL
Verbena hastata	Blue vervain	FACW+
Veronia noveboracensis	New York iron weed	FACW+
Xanthium pennsylvanicum	Smooth-body cocklebur	NI

Table A-1. (Continued)

Scientific Name	Common Name	Wetland Indicator Status
Shrubs/Woody Vines		
Alnus rugosa	Speckled alder	FACW+
Asimina triloba	Pawpaw	FACU+
Ligustrum vulgare	Privet	FACU
Lindera benzoin	Spicebush	FACW-
Lonicera morrowii	Morrow's honeysuckle	NI
Parthenocissus quinquefolia	Virginia creeper	FACU
Rhus copallina	Shining sumac	FAC
Rhus glabra	Smooth sumac	NI
Rhus typhina	Staghorn sumac	NI
Rosa multiflora	Multiflora rose	FAC
Rubus phoenicolasius	Wineberry	NI
Toxicodendron radicans	Poison ivy	FAC
Viburnum acerifolium	Maple-leaved viburnum	UPL
Virburnum dentatum	Southern arrowwood	FAC
Vitis labrusca	Fox grape	FACU
Vitis aestivalis	Summer grape (silver)	FACU
Trees		
Acer negundo	Boxelder	FAC+
Acer rubrum	Red maple	FAC
Acer saccharinum	Silver maple	FACW
Ailanthus altissima	Tree of heaven	NI
Betula nigra	River birch	FACW
Carpinus glabra	Pignut hickory	FAC
Carpinus caroliniana	Musclewood	FAC
Carya cordiformis	Bitternut hickory	FACU+
Catalpa bignonioides	Common catalpa	UPL
Celtis occidentalis	Hackberry	FACU
Cercis canadensis	Redbud	FACW
Cornus obliqua	Silky dogwood	FACU-
Fraxinus americana	White ash	FACU
Fraxinus americana var. biltmoreana	Biltmore ash	NI
Fraxinus pennsylvanica var. subintegerrima	Green ash	FACW
Fagus grandifolia	American beech	FACU

Table A-1. (Continued)

Scientific Name	Common Name	Wetland Indicator Status
Trees (Continued)		
Gleditsia triacanthos	Honey locust	FAC-
Juglans nigra	Black walnut	FACU
Liquidambar styraciflua	Sweet gum	FAC
Liriodendron tulipifera	Tulip poplar	FACU
Maclura pomifera	Osage orange	UPL
Morus alba	White mulberry	UPL
Plantanus occidentalis	Sycamore	FACW-
Populus deltoides	Eastern cottonwood	FAC
Prunus serotina	Black cherry	FACU
Prunus virginiana	Choke cherry	FACU
Quercus alba	White oak	FACU-
Quercus palustris	Pin oak	FACW
Quercus phellos	Willow oak	FAC+
Quercus prinus	Chestnut oak	UPL
Quercus velutina	Black oak	NI
Robinia pseudoacacia	Black locust	FACU-
Salix babylonica	Weeping willow	FACW-
Salix discolor	Pussy willow	FACW
Salix fragilis	Crack willow	FAC+
Salix nigra	Black willow	FACW+
Sassafras albidum	Sassafras	FACU-
Tilia americana	Basswood	FACU
Ulmus americana	American elm	FACW-
Ulmus rubra	Slippery elm	FAC

Federal definitions (USACE 1987)

OBL: Obligate Hydrophyte. Always found in wetlands (greater that 99%).
FACW: Wet Facultative Hydrophtye. Usually found in wetlands (66-99% frequency).
FAC: Facultative Hydrophyte. Sometimes found in wetlands (34-66% frequency).
FACU: Dry Facultative Hydrophyte. Seldom found in wetlands (1-33% frequency).
UPL: Upland Plant. Not found in wetlands in this region, but associated with wetlands elsewhere.

Modifiers:

\+ Found at wetter end of frequency spectrum within the category
_ Found at drier end of frequency spectrum within the category

Table A-2. Aquatic macroinvertebrates found within Ballenger Creek, Frederick County, Maryland

Phylum	Class	Order	Family	Genus	Final ID
Annelida	Oligochaeta - earthworms				
		Haplotaxida	Lumbricidae		Lumbricidae
			Naididae	*Nais*	*Nais*
				Ophidonais	*Ophidonais*
			Tubificidae	*Branchiura*	*Branchiura*
				Isochaetides	*Isochaetides*
				Limnodrilus	*Limnodrilus*
	Hirudinea - leaches				
		Arhynchobdellida	Erpobdellidae	*Mooreobdella*	*Mooreobdella*
Arthropoda	Hexapoda - Insects				
		Coleoptera - beetles			
			Dryopidae	*Helichus*	*Helichus*
			Elmidae		Elmidae
				Dubiraphia	*Dubiraphia sp.*
				Optioservus	*Optioservus*
				Stenelmis	*Stenelmis*
			Psephenidae	*Psephenus*	*Psephenus*
		Diptera - flies			
			Ceratopogonidae	*Bezzia*	*Bezzia group*
				Probezzia	*Probezzia*
			Chironomidae		Chironomidae
				Ablabesmyia	*Ablabesmyia*
				Brillia	*Brillia*
				Cardiocladius	*Cardiocladius*
				Cladotanytarsus	*Cladotanytarsus*
				Conchapelopia	*Conchapelopia*
				Cricotopus	*Cricotopus*
				Cricotopus/ Orthocladius	*Cricotopus/ Orthocladius sp.*
				Cryptochironomus	*Cryptochironomus*
				Dicrotendipes	*Dicrotendipes*
				Diplocladius	*Diplocladius*
				Eukiefferiella	*Eukiefferiella*
				Hayesomyia	*Hayesomyia*
				Helopelopia	*Helopelopia*
				Micropsectra	*Micropsectra*
				Microtendipes	*Microtendipes*
				Nanocladius	*Nanocladius*
				Orthocladius	*Orthocladius*
				Pagastia	*Pagasitia*
				Parakiefferiella	*Parakiefferiella*
				Parametriocnemus	*Parametriocnemus*
				Paratanytarsus	*Paratanytarsus*
				Paratendipes	*Paratendipes*
				Paratrichocladius	*Paratrichocladius*
				Polypedilum	*Polypedilum*
				Potthastia	*Potthastia*
				Psectrocladius	*Prostoma*
				Rheocricotopus	*Rheocricotopus*

Table A-2. (Continued)

Phylum	Class	Order	Family	Genus	Final ID
				Rheotanytarsus	*Rheotanytarsus*
				Tanytarsus	*Tanytarsus*
				Thienemanniella	*Thienemanniella*
				Tvetenia	*Tvetenia*
			Empididae	*Hemerodromia*	*Hemerodromia*
			Simuliidae	*Simulium*	*Simulium*
			Tabanidae	*Chrysops*	*Chrysops*
			Tipulidae		Tipulidae
				Antocha	*Antocha*
				Dicranota	*Dicranota*
				Hexatoma	*Hexatoma*
		Ephemeroptera - mayflies			
			Baetidae		
				Acentrella	*Acentrella*
				Baetis	*Baetis*
			Ephemerellidae		Ephemerellidae
				Ephemerella	*Ephemerella*
			Ephemeridae	*Ephemera*	*Ephemera*
			Heptageniidae		Heptageniidae
				Stenacron	*Stenacron*
				Stenonema	*Stenonema*
		Odonata - dragonflies and damselflies			
			Coenagrionidae	*Argia*	*Argia*
		Trichoptera - caddisflies			
			Helicopsychidae	*Helicopsyche*	*Helicopsyche*
			Hydropsychidae		Hydropsychidae
				Cheumatopsyche	*Cheumatopsyche*
				Hydropsyche	*Hydropsyche*
			Limnephilidae		Limnephilidae
				Goera	*Goera*
			Philopotamidae	*Chimarra*	*Chimarra*
			Polycentropodidae	*Polycentropus*	*Polycentropus sp.*
			Psychomyiidae	*Psychomyia*	*Psychomyia*
Mollusca	Gastropoda - snails				
		Basommatophora	Ancylidae	*Ferrissia*	*Ferrissia*
	Malacostraca - scuds and crayfish				
		Amphipoda	Gammaridae	*Gammarus*	*Gammarus*
		Decapoda	Cambaridae		Cambaridae
	Pelecypoda - bivalves				
		Veneroida	Corbiculidae	*Corbicula*	*Corbicula fluminea*
			Sphaeriidae		Sphaeriidae
				Pisidium	*Pisidium*
				Sphaerium	*Sphaerium*
Platyhelminthes	Turbellaria - free-living flatworms				
		Tricladida	Planariidae	*Dugesia*	*Dugesia*

Table A-3. Fish found within Ballenger Creek, Frederick County, Maryland

Scientific Name	Common Name
Anguillidae	**Freshwater eels**
Anguilla rostrata	American eel
Cyprinidae	**Minnows**
Campostoma anomalum	Central stoneroller
Cyprinella spiloptera	Spotfin shiner
Exoglossum maxillingua	Cutlips minnow
Luxilus cornutus	Common shiner
Notropis hudsonius	Spottail shiner
Rhinichthys atratulus	Blacknose dace
Rhinichthys cataractae	Longnose dace
Semotilus atromaculatus	Creek chub
Catostomidae	**Suckers**
Catostomus commersoni	White sucker
Hypentelium nigricans	Northern hogsucker
Cottidae	**Sculpins**
Cottus bairdi	Mottled sculpin
Cottus girardi	Potomac sculpin
Centrarchidae	**Sunfishes**
Ambloplites rupestris	Rock bass
Lepomis auritus	Redbreast sunfish
Lepomis cyanellus	Green sunfish
Lepomis gibbosus	Pumpkinseed sunfish
Lepomis macrochirus	Bluegill sunfish
Micropterus salmoides	Largemouth bass
Ictaluridae	**Bullhead Catfishes**
Ameiurus natalis	Yellow bullhead
Percidae	**Perches**
Etheostoma flabellare	Fantail darter
Etheostoma olmstedi	Tessellated darter
Salmonidae	**Trouts**
Salmo trutta	Brown trout

Table A-4. Forty-seven species of mammals potentially occurring in the Ballenger Creek watershed of Frederick County, Maryland (Webster et al. 1985). Five species denoted by asterisk were identified by sight or evidence of sign in a field study conducted 20 July, 2000.

FAMILY **Genus/Species**	**COMMON NAME**
DIDELPHIIDAE	**OPOSSUMS**
Didelphis marsupialis	Opossum
SORICIDAE	**SHREWS**
Sorex cinereus	Masked shrew
Sorex longirostris	Southeastern shrew
Sorex hoyi	Pygmy shrew
Cryptotis parva	Least shrew
Blarina brevicauda	Northern short-tailed shrew
TALPIDAE	**MOLES**
Condylura cristata	Star-nosed mole
Scalopus aquaticus	Eastern mole
VESPERTILIONIDAE	**PLAINNOSE BATS**
Myotis lucifugus	Little brown myotis
Myotis keenii	Keen's myotis
Myotis leibii	Small-footed myotis
Lasionycteris noctivagans	Silver-haired bat
Pipistrellus subflavus	Eastern pipistrelle
Eptesicus fuscus	Big brown bat
Lasiurus borealis	Red bat
Lasiurus cinereus	Hoary bat
Nycticeius humeralis	Evening bat
LEPORIDAE	**HARES AND RABBITS**
*Sylvilagus floridanus**	Eastern cottontail
SCIURIDAE	**SQUIRRELS**
Tamias striatus	Eastern chipmunk
*Marmota monax**	Woodchuck
*Sciurus carolinensis**	Gray squirrel
Sciurus niger	Fox squirrel
Tamiasciurus hudsonicus	Red squirrel
Glaucomys volans	Southern flying squirrel

Table A-4. (Continued)

FAMILY **Genus/Species**	**COMMON NAME**
CASTORIDAE	**BEAVERS**
Castor canadensis	Beaver
CRICETIDAE	**MICE, RATS, VOLES AND LEMMINGS**
Reithrodontomys humulis	Eastern harvest mouse
Peromyscus maniculatus	Deer mouse
Peromyscus leucopus	White-footed mouse
Neotoma floridana	Eastern woodrat
Microtus pennsylvanicus	Meadow vole
Microtus pinetorum	Woodland vole
Ondatra zibethicus	Muskrat
Synaptomys cooperi	Southern bog lemming
MURIDAE	**OLD WORLD RATS AND MICE**
Rattus rattus	Black rat
Rattus norvegicus	Norway rat
Mus musculus	House mouse
ZAPODIDAE	**JUMPING MICE**
Zapus hudsonius	Meadow jumping mouse
CANIDAE	**WOLVES AND FOXES**
Vulpes vulpes	Red fox
Urocyon cinereoargenteus	Gray fox
Canis latrans	Coyote
PROCYONIDAE	**RACCOONS**
*Procyon lotor**	Raccoon
MUSTELIDAE	**WEASELS, SKUNKS AND OTTERS**
Mustela frenata	Long-tailed weasel
Mustela vison	Mink
Mephitis mephitis	Striped skunk
Lutra canadensis	River otter
FELIDAE	**CATS**
Felis rufus	Bobcat
CERVIDAE	**DEER**
*Odocoileus virginianus**	White-tailed deer

Table A-5. Seventy-four species of birds identified in Frederick County, Maryland by Versar field surveys conducted in recent years. Of these, forty were also identified within the Ballenger Creek watershed during a survey conducted 20 July, 2000 (denoted by asterisk).

FAMILY: SUBFAMILY **Species**	**COMMON NAME**
ARDEIDAE	**HERONS, BITTERNS**
*Ardea herodias**	Great blue heron
Casmerodius albus	Great egret
Egretta thula	Snowy egret
*Butorides virescens**	Green-backed heron
ANATIDAE	**SWANS, GEESE, DUCKS**
Branta canadensis	Canada goose
Anas platyrhynchos	Mallard
CATHARTIDAE	**AMERICAN VULTURES**
Coragyps atratus	Black vulture
*Cathartes aura**	Turkey vulture
ACCIPITRIDAE	**HAWKS, EAGLES, VULTURES**
Circus cyaneus	Northern harrier
Accipiter striatus	Sharp-shinned hawk
Buteo lineatus	Red-shouldered hawk
*Buteo jamaicensis**	Red-tailed hawk
FALCONIDAE	**FALCONS**
Falco sparverius	American kestrel
Falco columbarius	Merlin
CHARADRIIDAE	**PLOVERS**
Charadrius vociferus	Killdeer
SCOLOPACIDAE	**WOODCOCK AND SNIPE**
Gallinago gallinago	Common snipe
COLUMBIDAE	**PIGEONS AND DOVES**
*Zenaida macroura**	Mourning dove
*Columba livia**	Rock dove

Table A-5. (Continued)

FAMILY: SUBFAMILY **Species**	**COMMON NAME**
CUCULIDAE	**CUCKOOS**
Coccyzus erythropthalmus	Black-billed cuckoo
*Coccyzus americanus**	Yellow-billed cuckoo
APODIDAE	**SWIFTS**
*Chaetura pelagica**	Chimney swift
ALCEDINIDAE	**KINGFISHERS**
Ceryle alcyon	Belted kingfisher
PICIDAE	**WOODPECKERS**
*Melanerpes carolinus**	Red-bellied woodpecker
Sphyrapicus varius	Yellow-bellied sapsucker
*Picoides pubescens**	Downy woodpecker
Picoides villosus	Hairy woodpecker
*Colaptes auratus**	Common flicker
Dryocopus pileatus	Pileated woodpecker
TYRANNIDAE	**FLYCATCHERS**
*Contopus virens**	Eastern wood-pewee
Sayornis phoebe	Eastern phoebe
Myiarchus crinitus	Great crested flycatcher
*Tyranus tyranus**	Eastern kingbird
HIRUNDINIDAE	**SWALLOWS**
*Hirundo rustica**	Barn swallow
CORVIDAE	**JAYS, CROWS**
*Cyanocitta cristata**	Blue jay
*Corvus brachyrhynchos**	American crow
Corvus corax	Common raven
PARIDAE	**TITMICE**
*Parus carolinensis**	Carolina chickadee
*Parus bicolor**	Tufted titmouse

Table A-5. (Continued)	
FAMILY: SUBFAMILY **Species**	**COMMON NAME**
SITTIDAE	**NUTHATCHES**
*Sitta carolinensis**	White-breasted nuthatch
TROGLODYTIDAE	**WRENS**
*Thryothorus ludovicianus**	Carolina wren
*Troglodytes aedon**	House wren
MUSCICAPIDAE: SYLVIINAE	**GNATCATCHERS, KINGLETS**
Regulus calendula	Ruby-crowned kinglet
*Polioptila caerulea**	Blue-gray gnatcatcher
MUSCICAPIDAE: TURDINAE	**THRUSHES, BLUEBIRDS**
*Sialia sialis**	Eastern bluebird
*Hylocichla mustelina**	Wood thrush
*Turdus migratorius**	American robin
MIMIDAE	**MOCKINGBIRDS, THRASHERS**
*Dumetella carolinensis**	Gray catbird
*Mimus polyglottos**	Northern mockingbird
Toxostoma rufum	Brown thrasher
BOMBYCILLIDAE	**WAXWINGS**
Bombycilla cedrorum	Cedar waxwing
STURNIDAE	**STARLINGS**
*Sturnus vulgaris**	European starling
VIREONIDAE	**VIREOS**
*Vireo olivaceus**	Red-eyed vireo
EMBERIZIDAE: PARULINAE	**WOOD WARBLERS**
Dendroica magnolia	Magnolia warbler
Denroica caerulescens	Black-throated blue warbler
Dendroica coronata	Yellow-rumped warbler
Geothlypis trichas	Common yellowthroat

Table A-5. (Continued)	
FAMILY: SUBFAMILY **Species**	**COMMON NAME**
EMBERIZIDAE: THRAUPINAE	**TANAGERS**
*Piranga olivacea**	Scarlet tanager
EMBERIZIDAE: CARDINALINAE	**CARDINAL, GROSBEAKS**
*Cardinalis cardinalis**	Northern cardinal
*Passerina cyanea**	Indigo bunting
EMBERIZIDAE: EMBERIZINAE	**NEW WORLD SPARROWS, BUNTINGS**
*Pipilo erythrophthalmus**	Rufous-sided towhee
*Spizella passerina**	Chipping sparrow
Spizella pusilla	Field sparrow
Ammodramus savannarum	Grasshopper sparrow
*Melospiza melodia**	Song sparrow
Melospiza georgiana	Swamp sparrow
Zonotrichia albicollis	White-throated sparrow
Junco hyemalis	Dark-eyed junco
EMBERIZIDAE: ICTERINAE	**BLACKBIRDS, ORIOLES**
*Agelaius phoeniceus**	Red-winged blackbird
Sturnella magna	Eastern meadowlark
*Quiscalus quiscula**	Common grackle
Molothrus ater	Brown-headed cowbird
FRINGILLIDAE	**FINCHES**
*Carpodacus mexicanus**	House finch
*Carduelis tristis**	American goldfinch
PASSERIDAE	**OLD WORLD SPARROWS**
*Passer domesticus**	House sparrow

APPENDIX B
PHOTOGRAPHIC LOG OF THE WATERSHED MONITORING STATIONS

Photo 1. Station BALL-01 on Ballenger Creek, facing downstream towards the site's midpoint. A bedrock outcrop creates the riffle section shown in the photograph.

Photo 2. Station BALL-02 on Ballenger Creek, facing upstream towards the site's midpoint. Many of the large trees lining the banks in this section have been undercut.

Photo 3. Station BALL-03 on Ballenger Creek, facing upstream towards the site's midpoint. A bedrock outcrop is located on the right side of the photograph. This section of Ballenger Creek is very narrow and deep.

Photo 4. Station BALL-04 on Ballenger Creek, facing downstream towards the site's midpoint. This site is located behind Ballenger Creek Elementary School. Note the eroded bank and toppled tree on the right side of the photograph.

Photo 5. Station BALL-05 on Ballenger Creek, facing downstream towards the site's midpoint. Note the recent construction and lack of shading along this stream reach.

Photo 6. Collection of benthic macroinvertebrates at Station BALL-06 on Ballenger Creek, facing downstream towards the site's midpoint. A thin row of trees acts as a vegetated buffer between this section of Ballenger Creek and a pasture on the left side of the photograph.

APPENDIX C
PHOTOGRAPHIC LOG FOR THE VISUAL INSPECTION

Photo 1. Unnamed tributary to Ballenger Creek at Clifton Road, facing downstream. Ballenger Creek is formed as water drains from the relatively steep, forested Catoctin front.

Photo 2. View overlooking Ballenger Creek from Ed Crone Lane. Once Ballenger Creek flows down from the Catoctin front, rolling topography and rural land use prevail.

Photo 3. Civil War monument to the 14th Regiment, New Jersey Volunteers, Monocacy National Battlefield. This monument is located in the lower portion of the watershed and is adjacent to the Monocacy River. This area has a rich cultural and agricultural history.

Photo 4. Confluence of Ballenger Creek and the Monocacy River.

Photo 5. Livestock pasture located at the intersection of Renn Branch and Renn Road. Agriculture remains active in much of the western watershed; however, a golf course and an associated housing development have recently been constructed just upstream from where this photograph was taken. Note that livestock have unrestricted access to the stream channel at this location.

Photo 6. Unnamed tributary to Renn Branch at Elmer Derr Road, facing downstream. This reach appears to have been channelized at some point, as evident by its uncharacteristically straight path and a berm of excavated material along the stream's right side. This reach contained a large amount of cinder block and stone rubble.

Photo 7. The Ballenger Crossing development shown in the photograph is characteristic of recent residential development in the eastern half of the watershed.

Photo 8. Superior Concrete facility located at 5823 Urbana Pike. Limestone beneath the eastern portion of the watershed is actively quarried, supporting a number of related industries including Portland cement, agricultural lime, and building materials.

Photo 9. Trucks entering and exiting the LaFarge facility on Reichs Ford Road. Stone dust from quarrying, crushing, and transporting limestone can impair the growth of vegetation, cause respiratory distress in humans, and wash into streams where it can affect water chemistry and physical habitat.

Photo 10. United Concrete Products Block Plant located at 5703 Urbana Pike. Note that a sweeper (center of photograph) is being used to control dust at this facility.

Photo 11. Stormwater pond on Guilford Road across from Wal-Mart. Heavy equipment was being used to fill two sinkholes (each approx. 20 feet wide, 10 feet long, and 9 feet deep) that had opened up in the bottom of the pond during heavy rains in mid-July 2000.

Photo 12. Unnamed tributary to Pike Branch of Ballenger Creek at Double Brand Court. Concrete lined channels in areas of older development rapidly convey and collect stormwater flows. However, rapid flows can alter natural flow patterns and channel stability in receiving streams.

Photo 13. King Branch of Ballenger Creek at Corporate Boulevard, facing downstream. Riprap has been used to line intermittent channels in newer developments. The riprap and tall grass adjacent to the channel slow runoff and help trap sediment.

Photo 14. A culvert beneath Industry Lane drains into a vegetated swale prior to entering an unnamed tributary to Arundel Branch of Ballenger Creek. The heavy vegetation in this swale will help stabilize banks, slow flow velocities, and trap sediments.

Photo 15. Arundel Branch of Ballenger Creek at New Design Road, facing upstream. Note the size of the four culvert pipes in relation to cars on the road. This channel was dry in mid-July 2000.

Photo 16. Pike Branch of Ballenger Creek at Corporate Drive, facing downstream. Note that sediment and water have accumulated at the outlet openings.

Photo 17. Stormwater detention basin east of Industry Lane, facing northeast. Signs of animal burrows and erosion were evident in the berm and a moderate amount of trash had accumulated in the basin.

Photo 18. Wet pond at the southwest corner of the Francis Scott Key Mall. A fair amount of trash had accumulated in the sedges. Wildlife was observed using the open water and meadow areas.

Photo 19. Wet pond in-line with Quarry Branch of Ballenger Creek at Crestwood Boulevard, facing upstream. Quarry Branch may disappear underground at or above this point as no signs of the stream were visible between this pond and the mainstem of Ballenger Creek during field surveys conducted in April and July 2000.

Photo 20. Sediment basin for the Country Meadows Retirement Community construction site located on Ray Smith Road. This basin appears to be actively maintained and in good condition.

Photo 21. Construction access road for the Country Meadows Retirement Community site located on Ray Smith Road. Note that the erosion along the left side of the road flows into the sediment basin shown in Photo 20.

Photo 22. Construction access road for the Country Meadows Retirement Community site (foreground) and an automobile scrap yard (background) located on Ray Smith Road. The scrap yard did not appear to have adequate stormwater controls and pollutants may be washed from the site.

Photo 23. Stormwater pond located behind the PetSmart building in the Riverview Plaza on Urbana Pike. The sides of this pond were severely eroded and poorly vegetated. Trash was abundant in the structure. Construction is for the State's MARC station and track upgrade project; silt fencing and other stormwater controls were not evident in the railroad construction areas.

Photo 24. Large sediment basin located along the north side of Wedgewood Boulevard, facing east. Sediment has accumulated in the western edge of the basin (foreground), as indicated by the heavy growth of shrubs and other vegetation.

Photo 25. Outlet structure for the sediment basin north of Wedgewood Boulevard, facing west. Presumably, flows were sufficient to carry the construction drum over the weir during a recent storm.

Photo 26. Debris washed past the sediment basin north of Wedgewood Boulevard, facing southeast. Grass, trash, and other debris from upstream have been captured by vegetation as stormflows flooded the stream channel through the woods.

Photo 27. Inlet into the sediment basin located along the north side of Wedgewood Boulevard, facing north. Stormflow from a summer 2000 storm severely eroded the drainage channel.

Photo 28. Close-up view of the inlet shown in Photo 27. Riprap and soil eroded from this drainage channel had been deposited in the sediment basin, forming a delta approximately 15 feet wide and 10 feet long.