

ANNUAL INTERIM PERFORMANCE REPORT FOR MARYLAND'S LANDOWNER INCENTIVE PROGRAM TIER 2 GRANT (I-3-D-1)

*Prepared by Linh Phu, LIP Biologist
Maryland Department of Natural Resources,
Wildlife and Heritage Service*

September 2010

GRANT TITLE: Maryland Landowner Incentive Program, Tier 2: Habitat Restoration and Enhancement for Species and Habitats at Risk

GRANT PERIOD: July 1, 2007-Jun 30, 2017

PERFORMANCE PERIOD: July 1, 2009- June 30, 2010

SUMMARY OF WORK CONDUCTED UP TO June 30, 2010

Maryland's Landowner Incentive Program has continued to provide on-site technical assistance to landowners, review applications, design projects and sign Landowner Agreements for habitat restoration projects. In the past several grant periods, most of this work has been billed to our first grant I-2-HM-1 (2005 MD LIP Tier 2). As of August 1, 2009 all of the appropriated funds under our first Tier 2 grant had been encumbered. Since that time, a total of 7 new projects have been billed to the second Tier 2 grant (I-3-D-1). Currently, we have 9 landowner agreements for Grant I-3-D-1 with practices including: delayed harvest payments to benefit Delmarva Fox Squirrel (a practice not included in I-2-HM-1), prescribed burns at multiple privately owned nature preserves, prescribed grazing to restore grasslands, tree plantings, and invasive species removal.

Table 1: Technical Assistance and Application Review by the Maryland Landowner Incentive Program under Grant I-3-D-1

Actions	June 2007 – May 2008	June 2008-August 2009	June 2009-August 2010	Totals
On-site Technical Assistance	11 landowners	3 landowners	35 Landowners	49
Applications reviewed	11	8	22	41
Applications approved	1	1	7	9
Signed agreements	1	1	7	9
Projects on hold	1	0	2	N/A
Projects in review	1	2	3	N/A

Table 2 summarizes our project: the habitat type targeted, the practices used, the number of species to benefit, and the cost. The total amount LIP has encumbered for projects under this grant is \$290,027.40. There is almost \$100,000 in match support pledged.

Table 1: Maryland LIP projects under grant I-3-D-1 as of June 2008

Project Name	Habitat type	Total # acres	# acres to be restored	# species at risk documented on property	# species at risk to benefit	Practice(s)	LIP expenditures (does not include match)
American Chestnut Land Trust*	Coastal Plain Mature Forest	786	786	10	4	Invasive species control	\$23,986.00
Broad Creek Memorial Scout Reservation**	Mountain Mature Forest	1,686	65	7	6	Invasive species control (hemlock woolly adelgid [HWA])	\$12,250.00
Chester River Field Research Center	Contiguous Grasslands	5000	95	2	6+	Restoration of Contiguous Grasslands	\$3,975
Eby, Bradley	Coastal Plain Mature Forest	50	50	1	1	Delayed Harvest Payments to benefit Delmarva Fox Squirrels	\$42,375.00
Holly Spring Nature Conservancy	Piedmont Mature Forest & Stream Systems	36	36	1	2	Invasive Species Removal and Reforestation	\$31,508.88
Jones Wetland Restoration Project	Groundwater Interfacing Wetland	46	4	2 nearby	5	Wetland Restoration	\$18,420.00
The Nature Conservancy-Comprehensive Restoration Grant	many, including Delmarva Bays, Serpentine Barrens, Xeric Sand Ridge, Bald Cypress Swamp,	10,926	354**	>86	86	Invasive species control and monitoring	\$63,000.00
The Nature Conservancy – Prescribed Burn II Grant	Groundwater Interfacing Wetland, Xeric Sand Ridge, Serpentine Barren	350	50**	29	22	Vegetation management (prescribed burning)	\$73,478.00
The Potomac Conservancy-Urbana Watershed Project	Piedmont Stream System	112	112	0	8	Invasive species control	\$20,962.5
TOTALS:		18,992	1,552				\$290,027.40

* This grant is to build capacity for ACLT to continue to treat and retreat invasive species on their property in the next 10 years.

** These 2 grants are expansion grants on the same private preserves. However, the actual treated areas are different than the areas restored in I-2-HM-1 grants.

SUMMARY OF OBJECTIVES AND PROGRESS SO FAR

Much of the progress in the accomplishments of our goals has been reported in our first tier 2 grant. Of the 2 projects that have been billed to our second tier 2 grant we have made some progress in accomplishing 2 of our objectives.

Project A. Restoration of Ridge and Valley, Piedmont, and Coastal Plain Stream Systems

Objective: To provide technical and financial assistance to landowners to restore water quality and riparian habitats of stream systems using the following practices:

PRACTICE	GOAL	PROJECTED COST	PROGRESS TO DATE	ACTUAL COST
Reforestation: Forested Buffer	150 acres	\$150,000	10acres	\$10,000
Grassland Buffers	75 acres	\$30,000	0	0
Invasive Species Control	50 acres	\$25,000	148acres	\$42,471.38
Livestock Exclusion & Fencing	100 acres	\$15,000	0	0
	TOTAL	\$220,000	36acres	\$52,471.38

Project D. Restoration of Mountain and Piedmont Mature Forest

Objective: To provide technical and financial assistance to landowners to restore forests, reduce fragmentation, and control invasive species in the Ridge and Valley and Allegheny Plateau regions of Maryland. Specific practices and costs are as follows:

Practice	GOAL	PROJECTED COST	PROGRESS TO DATE	ACTUAL COST
Invasive Species Control	30 acres	\$15,000	448 acres	\$68,571.39 + est \$30,00 for WLBG treatments
Reforestation: Contiguous Forest	85 acres	\$85,000	29.5 acres	\$15,375.00
Invasive Species Control (HWA)	0	0	66 acres	\$21,137.50
Restoration of native vegetation	0	0	7.5	\$2,881.00
	TOTAL:	\$100,000		\$137,964.89 (est)

We continue to treat and monitor groves of hemlock trees for hemlock woolly adelgid on two properties having mountain mature forest. These trees are an important part of the forest, functioning to stabilize stream banks, reduce water temperature, and provide habitat for associated rare species including the ostrich fern, the smoky shrew, and six rare aquatic species. We have also developed a restoration project for the Izaak Walton League to treat invasive species on their property adjacent to State Park Lands thereby improving contiguous forested corridors for wildlife.

Project H. Restoration of Coastal Plain Mature Forest

Objective: To provide technical and financial assistance to landowners in restoring mature forest habitat for Delmarva fox squirrel and other species at risk, and controlling invasive species in forests of the Coastal Plain of Maryland. LIP projects will include the following practices:

PRACTICE	GOAL	PROJECTED COST	PROGRESS TO DATE	ACTUAL COST
Reforestation of Contiguous Forest	50 acres	\$50,000	0	0
Invasive Species Control	15 acres	\$7,500	0	0
Delayed Harvest Payment in Delmarva Fox Squirrel habitat	50acres	\$56,500	50acres	\$42,375
Vegetation management:	15acres	\$7,500	0	0
	TOTAL:	\$121,500	50acres	\$42,375

We have been able to fulfill our goals for the practice of Delayed harvest payments at a lowered projected cost. The 25% match is being met because the landowner will be accepting a 25% reduction in the delayed harvest payments. The regular rate is \$113/acre/year and the landowner is accepting \$84.75/acre/year. The other practices under this Project are still being billed to our first grant I-2-HM-1.

Project I. Restoration of Groundwater-Interfacing Wetlands

Objective: To provide technical and financial assistance to landowners to restore Coastal Plain wetlands, including Delmarva bays, using the following practices:

Practice	GOAL	PROJECTED COST	PROGRESS TO DATE	ACTUAL COST
Reforestation: Forested Buffers	5 acres	\$5,000	10 acres	\$10,000.00
Invasive Species Control	8 acres	\$4,000	450 acres	\$31,083.03
Vegetation Management	29 acres	\$43,500	83 acres	\$24,204.06
Restoration of wetland hydrology	10 acres	\$10,000	20 acres	\$0 (cost covered by matching grant)
Livestock Exclusion & Fencing	1,400 ft.	\$4,200	0	0
Restoration of native vegetation	0	0	20.5 acres	\$17,100.00
	TOTAL:	\$66,700		\$82,387.09

We continue to work with The Nature Conservancy to monitoring our project to remove invasive plants in and around Delmarva Bays on 120 acres on two preserves on the Eastern Shore of Maryland. We are also working closely with TNC biologist to monitor project areas where LIP funded the removal of encroaching woody plants from 66 acres Delmarva Bay, 64 on The Nature Conservancy property and 2 on the property of another landowner adjacent to a Nature Conservancy Preserve. Our work has exceeded our objectives for invasive control and vegetation management in this habitat type, although we have not had an opportunity to implement fencing. In the last fiscal year we conducted an outreach mailing to 52 landowners with records of Delmarva-bay dwelling rare species on their property. From this outreach effort, we spoke with 13 landowners, visited 6 of them, and approved one application for a project to remove encroaching vegetation in a Delmarva Bay Property.

Project L. Restoration of Contiguous Grasslands

Objectives: To restore contiguous native grasslands or savannas historically associated with serpentine soils, barrens, or glades, or anthropogenic grasslands (e.g., hayfields, reclaimed surface mines) using the following practices:

Establishment of warm-season grassland	50 acres	\$400/acre	\$20,000
Fallow-field set aside payments (3-yr)	65 acres	\$300/acre	\$19,500
		Total Cost	\$39,500

SECTION 7 REVIEW SUMMARY

We have completed Section 7 reviews for both of our projects. The following are the determinations:

Project(s)	Species	Determination
Eby, Bradley	Delmarva Fox Squirrel	No effect
Holly Springs Nature Conservancy	No Federally Listed Species	No effect

APPENDIX 1: Species that stand to benefit from MD LIP projects

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Delmarva Fox Squirrel	<i>Sciurus niger cinereus</i>	vertebrate	G5T3	S1	Eby, Bradley
Brook Trout	<i>Salvelinus Fontinalis</i>	vertebrate		State watch list	Holly Springs Nature Conservancy
Bog Turtle	<i>Clemmys muhlenbergii</i>	vertebrate	G3	S2	Holly Springs Nature Conservancy (records nearby)

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Alder Flycatcher	<i>Empidonax alnorum</i>	Vertebrate	G5	S2	Rock Lodge
Aster-like Boltonia	<i>Boltonia asteroides</i>	Plant	G5	S1	TNC Jackson Ln., TNC Prescribed Burn
Atlantic White Cedar	<i>Chamaecyparis thyoides</i>	Plant	G4	S3	Cypress Creek Bog
Auricled Gerardia	<i>Agalinis auriculata</i>	Plant	G3	S1	Green
Beaked Spikerush	<i>Eleocharis rostellata</i>	Plant	G5	S2?	Cypress Creek Bog
Blackburnian Warbler	<i>Dendroica fusca</i>	Vertebrate	G5	S1S2B	Rock Lodge
Blunt-lobe Grape-fern	<i>Botrychium oneidense</i>	Plant	G4Q	S1	NJR
Bog Turtle	<i>Clemmys muhlenbergii</i>	Vertebrate	G3	S2	Carney, Denner, Seitz, Zodhaites
Bristly Sarsaparilla	<i>Aralia hispida</i>	Plant	G5	S1	Rock Lodge
Buxbaum's Sedge	<i>Carex buxbaumii</i>	Plant	G5	S2	IWLA
Coast Sedge	<i>Carex exilis</i>	Plant	G5	S1	Cypress Creek Bog
Curtiss' three-awn	<i>Aristida curtissii</i>	Plant	G5	SU	TNC Prescribed Burn
Dark green sedge	<i>Carex venusta</i>	Plant	G4	S2	TNC Comprehensive
Davis' Sedge	<i>Carex davisii</i>	Plant	G4	S1	George
Davis' Sedge	<i>Carex davisii</i>	Plant	G4	S1	Green
Few-flowered Tick-trefoil	<i>Desmodium pauciflorum</i>	Plant	G5	S1	ACLT
Giant Cane	<i>Arundinaria gigantea</i>	Plant	G5	S2	Sylvan View
Glade fern	<i>Diplazium pycnocarpon</i>	Plant	G5	S2	Weitzell
Grasshopper sparrow	<i>Ammodramus savannarum</i>	Vertebrate	G5	GCN	JEDS Audubon
Harebell	<i>Campanula rotundifolia</i>	Plant	G5	S2	TNC Comprehensive
Henslow's Sparrow	<i>Ammodramus henslowii</i>	Vertebrate	G	S1S2	RockLodge, Teets
Hop-like Sedge	<i>Carex lupuliformis</i>	Plant	G4	S1?	TNC Jackson Ln., Cherry
Inflated sedge	<i>Carex vesicaria</i>	Plant	G5	S1	TNC Comprehensive
Knotted spikerush	<i>Eleocharis equisetoides</i>	Plant	G4	S1	TNC Comprehensive
Lake-bank sedge	<i>Carex lacustris</i>	Plant	G5	S2	TNC Comprehensive
Leatherleaf	<i>Chamaedaphne calyculata</i>	Plant	G5	S1	Sylvan View
Leatherwood	<i>Dirca palustris</i>	Plant	G4	S2	TNC Comprehensive
Little prickly sedge	<i>Carex echinata</i>	Plant	G5	S1	TNC Comprehensive
Mead's Sedge	<i>Carex meadii</i>	Plant	G4G5	S1	IWLA
Northeastern beach tiger beetle	<i>Cicindela dorsalis dorsalis</i>	Invertebrate	G4T2	S1	Drum Pt.
Northern bobwhite	<i>Colinus virginianus</i>	Vertebrate	G5	GCN	JEDS Audubon, Schmidt, Spiering
Northern harrier	<i>Circus cyaneus</i>	Vertebrate	G5	S2B	JEDS Audubon
Porter's reedgrass	<i>Calamagrostis porteri</i>	Plant	G4	S1	TNC Comprehensive
Reflexed Cyperus	<i>Cyperus refractus</i>	Plant	G5	S2?	NJR
Robbins' spikerush	<i>Eleocharis robbinsii</i>	Plant	G4G5	S1	TNC Prescribed Burn, TNC Comprehensive
Rough-leaved aster	<i>Aster radula</i>	Plant	G5	S1	TNC Comprehensive
Running juneberry	<i>Amelanchier stolonifera</i>	Plant	G5	S2	TNC Comprehensive
Sedge Wren	<i>Cistothorus platensis</i>	Vertebrate	G5	S1	Rock Lodge
Sensitive Joint-vetch	<i>Aeschenomene virginia</i>	Plant	G2	S1	Patuxent River
Serpentine aster	<i>Aster depauperatus</i>	Plant	G2	S1	TNC Prescribed Burn, TNC Comprehensive
Side-oats grama	<i>Bouteloua curtipendula</i>	Plant	G5	S2	TNC Comprehensive
Small-fruited Beggar-ticks	<i>Bidens mitis</i>	Plant	G4?	S1	Cypress Creek Bog
Spotted turtle	<i>Clemmys guttata</i>	Vertebrate	G5	GCN	JEDS Audubon
Stiff tick-trefoil	<i>Desmodium strictum</i>	Plant	G4	S1	TNC Prescribed Burn, TNC Comprehensive

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Tall Larkspur	<i>Delphinium exaltatum</i>	Plant	G3	S1	TNC Comprehensive
Tall Swamp Panicgrass	<i>Dichanthelium scabriusculum</i>	Plant	G4	S1	TNC Comprehensive
Tickseed Sunflower	<i>Bidens coronata</i>	Plant	G5	S2S3	Cypress Creek Bog
Tiger beetle	<i>Cicindela scutellaris rugifrons</i>	insect	G5	S3	Behnke's
Velvety sedge	<i>Carex vestita</i>	Plant	G5	S2	TNC Comprehensive
Big-topped lovegrass	<i>Eragrostis hirsuta</i>	Plant	G5	S1S2	TNC Prescribed Burn, TNC Comprehensive
Alleghany plum	<i>Prunus alleghaniensis</i>	Plant	G4	S2	TNC Comprehensive
Allegheny Cave Amphipod	<i>Stygobromus allegheniensis</i>	Vertebrate	G5	S2S3	George
American Gromwell	<i>Lithospermum latifolium</i>	Plant	G4	S1	TNC Comprehensive
Bashful Bulrush	<i>Scirpus verecundus</i>	Plant	G4G5	S2S3	IWLA
Bashful Bulrush	<i>Trichophorum planifolium</i>	Plant	G4G5	S2S3	WLBG Projects
Black-fruited mtn. rice	<i>Oryzopsis racemosa</i>	Plant	G5	S2	TNC Comprehensive
Bog clubmoss	<i>Lycopodiella inundata</i>	Plant	G5	S2	TNC Comprehensive, Rock Lodge
Bog fern	<i>Thelypteris simulata</i>	Plant	G4G5	S2	TNC Comprehensive, Rock Lodge
Broad-glumed Brome	<i>Bromus latiglumis</i>	Plant	G5	S1	WLBG Projects
Brook Trout	<i>Salvelinus fontinalis</i>	Vertebrate	G5	S3S4	BSA, Zodhaites
Brown-fruited rush	<i>Juncus pelocarpus</i>	Plant	G5	S1	Sylvan View, TNC Prescribed Burn Cypress Creek Bog
Bur-reed Sedge	<i>Carex sparganioides</i>	Plant	G5	S1S2	WLBG Projects
Butternut	<i>Juglans cinerea</i>	Plant	G3G4	S2S3	IWLA
Canada burnet	<i>Sanguisorba canadensis</i>	Plant	G5	S2	TNC Comprehensive
Carpenter Frog	<i>Rana virgatipes</i>	Vertebrate	G5	S2	TNC Jackson Ln., TNC Comprehensive
Cherrydrop snail	<i>Hendersonia occulta</i>	Vertebrate	G5	S2	TNC Comprehensive
Climbing milkweed	<i>Matelea obliqua</i>	Plant	G4?	S1	TNC Comprehensive
Cluster Fescue	<i>Festuca paradoxa</i>	Plant	G5	S1	Port Tobacco
Common Moorhen	<i>Gallinula chloropus</i>	Vertebrate	G5	S2B	NJR
Common skullcap	<i>Scutellaria galericulata</i>	Plant	G5	S1	TNC Comprehensive
Compton Tortoiseshell	<i>Nymphalis vaualbum</i>	Plant	G5	S1	Rock Lodge
Coppery St. John's-wort	<i>Hypericum denticulatum</i>	Plant	G5	S2	TNC Jackson Ln., TNC Rx Burn
Crested Iris	<i>Iris cristata</i>	Plant	G5	S1	TNC Comprehensive, IWLA
Cross-leaved milkwort	<i>Polygala cruciata</i>	Plant	G5	S2	TNC Prescribed Burn, TNC Comprehensive
Delmarva Fox Squirrel	<i>Sciurus niger cinereus</i>	Vertebrate	G5T3	S1	Malkus,
Dickcissel	<i>Spiza americana</i>	Vertebrate	G5	S2B	JEDS Audubon, Green
Drowned hornedrush	<i>Rhynchospora inundata</i>	Plant	G3G4	S1	TNC Prescribed Burn, TNC Comprehensive
Dwarf Iris	<i>Iris verna</i>	Plant	G5	S1	TNC Comprehensive, Port Tobacco
Eastern meadowlark	<i>Sturnella magna</i>	Vertebrate	G5	GCN	JEDS Audubon
Engelmann's arrowhead	<i>Sagittaria engelmanniana</i>	Plant	G5	S2	Cherry, TNC Comprehensive
Erect Water-hyssop	<i>Mecardonia acuminata</i>	Plant	G5	S1	TNC Comprehensive
Fameflower	<i>Talinum teretifolium</i>	Plant	G4	S1	TNC Prescribed Burn, TNC Comprehensive
Featherbells	<i>Stenanthium gramineum</i>	Plant	G4G5	S1	TNC Prescribed Burn, TNC Comprehensive
Featherfoil	<i>Hottonia inflata</i>	Plant	G4	S1	TNC Jackson Ln., TNC Comprehensive
Fibrous bladderwort	<i>Utricularia fibrosa</i>	Plant	G4G5	S1	TNC Comprehensive, Cypress Creek Bog
Field sparrow	<i>Spizella pusilla</i>	Vertebrate	G5	GCN	JEDS Audubon
Flattened Pipewort	<i>Eriocaulon compressum</i>	Plant	G5	S2	TNC Comprehensive
Fringed Yelloweyed-grass	<i>Xyris fimbriata</i>	Plant	G5	S1	TNC Comprehensive

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Fringe-tip Closed Gentian	<i>Gentiana andrewsii</i>	Plant	G5?	S2	IWLA
Frosted Elfin	<i>Incisalia irus</i>	insect	G3	S1	TNC Comprehensive
Giant swallowtail	<i>Papilio cresphontes</i>	insect	G5	S2	TNC Comprehensive, IWLA
Golden-crowned Kinglet	<i>Regulus satrapa</i>	Vertebrate	G5	S2B, S4N	Rock Lodge
Goldenseal	<i>Hydrastis canadensis</i>	Plant	G4	S2	WLBG Projects
Goose-foot Cornsalad	<i>Valerianella chenopodiifolia</i>	Plant	G5	S1	TNC Comprehensive
Green Floater	<i>Lasmigona subviridis</i>	Invertebrate	G3	S1	TNC Licking Cr.
Grove meadow-grass	<i>Poa alsodes</i>	Plant	G4G5	S2	TNC Comprehensive
Hairy Ludwigia	<i>Ludwigia hirtella</i>	Plant	G5	S1	TNC Comprehensive
Hairy snoutbean	<i>Rhynchosia tomentosa</i>	Plant	G5	S2	TNC Prescribed Burn, TNC Comprehensive
Halberd-leaved greenbrier	<i>Smilax pseudochina</i>	Plant	G4G5	S2	TNC Comprehensive
Harperella	<i>Ptilimnium nodosum</i>	Plant	G2	S1	TNC Comprehensive
Harper's Fimbristylis	<i>Fimbristylis perpusilla</i>	Plant	G2	S2	TNC Jackson Ln.
Hooded Merganser	<i>Lophodytes cucullatus</i>	Vertebrate	G5	S1S2	Rock Lodge
Hooded Skullcap	<i>Scutellaria galericulata</i>	Plant	G5	S1	WLBG Projects
Kate's mountain clover	<i>Trifolium virginicum</i>	Plant	G3	S2S3	TNC Comprehensive
Kentucky Coffeetree	<i>Gymnocladus dioicus</i>	Plant	G5	S1	WLBG Projects
Large Cranberry	<i>Vaccinium macrocarpon</i>	Plant	G4	S3	Cypress Creek Bog
Large Purple Fringed Orchid	<i>Platanthera grandiflora</i>	Plant	G5	S2	NJR
Large-seeded Forget-me-not	<i>Myosotis macrosperma</i>	Plant	G5	S2S3	ACLT, Port Tobacco
Laughing gull	<i>Larus atricilla</i>	Vertebrate	G5	S1B	JEDS Audubon
Least Bittern	<i>Ixobrychus exilis</i>	Vertebrate	G5	S2S3B	NJR
Least tern	<i>Sterna antillarum</i>	Vertebrate	G4	S2B	JEDS Audubon
Leonard's skullcap	<i>Scutellaria leonardii</i>	Plant	G4T4	S2	TNC Prescribed Burn, TNC Comprehensive
Loggerhead Shrike	<i>Lanius ludovicianus</i>	Vertebrate	G4	S1B,S1N	NJR
Logperch	<i>Percina caprodes</i>	Vertebrate	G5	S1S2	BSA
Long-beaked Arrowhead	<i>Sagittaria longirostra</i>	Plant	GNRQ	SU	ACLT
Long-beaked baldrush	<i>Rhynchospora scirpoides</i>	Plant	G4	S2	TNC Prescribed Burn, TNC Comprehensive
Lowland loosestrife	<i>Lysimachia hybrida</i>	Plant	G5	S2	TNC Comprehensive
Marsh speedwell	<i>Veronica scutellata</i>	Plant	G5	S1	TNC Comprehensive
Missouri Rockcress	<i>Arabis missouriensis</i>	Plant	G5?Q	S1	WLBG Projects
Mountain pimpernel	<i>Taenidia montana</i>	Plant	G3	S2	TNC Comprehensive
Narrow melicgrass	<i>Melica mutica</i>	Plant	G5	S1	TNC Comprehensive
Northern dropseed	<i>Sporobolus heterolepis</i>	Plant	G5	S1	TNC Prescribed Burn
Northern Pitcher-Plant	<i>Sarracenia purpurea</i>	Plant	G5	S2	TNC Comprehensive, Rock Lodge
Northern prickly-ash	<i>Zanthoxylum americanum</i>	Plant	G5	S1	TNC Comprehensive, IWLA
Ostrich Fern	<i>Matteuccia struthiopteris</i>	Plant	G5	S2	BSA
Ostrich Fern	<i>Matteuccia struthiopteris</i>	Plant	G5	S2	WLBG Projects
Pale green orchid	<i>Platanthera flava</i>	Plant	G4	S2	TNC Comprehensive
Pale mannagrass	<i>Torreyochloa pallida</i>	Plant	G5	S1	TNC Comprehensive
Parker's pipewort	<i>Eriocaulon parkeri</i>	Plant	G3	S2	TNC Prescribed Burn, TNC Comprehensive
Pied-billed grebe	<i>Podilymbus podiceps</i>	Vertebrate	G5	S2B	JEDS Audubon, TNC Prescribed Burn, NJR
Pink Bog-button	<i>Sclerolepis uniflora</i>	Plant	G4	S2	TNC Comprehensive
Pizzini's Amphipod	<i>Stygobromus pizzinii</i>	Invertebrate	G3G4	S1	Green
Potato Dandelion	<i>Krigia dandelion</i>	Plant	G5	S1	IWLA

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Potato Dwarf-dandelion	<i>Krigia dandelion</i>	Plant	G5	S1	WLBG Projects
Purple bladderwort	<i>Utricularia purpurea</i>	Plant	G5	S1	TNC Prescribed Burn
Red-root	<i>Lachnanthes carolineana</i>	Plant	G4	S1	TNC Prescribed Burn, TNC Comprehensive
Reticulated nutrush	<i>Scleria reticularis</i>	Plant	G4	S2	TNC Prescribed Burn, Cherry, TNC Comprehensive
Reversed bladderwort	<i>Utricularia resupinata</i>	Plant	G4	S1	TNC Prescribed Burn, TNC Comprehensive
Rock sandwort	<i>Minuartia michauxii</i>	Plant	G5	S2	TNC Comprehensive
Rose Pogonia	<i>Pogonia ophioglossoides</i>	Plant	G5	S3	Cypress Creek Bog
Roundleaf Fameflower	<i>Talinum teretifolium</i>	Plant	G4	S1	WLBG Projects
Roundtop Amphipod	<i>Stygobromus</i> sp. 14	Invertebrate	GNR	S1	Green
Royal Tern	<i>Sterna caspia</i>	Vertebrate	G5	S1B	JEDS Audubon
Salt-marsh Bulrush	<i>Scirpus cylindricus</i>	Plant	G5	S2	Durham Pt.
Sandplain flax	<i>Linum intercursum</i>	Plant	G4	S2	TNC Comprehensive
Savannah sparrow	<i>Passerculus sandwichensis</i>	Vertebrate	G5	S3S4B	JEDS Audubon
Seneca snakeroot	<i>Polygala senega</i>	Plant	G4G5	S2	TNC Comprehensive, IWLA
Seneca Snakeroot	<i>Polygala senega</i>	Plant	G4G5	S2	WLBG Projects
Shale-barren Skullcap	<i>Scutellaria parvula</i> var. <i>missouriensis</i>	Plant	G4T4	S2	WLBG Projects
Shield Darter	<i>Percina peltata</i>	Vertebrate	G5	S3	BSA
Shining nutrush	<i>Scleria nitida</i>	Plant	GNR	S1	TNC Comprehensive
Showy Goldenrod	<i>Solidago speciosa</i>	Plant	G5	S2	ACLT
Shumard's Oak	<i>Quercus shumardii</i>	Plant	G5	S2	Green, IWLA
Silver Plumegrass	<i>Saccharum alopecuroidum</i>	Plant	G5	S1?	WLBG Projects
Slender nutrush	<i>Scleria minor</i>	Plant	G4	S1	TNC Comprehensive
Small cranberry	<i>Vaccinium oxycoccos</i>	Plant	G5	S2	TNC Comprehensive
Small-flowered Baby-blue-eyes	<i>Nemophila aphylla</i>	Plant	G5	S1	Port Tobacco
Small-fruited Agrimony	<i>Agrimonia microcarpa</i>	Plant	G5	SU	WLBG Projects
Small's yelloweyed-grass	<i>Xyris smalliana</i>	Plant	G5	S1	TNC Prescribed Burn, TNC Comprehensive
Smoky Shrew	<i>Sorex fumeus</i>	Vertebrate	G5	S2S3	BSA
Smooth Fuirena	<i>Fuirena pumila</i>	Plant	G4	S2S3	TNC Comprehensive
Smooth Phlox	<i>Phlox glaberrima</i>	Plant	G5	S1	IWLA
Snow Trillium	<i>Trillium rivale</i>	Plant	G4G5	S1	RockLodge, TNC Comprehensive, Teets
Sora	<i>Porzana carolina</i>	Vertebrate	G5	S1B	NJR
Squawfoot	<i>Strophitus undulatus</i>	Invertebrate	G5	S2	TNC Licking Cr.
Standley's Goosefoot	<i>Chenopodium standleyanum</i>	Plant	G5	S1	WLBG Projects
Star-flowered False Solomon's-seal	<i>Maianthemum stellatum</i>	Plant	G5	S1	Green
Swamp-oats	<i>Sphenopholis pensylvanica</i>	Plant	G4	S1S2	IWLA
Tall Nutrush	<i>Scleria triglomerata</i>	Plant	G5	S1S2	TNC Comprehensive
Three-flowered melicgrass	<i>Melica nitens</i>	Plant	G5	S2	TNC Comprehensive
Tiny-headed Beakrush	<i>Rhynchospora microcephala</i>	Plant	G5	S2S3	TNC Comprehensive
Torrey's Beakrush	<i>Rhynchospora torreyana</i>	Plant	G4	S2	TNC Comprehensive
Torrey's mountain-mint	<i>Pycnanthemum torrei</i>	Plant	G2	S1	TNC Prescribed Burn, TNC Comprehensive
Veined Skullcap	<i>Scutellaria nervosa</i>	Plant	G5	S1	TNC Comprehensive, IWLA
Vesper sparrow	<i>Poocetes gramineus</i>	Vertebrate	G5	S3S4B	JEDS Audubon
Virginia Mallow	<i>Sida hermaphrodita</i>	Plant	G3	S1	Green

Common Name	Scientific Name	Type	Global rank	State rank	Project(s) where benefits
Virginia Mountain-mint	<i>Pycnanthemum virginianum</i>	Plant	G5	S2	TNC Comprehensive
Water Clubrush	<i>Scirpus subterminalis</i>	Plant	G4G5	S1	TNC Comprehensive
White Beakrush	<i>Rhynchospora alba</i>	Plant	G5	S3	Cypress Creek Bog
White Fringed Orchid	<i>Platanthera blephariglottis</i>	Plant	G4G5	S2	TNC Comprehensive, Cypress Creek Bog
White Trout Lily	<i>Erythronium albidum</i>	Plant	G5	S2	Green
White-bracted Boneset	<i>Eupatorium leucolepis</i>	Plant	G5	S2S3	TNC Comprehensive
Wide-leaved Ladys' Tresses	<i>Spiranthes lucida</i>	Plant	G5	S1	Rock Lodge
Wild lupine	<i>Lupinus perennis</i>	Plant	G5	S2	TNC Comprehensive
Yellow Avens	<i>Geum aleppicum</i>	Plant	G5	S1	WLBG Projects
Yellow-fringed Orchid	<i>Platanthera ciliaris</i>	Plant	G5	S2	Cypress Creek Bog
Total Species-at-risk to benefit					186 Species