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October 13, 2010

Ms. Rebecca H. Bowen
Environmental Review Specialist
Pennsylvania Department of
Conservation and Natural Resources
Bureau of Forestry
Pennsylvania Natural Diversity Inventory
Post Office Box 8552
Harrisburg, Pennsylvania 17105-8552

Re: Threatened and Endangered
Species
Field Survey Report, R. J. Corman
Railroad Company, Proposed Beech
Creek Branch Line Construction and
Operation Between Wallaceeton and
Gorton, Pennsylvania
PER No. 20406, 19648, and 020163

Dear Ms. Bowen:

Skelly and Loy, Inc. has been retained by the R. J. Corman Railroad Company to assist with the threatened and endangered species coordination for the referenced development project. The initial PNDI coordination response letter dated June 6, 2008, listed the following six potential species that occur in the vicinity of this project area.

- Branching Bur-reed (*Sparganium angrocladum*), current status PA endangered, known to inhabit wet meadows, swales, streambanks, and shallow water
- Allegheny Plum (*Prunus alleghaniensis*), currently not protected but proposed as a PA threatened species and it is found on rocky bluffs, shale barrens, roadsides, and floodplains
- Pinkweed or Carey's Smartweed (*Polygonum careyi*), current status PA endangered, known to inhabit sandy open woodlands and disturbed places, particularly after fire
- Mountain Starwort (*Stellaria borealis*), currently not protected but proposed as tentatively undetermined and is found on springy wooded slopes, sphagnum swamps, and streams
- Creeping Snowberry (*Gaultheria hispidula*), PA rare and found in wet woods and bogs

- Mountain Fly Honeysuckle (*Lonicera villosa*), PA endangered found in bogs, swamps, and wet thickets.

A field survey was conducted in the 2008 and 2009 growing seasons by Skelly and Loy's botanist. Potential habitat was noted and field reports were sent to the Pennsylvania Department of Conservation and Natural Resources (PA DCNR) on November 12, 2008, and December 4, 2009. The 2008 field survey and secondary resource review noted potential habitat for the six species; therefore, the 2009 field survey was conducted. The December 4, 2009, field report concluded the presence of the Allegheny Plum along the new road upgrade alternative and several locations of an unidentified bur-reed species along the new railroad line alternative near Hawk Run and Laurel Run. Also, there is a 2000-foot-long section that was not surveyed due to the owner not providing permission to enter their property.

The PA DCNR response dated February 4, 2010, concurred that there is no impact anticipated for the Allegheny Plum (*Prunus alleghaniensis*), Pinkweed or Carey's Smartweed (*Polygonum careyi*), Mountain Starwort (*Stellaria borealis*), Creeping Snowberry (*Gaultheria hispidula*), and Mountain Fly Honeysuckle (*Lonicera villosa*) along the proposed railroad line. The letter did request that the 2010 field survey verify the identification of the *Sparganium* species along this proposed alternative. The letter also requested the confirmation of the plum on the road upgrade alternative. However, the road upgrade alternative was dropped from further study in the Draft Environmental Impact Statement phase; therefore, this was not included in the 2010 field survey. Also, we did not receive permission from the owner of the 2,000-foot portion of the railroad line between the 9th Street Bridge Phillipsburg and Troy; this area stills needs to be surveyed prior to preparation of the permit application.

The 2010 field surveys were conducted on July 21 and September 14, 2010. The survey focused on the areas with bur-reed present to identify that species. This included Hawk Run (one wetland and creek adjacent to the old DEP building), Laurel Run (big wetland near Route 53, the new stream crossing and the tie down to the existing rail road that is adjacent to Laurel Run), and one pond along the Wallaceton alternative. A sample was collected at each survey time to get the plant at the appropriate time for the various plant parts for identification. Office identification of the species collected in July appeared to be *Sparganium americanum* but one source said the under-developed *S. androcladum* can be confused with *S. americanum*. Therefore, a sample was again collected from each area in September when the fruit heads started to turn brown, showing that they were fully developed. Based on the office identification of those samples, we determined it to be *Sparganium americanum*. We worked the samples through six different keys (noted on field data form) and all concluded it was this species. It had 1 stigma, achenes tapered at both ends, the body was between 4 and 5 mm and the beak was 2.5 to 4 mm, and the fruit head was in the noted range of 1.5 and 2.6 cm (most were 2 to 2.5 cm) in diameter. The leaves were erect or emerging from the water and had a keel but not strong triangle leaf. The flower stems were axillary, not super-axillary, and had 1 to 3 pistillate heads and 1 to 6 staminate heads and on the same stem as pistillate heads. The fruit was dull and dirty brown in color, not shiny. The samples collected are not in good shape to send to herbarium so we tried to take photographs to show the pistillate sizes and general habit of the plant. Other field photographs are also provided.

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The 2010 field survey concluded that there is potential habitat for the Branching Bur-reed in the form of wetlands, swales, and streams throughout the project area. Several wetlands had a *Sparganium* species present in them; however, positive identification concluded that it was *S. americanum*. There will be some minor impact to the habitat of the *Sparganium* plants due to drainage work or clearing vegetation adjacent to the rail line and potential direct impact to the *Sparganium* only in the area near the Laurel Run new section where the proposed line crosses the big wetland/stream complex near Route 322 in Phillipsburg to connect with the existing rail line. The 2010 field survey did not find any *Sparganium* plants located in the proposed Laurel Run crossing. However, due to the known population being located upstream of the proposed new crossing, it is recommended that the area be surveyed again prior to permitting to assure that no plants have colonized in the crossing area. A resurvey of the other wetlands along Hawk Run and the Wallaceton pond should also be completed prior to permitting if they will be impacted. Additionally, placement of protective fence and the use of E&S controls in these areas will reduce impact to the majority the wetlands and any *Sparganium* population. If the listed species is confirmed in future surveys, your office will be contacted. If the area is impacted, mitigation measures will be developed with your office.

The 2010 field survey established that there is no listed species in the proposed study area. It is recommended to resurvey the areas of *Sparganium* to assure that no listed species is present in the future and also to survey for the listed plants with focus on the mountain fly honeysuckle and bur-reed in the 2,000-foot Hawk Run area that the owner did not allow access again this season. Any species found will be reported to your office. If impact will occur to any of the listed plants, your office will be contacted to develop mitigation measures. Enclosed are the field forms for the *Sparganium* survey that was the 2010 survey species focus. We will gladly schedule a field view of the project area at your convenience if that would help you in your review.

Thank you in advance for your attention to this matter. We look forward to receiving your reply at your earliest convenience since the Final EIS will be produced by the end of 2010. Please call me if you have any questions regarding this matter or if you would like to set up a field view of the project area.

Sincerely yours,

SKELLY and LOY, Inc.

Karen M. Johnston
Botanist

Enclosures

cc: Kevin Starnier
Tom Johnston
R08-0101.000
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VEGETATIVE COMPOSITE LIST FOR THE WETLANDS WITH *SPARGANIUM* PRESENT BASED ON 2008, 2009, AND 2010 FIELD SURVEYS

The following is a composite list of dominant vegetation found in the wetland habitat that has *Sparganium* present and are located within and/or adjacent to the proposed rail reconstruction area. The majority of the wetland systems are palustrine emergent (PEM) wetlands but there are also palustrine forested (PFO) and palustrine scrub-shrub (PSS) wetlands. Areas of seeps and vegetated edges of watercourses are also present and included in this composite vegetation list.

Tree Species

Red Maple (*Acer rubrum*)
Hickory Species (*Carya sp.*)
Shagbark Hickory (*Carya ovata*)
Tamarack or Eastern Larch (*Larix laricina*)
White Pine (*Pinus strobus*)
Scots Pine (*Pinus sylvestris*)
Quaking Aspen (*Populus tremuloides*)
Black Cherry (*Prunus serotina*)
White Oak (*Quercus alba*)
Red Oak (*Quercus rubra*)
Swamp White Oak (*Quercus bicolor*)
Black Locust (*Robinia pseudoacacia*)

Shrub and Woody Vine Species

Speckled Alder (*Alnus incana*)
Smooth Alder (*Alnus serrulata*)
Japanese Barberry (*Berberis thunbergii*)
American Hornbeam or Musclewood (*Carpinus caroliniana*)
Buttonbush (*Cephalanthus occidentalis*)
Silky Dogwood (*Cornus amomum*)
Red-Osier Dogwood (*Cornus sericea*)
Winterberry (*Ilex verticillata*)
Spicebush (*Lindera benzoin*)
Morrow's Honeysuckle (*Lonicera morrowii*)
Tartarian Honeysuckle (*Lonicera tatarica*)
Ninebark (*Physocarpus opulifolius*)
Staghorn Sumac (*Rhus typhina*)
Multiflora Rose (*Rosa multiflora*)
Blackberry Species (*Rubus sp.*)
Black Raspberry (*Rubus occidentalis*)
Willow Specie (*Salix sp.*)
Crack Willow (*Salix fragilis*)
Black Willow (*Salix nigra*)
Silky Willow (*Salix sericea*)
Elderberry (*Sambucus canadensis*)
Meadowsweet (*Spirea latifolia*)
Steeplebush (*Spirea tomentosa*)
Northern Arrowwood (*Viburnum recognitum*)

Herbaceous Species

Small Water-Plantain (*Alisma subcordatum*)
Pearly Everlasting (*Anaphalis margaritacea*)
Indian Hemp (*Apocynum cannabinum*)
Burdock (*Arctium minus*)
Mugwort (*Artemisia vulgaris*)
Swamp Milkweed (*Asclepias incarnata*)
Aster Species (*Aster sp.*)
Flat-Topped White Aster (*Aster umbellatus*)
Yellow Bartonia (*Bartonia virginica*)
Beggar Ticks (*Bidens frondosa*)
Hedge Bindweed (*Calystegia sepium*)
Sedge Species (*Carex sp.*)
Fringed Sedge (*Carex crinata*)
Bladder Sedge (*Carex intumescens*)
Lurid Sedge (*Carex lurida*)
Pointed Broomsedge (*Carex scoparia*)
Awl-Fruited Sedge (*Carex stipata*)
Tussock Sedge (*Carex stricta*)
Blunt Broomsedge (*Carex tribuloides*)
Fox Sedge (*Carex vulpinoidea*)
Water Hemlock (*Cicuta bulbifera*)
Virgin's Bower (*Clematis virginiana*)
Queen Anne's Lace (*Daucus carota*)
Three-Way Sedge (*Dulichium arundinaceum*)
Blunt Spikerush (*Eleocharis obtusa*)
Trumpetweed (*Eupatorium fistulosum*)
Boneset (*Eupatorium perfoliatum*)
White Snakeroot (*Eupatorium rugosum*)
Lance-Leaved Goldenrod (*Euthamia graminifolia*)
Cleavers (*Gallium aparine*)
Marsh Bedstraw (*Gallium palustre*)
Mannagrass Species (*Glyceria sp.*)
Rattlesnake Mannagrass (*Glyceria canadensis*)
Fowl Mannagrass (*Glyceria striata*)
St. Johnswort Species (*Hypericum sp.*)
Spotted St. Johnswort (*Hypericum punctatum*)
Spotted Touch-Me-Not Species (*Impatiens campensis*)
Sharp-Fruited Rush (*Juncus acuminatus*)
Soft Rush (*Juncus effusus*)
Path Rush (*Juncus tenuis*)
Duckweed Species (*Lemna sp.*)
Northern Bugleweed (*Lycopus uniflorus*)
Whorled Loosestrife (*Lysimachia nummularia*)
Swamp Candles (*Lysimachia quadrifolia*)
Monkey Flower (*Mimulus ringens*)
Spatterdock (*Nuphar lutea*)
Sundrops (*Oenothera fruticosa*)
Sensitive Fern (*Onoclea sensibilis*)

Cinnamon Fern (*Osmunda cinnamomea*)
Interrupted Fern (*Osmunda claytoniana*)
Deertongue Grass (*Panicum clandestinum*)
Reed Canary Grass (*Phalaris arundinacea*)
Phragmites (*Phragmites australis*)
Bluegrass Species (*Poa* sp.)
Japanese Knotweed (*Polygonum cuspidatum*)
Common Smartweed (*Polygonum hydropiper*)
Mild Waterpepper (*Polygonum hydropiperoides*)
Arrow-Leaved Tearthumb (*Polygonum sagittatum*)
Bracken Fern (*Pteridium aquilinum*)
Tall Buttercup (*Ranunculus acris*)
Swamp Dewberry (*Rubus hispidus*)
Common Arrowhead (*Sagittaria latifolia*)
Dark Green Bulrush (*Scirpus atrovirens*)
Woolgrass (*Scirpus cyperinus*)
Goldenrod Species (*Solidago* sp.)
Late Goldenrod (*Solidago macrophylla*)
Rough-stemmed Goldenrod (*Solidago rugosa*)
Bur-reed (*Sparganium americanum*)
Sphagnum Moss Species (*Sphagnum* sp.)
Skunk Cabbage (*Symplocarpus foetidus*)
Fern Species (*Thelypteris* sp.)
Poison Ivy (*Toxicodendron radicans*)
Coltsfoot (*Tussilago farfara*)
Common Cattail (*Typha latifolia*)
Bladderwort Species (*Utricularia* sp.)
Cranberry (*Vaccinium macrocarpon*)
New York Ironweed (*Vernonia noveboracensis*)

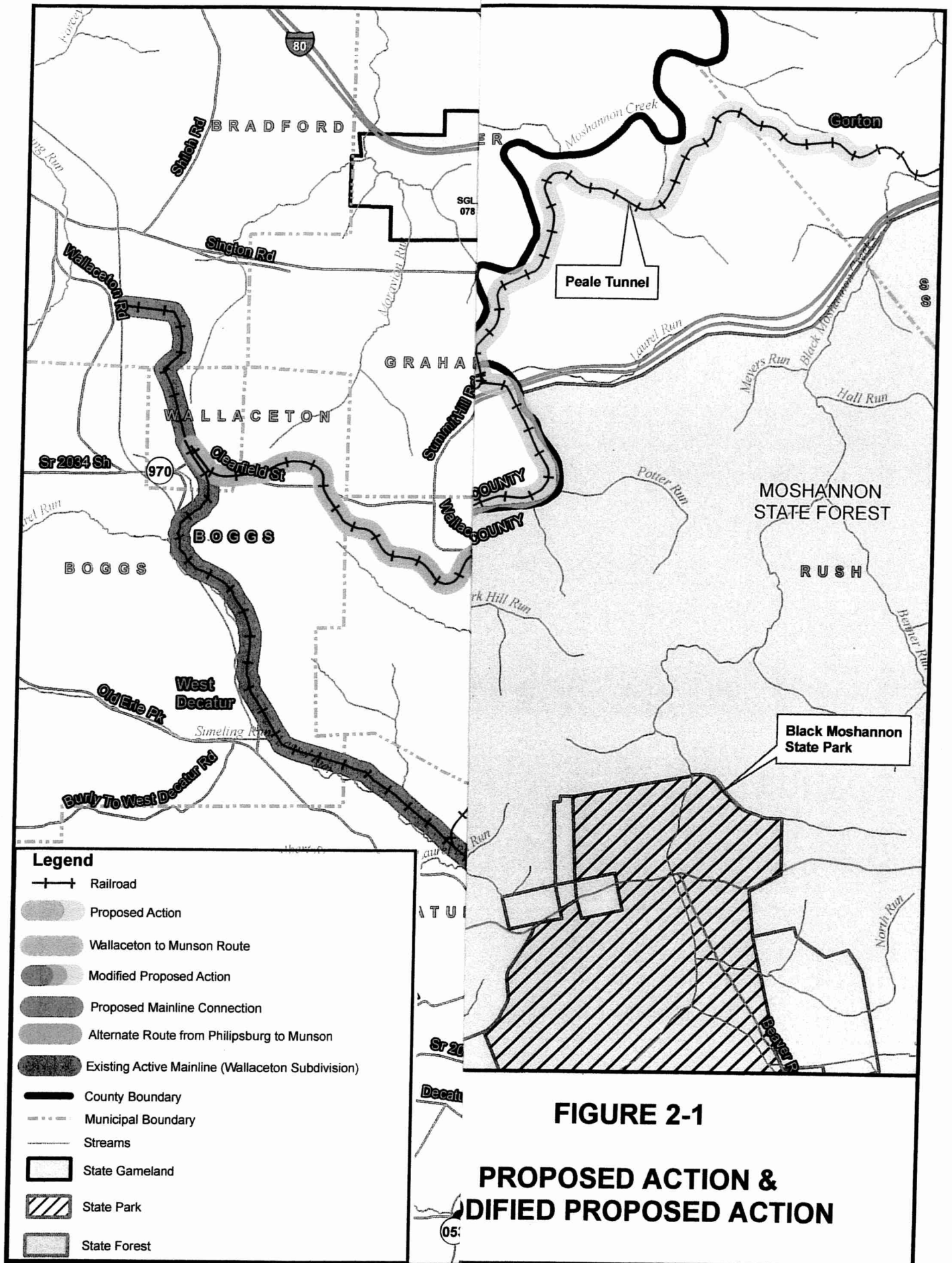


FIGURE 2-1

**PROPOSED ACTION &
MODIFIED PROPOSED ACTION**

Botanical Field Survey Form for Environmental Review

If botanist finds species of special concern on site, immediately contact our office at 717-787-3444 or dfisler@state.pa.us as we will likely want to revisit the population while it is still an appropriate time. Failure to contact our office immediately may result in a delay until next year's growing season.

Fill out form multiple times if searched different habitats for species of special concern (SOSC).

PNDI # <u>20406, 19648 and 20163</u>			
County <u>Clearfield & Centre</u>		Quad <u>Wallington, Phillipsburg, Black Mushannon, Snow Shoe</u>	
Survey Date/s <u>July 21 and Sept. 14, 2010</u>		Surveyor <u>Kevin Johnston, Alice Johnston & Tom Johnston</u>	
Amount of time spent surveying area <u>8 hours</u>			
Name of site owner <u>RT Corman</u>			
Directions to site <u>Phillipsburg end: Take 322 to Phillipsburg. Project starts @ 322/RTS intersection and then use map to navigate the other existing sections of rail line</u>			
GPS (decimal degrees preferred) approximate center point of site <u>Not recorded since linear project and no sites found</u>			
Scientific name/s of target species <u><i>Sparganium angustifolium</i> (Branching Bur-reed)</u>			
Site habitat description <u>Wet meadows, swales, stream banks, shallow water and muddy shores</u>			
Substrate/soil type <u>Varies throughout study area</u>			
System: ☐ Terrestrial ☒ Palustrine ☐ Estuarine			
Community Description (describe below)			
Strata/life form	Height	% Cover	Most abundant/characteristic species
Emergent tree	<u>~3'</u>	<u>10%</u>	<u>See plant community</u>
Tree canopy	<u>~35-60'</u>	<u>~50%</u>	
Tree sub-canopy	<u>15-20'</u>	<u>~30%</u>	
Tall shrub(>1 m)	<u>3-12'</u>	<u>~15%</u>	
Short shrub(<1 m)	<u>1-3'</u>	<u>~15%</u>	
Herbaceous	<u>6"-3'</u>	<u>~90%</u>	
Non-vascular	<u>0-4"</u>	<u>~60%</u>	
Epiphyte/liana	<u>-</u>	<u>-</u>	
Other PA listed species that were not targeted for survey but may potentially exist on site-review PNDI list (http://www.naturalheritage.state.pa.us/PlantsPage.aspx) for species with similar preferred habitat <u>See attached</u>			
Estimate of immediate area that is potential habitat for target SOSC <u>45% for total wetland habitats acreage, Laurel Run Complex is larger</u>			

Identification problems? If yes, explain.

No - July was too soon to assure fully developed but was good in September

References used (flora, experts, herbaria, etc.) www.eFloras.org; www.Dorland.wisc.edu

Plants of PA (Rhoads/Blake), Pitman & Brown, Flora of W. Va., Gleason & Cronquist

Include topographic map with development site, potential target species habitat, and found populations of SOSC all clearly delineated. Additional detail is welcome.

Include photographs of habitat and, if found, SOSC. Submit digital photos electronically.

If SOSC was/were not found, check all reasons that apply:

Ambiguous directions	☒	Disturbances	Exotics	☒	Habitat destroyed
Time of year	☒	Unsuitable habitat	Weather		Insufficiently/incompletely surveyed

Elements may have never occurred here - 1st time area searched☒ Other: Dense other vegetation. Upstream Laurel Run population dead not some theIf previously known from this site, do you believe the species is/are now extirpated? ☐ yes ☒ no for a date

Explain: Population upstream may still be present (confirmed in corridor study in 2000/2001) and could someday colonize in this riparian area since it is Botanist only needs to continue if SOSC was/were found on site. Fill out form that follows multiple times if more than one SOSC was located.

Directions (within site) to SOSC

GPS coordinates (decimal degrees preferred)

Small populations - GPS center point and list radius necessary to enclose whole population
Large populations - GPS multiple points around population perimeter

Habitat of SOSC (describe below)

Aspect	Slope	Light	Topo Position	Moisture	Elevation
N	Flat	Open	Crest	Inundated	Min
E	0-10%	Partial	Upper slope	(hydric)	Max
S	10-35%	Filtered	Mid-slope	Saturated	
W	35+%	Shaded	Lower slope	(wet-mesic)	
NE	Vertical		Bottom	Moist	
NW				(mesic)	
SE				Dry	
SW				(mesic)	
None				Dry (xeric)	

Plant Biology (describe below)

Phenology	Ramets ¹	Genets ²	Population Area	Age Structure	Vigor
In leaf		1-10	1 YD 2	Annuals	Very feeble
In bud		11-50	1-5 YD 2	% Seedlings	Feeble
In flower		51-100	5-10 YD 2	% Immature	Normal
Immature fruit		101-1000	10-100 YD 2	% 1st year	Vigorous
Mature fruit		1001-10K	100 YD 2 - 2 AC	% Mature	Exceptional vigor
Seed dispersing		10K+	2+ ACRES	% Senescent	
		EST #	EST AREA		

¹Ramet: individual reproduced vegetatively (a clone)²Genet: individual generated by sexual reproduction (a seedling)

Down stream of site in Laurel Run. Do not believe high potential to someday grow in other areas since no connection to Laurel Run population but is always low possibility.

Other Listed Species in same habitats as *Sparganium androcladum*

Wet meadows

Acorus americanus
Bidens laevis
Cardamine pratensis var. *palustris*
Carex bebbii
Carex cryptolepis
Carex flava
Carex haydenii
Carex meadii
Carex mitchelliana
Carex shortiana
Carex tetanica
Eleocharis intermedia
Eriophorum viridicarinatum
Lobelia nuttallii
Ludwigia polycarpa
Lysimachia hybrida
Lythrum alatum
Platanthera dilatata
Platanthera hyperborean
Salix candida
Salix serissima
Spiranthes lucida
Spiranthes magnicamporum
Thalictrum dasycarpum

Swales

Acorus americanus
Agrostis altissima
Alisma triviale
Alopecurus aequalis
Carex aquatilis
Carex buxbaumii
Carex garberi
Carex pseudocyperus
Carex retrorsa
Carex tetanica
Eleocharis elliptica
Galium trifidum
Hottonia inflata
Juncus biflorus
Juncus debilis

Juncus torreyi
Ludwigia polycarpa
Lycopus rubellus
Lythrum alatum
Orontium aquaticum
Panicum flexile
Panicum lucidum
Panicum scoparium
Pedicularis lanceolata
Phragmites australis ssp. americanus
Platanthera peramoena
Pluchea odorata
Ranunculus ambigens
Ranunculus pusillus
Salix petiolaris
Symphyotrichum dumosum
Utricularia cornuta
Utricularia radiata
Veronica catenata

Stream Banks

Acorus americanus
Alisma triviale
Baptisia australis
Carex mitchelliana
Carex schweinitzii
Carex sprengelii
Chasmanthium latifolium
Conioselinum chinense
Conoclinium coelestinum
Cuscuta compacta
Cyperus diandrus
Eleocharis compressa
Eleocharis intermedia
Equisetum variegatum
Erianthus giganteus
Eupatorium godfreyanum
Euphorbia obtusata
Gratiola aurea
Houstonia serpyllifolia
Hypericum densiflorum
Iris cristata
Isoetes valida
Isoetes x brittonii
Juncus debilis

Ligusticum canadense
Lupinus perennis
Lycopus rubellus
Marshallia grandiflora
Myrica gale
Phyllanthus caroliniensis
Polymnia uvedalia
Ptelea trifoliata
Salix caroliniana
Salix myricoides
Schoenoplectus fluviatilis
Scutellaria saxatilis
Sida hermaphrodita
Stachys hyssopifolia
Stellaria borealis
Tipularia discolor
Trautvetteria caroliniensis
Viola appalachiensis

Shallow Water

Hydrocotyle umbellata
Lemna obscura
Lemna valdiviana
Polygonum setaceum var. *interjectum*
Ranunculus flabellaris
Ranunculus flammula
Ranunculus hederaceus
Schoenoplectus acutus
Schoenoplectus torreyi
Sparganium minimum
Utricularia cornuta
Utricularia radiata
Utricularia resupinata
Utricularia subulata
Zizania aquatica

Muddy Shores

Hydrocotyle umbellata
Hypericum gymnanthum
Juncus torreyi
Potamogeton pulcher
Ranunculus flabellaris
Samolus parviflorus



Photograph No. 1: Large Laurel Run Wetlands near Route 53 *Sparganium americanum* in bloom in July.



Photograph No. 2: Other plants in the Route 53 wetlands.



Photograph No. 3: Closeup of *S. americanum* plants found in all wetlands in July 2010.



Photograph No. 4: Northern end of the large Route 53 Laurel Run wetlands.



Photograph No. 5: Existing railroad where new Laurel Run creek crossing segment ties down.



Photograph No. 6: Few *Sparganium* located at existing bridge at Laurel Run tie down area that may be impacted if bridge needs improvement and plants are still present.



Photograph No. 7: Opposite side of existing bridge with no *Sparganium* in direct area but is just out of the work area so indirect impacts could occur if bridge replacement occurs.



Photograph No. 8: Area of new crossing of the creek (to left through woods) and tie down location on existing railroad line.



Photograph No. 9: New Laurel Run crossing area. Currently no *Sparganium* in this area, is grass in the creek but known *Sparganium androcladum* population is located upstream so should resurvey before permit.



Photograph No. 10: Other wetlands along Hawk Run that contained *Sparganium americanum*.



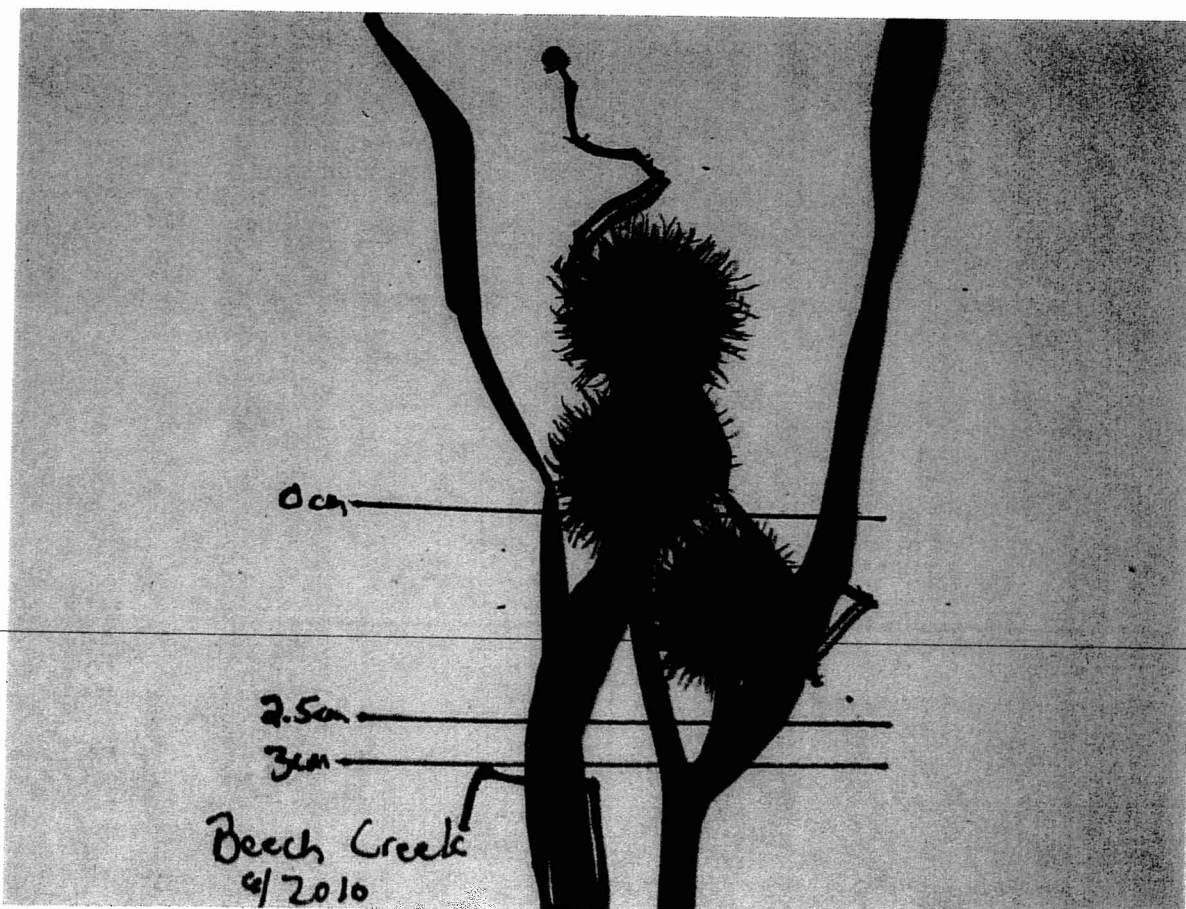
Photograph No. 11: Wetland on the Wallaceton Line that has *Sparganium americanum* population.



Photograph No. 12: The Hawk Run area of the Phillipsburg to Munson line with the line located along the left side of Hawk Run. There is *Sparganium* on the opposite side of the creek, but the line will not impact the creek; therefore, the population will not be impacted.



Photograph No. 13: Other side of the 9th Street bridge where the Phillipsburg line runs along the Hawk Run to right of photograph. Again, *Sparganium* is on the other side of the creek not this side so no impact.



Photograph No. 14: Office identification sample measured before separated for scope work shows heads in the 2.5-cm or less diameter for the pistillate heads (collected 9/14/2010)

YEARS EXPERIENCE: ~~20~~ 23**EDUCATION:**

B.S., Biology, 1985, Shippensburg University

B.S., Education (Secondary Science/Environmental Education), 1985, Shippensburg University

RELEVANT TRAINING:

FHWA National Highway Institute, 1989, Wetland Evaluation Technique (WET II)

Native Plants in the Landscape, 1991 and 1997, Millersville University

Roadside and Right-of-Way Vegetation Management, 1991, Rutgers State University - Cook College

Wetland Horticulture, 1992, Environmental Concern, Inc.

Identification of Freshwater Wetland Sedges, Grasses & Rushes, 1993, Institute for Wetland & Environmental Education and Research

Pennsylvania Fish and Boat Commission's Project Kare/Aquatic Wild Teacher Education Program, 1994, Fort Hunter, PA

PROFESSIONAL AFFILIATIONS:

The Society of Wetland Scientists

Muhlenberg Botanical Society

Pennsylvania Native Plant Society

Ms. Johnston's main responsibility is the **identification and evaluation of vegetative communities and habitats**. As Senior Botanist, she provides the detailed understanding of complex plant taxonomy necessary to perform accurate vegetative mapping and realistic wetlands delineation. Ms. Johnston's botanical duties also include conducting **Species of Special Concern Assessments** for plants and maintaining the vegetative database she developed that contains the current accepted scientific names, common name, and the species wetland status indicator.

From initiating **Threatened and Endangered Species Early Coordination** with the U.S. Fish and Wildlife Service (Federal species) and DCNR, Bureau of Forestry's Pennsylvania Natural Diversity Inventory (PNDI) to completing detailed **Biological Assessments**, Ms. Johnston has extensive project experience performing botanical studies in accordance with **U.S. FWS Section 7** requirements. Types of projects in which Ms. Johnston had a role include land development projects, mine sites, utility line studies, and landfill permits.

Working in close coordination with ecologists, wildlife biologists, hydrogeologists, and environmental engineers, Ms. Johnston has designed more than **50 natural wetlands and wildlife habitats**. Throughout these numerous design efforts Ms. Johnston's understanding of plant ecology and community dynamics have resulted in the clear definition of environmental conditions which allow the design and subsequent establishment of natural communities. Additionally, Ms. Johnston has designed several **combination habitat replacement and environmental education areas**. These integrated designs have resulted in the development of areas which provide both natural habitat

and maximum environmental education potential.

Ms. Johnston's capabilities also include **PAM HEP and HEP field collection** and analysis and **threatened and endangered species coordination**.

Power Station Expansion, Indiana - Managed the collection of plant species profiles. Compiled composite list for each upland habitat community type use and identified using the **Anderson Land Cover/Land Use Classification System**.

U.S. Route 220 EIS - Directed several botanical studies including vegetative data collection for the wetlands delineation, **biodiversity analysis**, and coordination of the **Species of Special Concern Assessment** for 11 plant species, including 2 Federally-listed endangered species. Responsible for coordinating the **threatened and endangered species assessment**. Specific species of issue where the small-whorled pagonia, the Northeastern Bulrush, and several State-listed plant species. Served on the field crew during the wetland delineation studies and terrestrial habitat studies.

Warren Street Highway Project - Served as Senior Botanist responsible for collecting vegetative data for potential **bog turtle habitats** and was responsible for listing plants found at each bog turtle location.

Lackawanna Valley Industrial Highway EIS - Supervised the vegetative field assessment for the wetland studies and coordinated the environmental monitoring of wetland impacts for the construction phase.

(Continued)

Utility Substation Construction and Line Reconstruction, Pennsylvania - Responsible for coordinating all aspects of the project including wetland fieldwork, report documentation, and permit preparation. Technical work areas included botanical data collection completed for the wetlands studies, endangered species assessment including actual field surveys for one confirmed species, agency coordination, and author of the Wetlands Findings Report.

Ms. Johnston provides the landscape designs for Skelly and Loy's wetland and terrestrial mitigation plans and recreational and environmental educational site plans. Her unique combination of vast botanical field experience, knowledge of native plants, environmental education background, and formal training in landscape design affords her unparalleled expertise in the area of natural habitat creation. Ms. Johnston has been involved in more than 50 wetland replacement and terrestrial mitigation construction projects in almost all of the PennDOT Districts.

Lackawanna Valley Industrial Highway (LVIH) - Involved in the construction inspection and coordinated the environmental monitoring of wetland impacts for the construction phase of this project.

S.R. 6015-D51 Wetland Monitoring Plan/Stream Sampling - Completed conceptual wetland designs that were approved by Federal and State agencies. Prepared the Final Plans, Specifications, and Estimates for the six wetland replacement sites. A Wetland Monitoring Plan was completed and approved by the ACOE. Construction monitoring has been completed and post-construction monitoring events are presently taking place.

SR 6036-001 Loysburg Bypass Environmental Monitoring - Performing environmental monitoring during construction activities.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
BUREAU OF FORESTRY

WILD PLANT MANAGEMENT PERMIT APPLICATION

I hereby apply for a Pennsylvania Wild Plant Management Permit to remove, collect or transplant wild plants classified as Pa Endangered or Pa. Threatened as listed within 17 Pa. Code Chapter 45, "The Conservation of Pennsylvania Native Wild Plants." Enclosed is a check for \$5.00, payable to the "Commonwealth of Pa." for the Wild Plant Management Permit.

Name of applicant: Karen M. Johnston
Address: c/o Skelly and Loy, Inc.
449 Eisenhower Blvd., Suite 300
Harrisburg, PA 17111

Telephone No. 717-444-3691
(Home)
Telephone No. 717-232-0593
(Work)

Scientific name(s) of plant species to be affected:

Also, please see attached PNDI letters for five known projects for the 2010 field season as of this date. Most current letters attached. I may also do other surveys depending on the results of future PNHP-PNDI coordination that has not occurred at the time of permit application.

1. R.J Corman/Beech Creek follow up surveys: Sparganium androcladum (needs species identification on railroad reconstruction alternative, plus all 6 species on 2000 section not surveyed to date and includes: Sparganium androcladum, Prunus allegheniensis, Polygonum careyi, Stellaria borealis, Gualtheria hispidula, and Lonicera villosa).
2. CSVT north end surveys: new species for 2010 include: Dodecatheon meadia, Ludwigia polycarpa, Carex bullata, Juncus scirpoides, Schoenoplectus fluviatilis, and Rotala ramosior; plus past species re-survey including: Lupinus perrenis, Dodecatheon amethystinum, Alisma plantago-aquatica var. americana, Populus balsamifera, Hemicarpha micrantha, Monarda punctata, Eupatorium rotundifolium, Salix petiolaris, Ranunculus trichophyllus, and Corydalis aurea.
3. Indian Run Dam Rehabilitation re-survey: Juncus debilis.
4. Bridge Repair of Little Manatawny Creek: Carex typhina.
5. I-283 Improvements/Interchange project. Ruellia strepens, Ellisia nyctelea, Rudbeckia fulgida, and Rubus cuneifolius.

Description of proposed activity: The first project is the R.J. Corman Railroad project in Clearfield and Centre Counties and is a proposed railroad branch line construction and operation, some of which is re-establishing an out of service existing line (see PNDI No. 19648 letter dated June 6, 2008 and attached location map).

The second project is the Central Susquehanna Valley Thruway (CSVt) project, Route 15, Section 088 in Snyder, Union and Northumberland Counties and is a highway improvement project, including a new bridge over the Susquehanna River (most current letter is PNDI No. 020249 letter dated December 29, 2009). At this time no field surveys have been completed for these new species so do not know potential impacts. I will also re-survey for the ten other plants we have surveyed for since the start of the project in 1995.

The third project is a follow-up survey for the Indian Run Dam rehabilitation project in Schuylkill County. I had conducted a fall survey but it was too late to positively identify the rushes found, so will re-visit the site this summer to re-survey the wetlands (see attached PDI No. 20090729203832).

Project four is a bridge repair over the Little Manatawny Creek in Berks County (see PNDI No. 20100107223148).

The fifth known project is I-283 improvements project in Dauphin County (see PNDI No. 020628).

Also, I will conduct plant surveys for any other projects that PNDI coordination requests a survey be completed. I mainly work in central and eastern PA but at times to go to the western part of the state to help Jason Harkcom on his projects as needed.

Location(s) of the proposed activity (include an outline of the affected areas drawn on a USGS topographic map or copy. If a copy, include map name on copy).

The proposed study areas for each project are shown on the maps with the attached letters, but impacts are not known at this time.

1. R.J. Corman (PNDI No. 19648, 020163, and 20406) quads are: Karthaus, Snowshoe, Black Moshannon, Phillipsburg, Wallacetown, and Frenchville, PA.
2. CSVT Highway Improvement Project – Section 2 (PNDI Nos. 5032, 12241, 013978, 13343, 13978, and 020249) quads are: Northumberland and Sunbury, PA.
3. Indian Run Dam Rehabilitation (PNDI No. 20090729203832) quad is Pottsville, PA.
4. Bridge over Little Matawany Creek (PNDI No. 20100107223148) quad is Fleetwood, PA.
5. I-283 Improvement/Interchange Project (PNDI No. 020638) quads are Steelton and Middletown, PA.

Applicant's botanical knowledge, experience and credentials: (List training, degrees, certificates, publications, other pertinent information). The Department reserves the right to obtain copies of the applicant's credentials.

I have worked as a botanist for over 23 years and have confirmed approximately 2 ½ dozen species sites to date and have looked for a variety of species on about 160 different projects. I have surveyed for various upland and aquatic grass, sedge, rush, fern, wildflower, vine, shrub, and tree species. My degree is a BSED (Shippensburg University, 1985) and I have attended several plant ID courses.

Name of landowner(s):

R.J. Corman Railroad Co.
Address: P.O. Box 751, Clearfield, PA 16830
Telephone Number (Work): 814-768-7555

PennDOT District 3-0
P.O. Box 218, Montoursville, PA 17754
570-368-4390

Schuylkill County Municipal Authority
c/o project engineers: Alfred Benesch & Company
Address: 400 One Norwegian Plaza
P.O. Box 1090, Pottsville, PA 17901
Telephone Number (work): 570-622-4055

PennDOT District 5-0
1002 Hamilton Street, Allentown, PA 18101
610-871-4100

PennDOT District 8-0
Address: 2140 Herr Street, Harrisburg, PA 17103
Telephone Number (work): 717-787-6653

(Verbal consent of the landowner must be obtained prior to conducting permitted activities)

We have been hired by the property owners to do these studies.

Previous Wild Plant Management Permit Numbers

09-001 (20 February 2009) 08-? – (can't find 2008 permit #) 07-033 (15 Aug. 2007)
06-020 (7 July 2006) 05-030 (17 June 2005) 04-033 (16 July 2004)
03-19 (8 May 2003)

Have you ever had a Wild Plant Management Permit revoked? No

If yes, list permit numbers and explain _____

Additional information pertinent to the proposed activity:

The ROW is owned by PennDOT on the three PennDOT projects so access is not an issue. The R.J. Corman Co. (Beech Creek RR) owns all the project work area or has property approval to enter for study purposes for the Beech Creek RR project except for about a 2000 section near Phillipsburg that to date the property owner has denied us access. We hope to be able to go on this property this season.

Attach additional sheets if necessary to complete any item and identify the item. Include your name and permit application date on the top of each page.

All information contained in this application is true and correct to the best of my knowledge, information, and belief.

Applicant's Signature

April 5, 2010
Date

Please mail this application to:

Bureau of Forestry
FAS
P.O. Box 8552
Harrisburg, PA 17105-8552

Commonwealth of Pennsylvania
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
BUREAU OF FORESTRY

WILD PLANT MANAGEMENT PERMITDate 10 May 2010No. 010-34

This permit is issued to Karen Johnston for collection of Pennsylvania Endangered and Threatened plant species for voucher specimens in Pennsylvania

(List species and locations)

The permittee must carry this permit during the removal, collection, or transplanting of Pa. Endangered and Pa. Threatened plant species and will present this permit for inspection upon request. The permittee must also comply with Chapter 45 section 47 and 48 relating to report information.

Permit conditions: Vouchers are to be deposited in an accredited institution. Notify land managers before conducting permitted activities. Permittee shall report results to the Bureau of Forestry central office. Land owner permission must be acquired before conducting work.

Chris K. Lustony

Signature

Plant Program Manager

Title

10 May 2010

Date

This permit will expire 10 May 2011

NONTRANSFERRABLE

This permit may be revoked for good cause.