













Big Elk Creek NHA

PNHP Significance Rank: *Regional*

Site Description

Big Elk Creek NHA is a large site nearly 2000 acres in size that is made up of White Clay Creek Preserve and surrounding habitat located on the Maryland border. Much of the area within the NHA and surrounding habitat is managed as pasture and agricultural fields. Mowed meadows are found on many of the slopes and upland areas with a narrow band of wooded riparian habitat found along Big Elk Creek and other small tributaries. The wooded habitat is dominated by tulip poplar and red oak. The early successional habitat in the fields and along roadsides supports a number of species of concern. Several species of concern have been documented in the wooded riparian habitat. **Three sensitive species of concern** are found at this site which are not named at the request of the jurisdictional agencies overseeing their protection.

Species or natural communities of concern that can be found in this NHA include the following:

Species or Natural Community Name	PNHP Rank ¹		PA Legal Status ¹	Last Seen	Quality ²
	Global	State			
Elliott's Beardgrass (<i>Andropogon gyrans</i>)	 G5	S3	N (PR)	10/11/2012	B
Puttyroot (<i>Aplectrum hyemale</i>)	 G5	S3	PR (PR)	11/12/2012	B
Fringe-tree (<i>Chionanthus virginicus</i>)	 G5	S3	N (PT)	8/15/1999	BC
Maryland Golden-aster (<i>Chrysopsis mariana</i>)	 G5	S1	PT (PE)	9/18/2012	C
Horrible Thistle (<i>Cirsium horridulum</i>)	 G5	S1	PE (PE)	6/2/2002	D
Vase-vine Leather-flower (<i>Clematis viorna</i>)	 G5	S1	PE (PE)	6/23/2002	BC
Heller's Witchgrass (<i>Dichanthelium oligosanthes</i>)	 G5	S3	N (PT)	6/9/2007	BC
Panic-grass (<i>Dichanthelium polyanthes</i>)	 G5	S4	N (SP)	7/27/2002	BC
Velvety Panic-grass (<i>Dichanthelium scoparium</i>)	 G5	S1	PE (PE)	9/18/2012	AB
Downy Lobelia (<i>Lobelia puberula</i>)	 G5	S1	PE (PE)	9/11/2012	C
Lion's-foot (<i>Prenanthes serpentaria</i>)	 G5	S3	N (PT)	2002-04	BC
Long-stalked Crowfoot (<i>Ranunculus hederaceus</i>)	 G5	S1	PX (PE)	5/27/2007	C
Sensitive species of concern A ³	S ---	---	---	11/12/2012	D
Sensitive species of concern B ³	S ---	---	---	2007	BC
Sensitive species of concern C	S ---	---	---	8/12/1992	E

¹See the PNHP website (<http://www.naturalheritage.state.pa.us/RankStatusDef.aspx>) for an explanation of PNHP ranks and legal status. A legal status in parentheses is a status change recommended by the Pennsylvania Biological Survey.

²See NatureServe website (<http://www.natureserve.org/explorer/eorankguide.htm>) for an explanation of quality ranks.

³This species is not named by request of the jurisdictional agency responsible for its protection.

Downy lobelia, Elliot's beardgrass, Heller's witchgrass, horrible thistle, Maryland golden aster, vase-vine leather-flower, and velvety panic-grass are all species of concern found in early successional habitats in fields and roadsides. Most of the species are found in southern Pennsylvania, and the majority of those are only found in the southeastern portion of the state. A number of these are classified as endangered in the state. They rely on management to maintain open habitat conditions necessary for their persistence. Succession and development of the habitat threatens the populations of these species.

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The wooded habitat and bordering shrubby edges support populations of **fringe-tree**, **lion's foot**, and **puttyroot**. These three plant species of concern are also found in the southern portion of Pennsylvania. Invasive species, habitat loss and deer browse are major threats to these species.

Threats and Stresses

The majority of this NHA is made up of early successional habitats that require maintenance to persist. Establishment of woody species can shade early successional habitat, but excessive mowing may also have a negative impact on native species. Further development of the area will destroy existing habitats. The browsing pressure from the high deer population in this area will impact the native species composition.



Denise Watts, PNHP

Maryland golden aster (*Chrysopsis mariana*)

Specific threats and stresses to the elements present at this site include the following:

- Invasive species are present in many areas of this site and may displace native vegetation, including species of concern.
- Over-browsing by white-tailed deer impacts all of the native vegetation and structure of the habitat.
- Herbicide and fertilizer use in lawns, fields, and along roads within the NHA and in surrounding areas may wash into the site and degrade the habitat conditions.
- Succession of the open grassy areas may cause the field habitat to become overgrown and shaded by woody species.
- Further development of the habitat within the NHA will likely eliminate some populations of species of concern from this area.

Conservation Recommendations

A large portion of this NHA is part of White Clay Creek Preserve, which will allow the habitat conditions that are currently present to persist. Current management within the preserve and surrounding habitats appears to be done in a way that supports species of concern and other native species and should be continued outside of the growing season. A significant reduction in the deer population should help to reduce over browsing that is found throughout much of the site. Avoid additional development of natural habitats and protect the riparian habitat from logging and other fragmentation.

The following steps are recommended to ensure the persistence of these species at this site:

- Attempt to control the introduction and spread of invasive species. Remove invasives when possible, especially species that have not yet established a stronghold, which will be easier and more effective than targeting established populations.
- Several species require open habitat that needs to be maintained. The needs of these species should be considered when planning the timing and frequency of maintenance.
- Protect the existing forested areas from logging and other large scale disturbance. Keep the forest as intact as possible to protect the habitat and species within it.
- Limit herbicide use to situations where it is necessary, such as to control invasive species.

- Reduce deer density, then monitor and maintain it at a level that is able to be supported by the landscape.
- Avoid building additional houses or infrastructure within the NHA in order to prevent fragmentation of the habitat and loss of species of concern.

Location

Municipalities: *Franklin Township, Elk Township, London Britain Township, New London Township*

USGS quads: *Newark West, Bay View*

Previous CNHI reference: *Thistle Hill, Lewisville Roadbank Site, Lewisville North*

Associated NHAs: *None*

Overlapping Protected Lands: *Natural Lands Trust Property, Brandywine Conservancy Easement, White Clay Creek Preserve*

