APPENDIX E: ECOLOGICAL ASSESSMENT OF THE PFRENGLE PROPERTY

ecological field report

Project:	Chili Parks and Recreation	**edr Project No:**	12095
Date:	May 7, 2013		
Persons Present:	Michael Martin		

On May 1, 2013, **edr** Companies (**edr**) environmental analyst, Michael Martin, visited a town-owned parcel known as the Pfrengle Property (Site) in the Town of Chili, Monroe County, on behalf of the Town of Chili (Client). The purpose of the Site visit was to become familiar with the approximately 101-acre property, to identify the dominant ecological communities and habitats present, provide a preliminary wetland assessment, and offer suggestions for ecological enhancement opportunities where feasible. Although the timing of the Site visit was not optimal for observing the full range of plant and wildlife species present, important characteristics of the Site were documented and assessed.

The Site is located east of Chili-Scottsville Road and south of Black Creek amongst a mix of agricultural, undeveloped, and residential land (Figure 1). The Site consists of a mix of upland and wetland ecological communities on a gently-rolling to generally flat terrain. Vegetative communities in the Site include forested wetlands, emergent wetlands, old fields, northern deciduous forest, and coniferous forest (Figure 2). Black Creek flows east along the northern boundary of the Site. Mill Creek flows east through the southern half of the Site and drains to Black Creek at the eastern portion of the Site. Man-made structures observed on the Site were limited to a stone bridge and numerous hunting stands.

Inventory of Existing Cover Types

Forested Wetlands

Forested wetlands encompass the majority of the Site. In the southern half of the site, forested wetlands are associated with Mill Creek. The flow of the creek appears to be restricted by the stone bridge used to cross the creek from Chili-Scottsville Road. Mill Creek drains to Black Creek just east of this bridge. An intermittent channel, which appears man-made, also drains from this wetland through the center of the Site and on to Black Creek. As a result, this wetland would most likely be regulated as a federally jurisdictional wetland by the U.S. Army Corps of Engineers (Corps) under Section 404 of the Clean Water Act. In addition, National Wetland Inventory (NWI) mapping classifies this wetland as palustrine, forested, broad-leaved deciduous, and seasonally flooded (PFO1C). This wetland is also identified in the New York State Department of Environmental Conservation (NYSDEC) wetland mapping database as State protected wetland CI-9 and therefore would be regulated by the NYSDEC under Article 24 of the New York State Environmental Conservation Law (ECL).

Forested wetlands in the northern half of the Site appear to result from periodic flooding of Black Creek. Numerous vernal pools of various sizes and depths are dispersed throughout this area. NWI mapping classifies this wetland as palustrine, forested, broad-leaved deciduous, and temporarily flooded (PFO1A). This wetland is not mapped in the NYSDEC wetland database. This wetland is not likely to be considered jurisdictional by the NYSDEC but would

probably be classified as federally jurisdictional. Final jurisdictional determinations of on-Site wetlands would be made by regulating agencies after a formal wetland delineation has been completed.

Overstory trees in the forested wetlands include:

- eastern cottonwood (*Populus deltoids*)
- red maple (*Acer rubrum*)
- burr oak (*Quercus macrocarpa*)
- green ash (*Fraxinus pennsylvanica*)
- silver maple (*Acer saccharinum*)
- Norway maple (*Acer platanoides*)
- American elm (*Ulmus Americana*)
- swamp white oak (*Quercus bicolor*)

The understory and shrub layer is dominated the following species:

- saplings of the overstory species
- box elder (*Acer negundo*)
- honeysuckle (*Lonicera sp*.)
- multiflora rose (*Rosa multiflora*)
- blackberry (*Rubus sp*.)

The herbaceous layer was sparse at the time of the Site visit. Observed species included garlic mustard (*Alliaria petiolata*), sensitive fern (*Onoclea sensibilis*) , jewelweed (*Impatiens capensis*), and poison ivy (*Toxicodendron radicans*).

Emergent Wetlands

Two emergent wetlands were identified within the Site. The first is located in the southeast quadrant of the Site parallel to Chili-Scottsville Road. This wetland is associated with the large, forested wetland surrounding Mill Creek. NWI mapping and NYSDEC mapping do not differentiate this wetland from the forested wetland described above. NWI mapping does classify a small part of this area as palustrine, unconsolidated bottom, permanently flooded, and excavated (PUBHx). The herbaceous layer in these wetlands consists of the following species:

- common reed (*Phragmites australis*)
- broad-leaf cattail (*Typha latifolia*)
- spotted jewelweed
- sensitive fern
- reed canary grass (*Phalaris arundinacea*)
- manna grass (*Glyceria sp.*)
- milkweed (*Asclepias sp*.)
- poison ivy

The second emergent wetland occurs in the central portion of the Site where a small pond drains through a culvert underneath the walking trail. At the time of the Site visit, broad-leaf cattail and unidentifiable new growth were observed in this area. The previous season's remnants of wetland grasses and sedges were also noted. NWI mapping does not differentiate this area from PFO1A and the area is not mapped as an NYSDEC wetland.

Old Fields

A large proportion of the Site consists of two old fields that are periodically mowed. At the time of this Site visit, the majority of these fields consisted of various grasses and forbs. The smaller field also had daffodils scattered throughout.

Northern Deciduous Forest

The northern deciduous forest community encompasses small, narrow areas along Chili-Scottsville Road, along the northern edge of the trail from Chili-Scottsville Road to the central portion of the site, and along the northern edge of the larger old field. The overstory of the northern deciduous forest community consists primarily of the following species:

- eastern cottonwood
- Norway maple
- black cherry (*Prunus serotina*)
- red maple
- red oak (*Quercus rubra*)
- sycamore (*Platanus occidentalis*)
- American beech (*Fagus grandifolia*)
- common hackberry (*Celtis occidentalis*)

The understory and shrub layers are comprised primarily of:

- saplings of overstory species
- honeysuckle
- hawthorn (*Crataegus sp.*)
- blackberry

The herbaceous layer likely includes common species such as wood fern (*Dryopteris sp.*), goldenrods (*Solidago spp.*), and asters (*Aster spp.*) that were not observed at the time of the Site visit. Observed species included white trout-lily (*Erythronium albidum*), cut-leaved toothwart (*Cardamine concatenata*), may-apple (*Podophyllum peltatum*), and garlic mustard.

Coniferous Forest

A very small area of coniferous forest lies adjacent to Chili-Scottsville Road at the southern end of the Site. The overstory in this area consists primarily of Norway Spruce (*Picea abies*), black cherry, and Norway maple. The understory and shrub layer consists of sapling of overstory species and blackberry. The herbaceous layer was sparse at the time of the Site visit but likely includes various aster and goldenrod species.

Invasive Species

Invasive plant species are problematic in certain areas of the Site. Invasive species such as common reed and reed canary grass are beginning to concentrate heavily in emergent wetlands. The extent of infestation could be more accurately determined later in the growing season. Garlic mustard and honeysuckle are prevalent in forested wetlands in the northern portion of the Site and Norway maple is found throughout much of the area.

Rare, Threatened, and Endangered Species

According to the NYSDEC online database, rare plant and/or animal species have been documented in the vicinity of the Site. No rare, threatened, or endangered (RTE) species were observed; however, it is important to note the limited amount of time available for this Site visit. Before initiation of any Site development activities, correspondence

with the NY Natural Heritage Program (NHP) is recommended to determine which RTE species have to potential to occur within the Site.

Habitat Assessment

As previously described, the Site is comprised of a variety of ecological community types. The value of these communities to various wildlife species is summarized below.

Northern Deciduous Forest and Forested Wetland Habitats:

Large areas of contiguous woodland provide habitat for forest wildlife species such as wood thrush, veery, eastern wood pewee, red-eyed vireo, black-and-white-warbler, black-capped chickadee, great crested flycatcher, and pileated woodpecker. Forested wetlands provide habitat for waterfowl, including Canada goose, great blue heron and wood duck. Common mammals that utilize forest habitat include gray squirrel, eastern chipmunk, and white-tailed deer. The larger forested wetland complex also has the potential to provide summer roosting habitat for several species of bats. Forests and forest edges also provide important foraging habitat for resident and migrant bat species. The vernal pools found in the northern forested wetland likely provide important breeding areas for frogs, toads, turtles, and salamanders. Animal species documented within forested habitats during the Site visit include:

- American toad (*Bufo americanus*)
- gray treefrog (*Hyla versicolor*)
- Canada goose (*Branta canadensis*)
- northern cardinal (*Cardinalis cardinalis*)
- northern flicker (*Colaptes auratus*)
- pileated woodpecker (Dryocopus pileatus)
- red-bellied woodpecker (*Melanerpes carolinus*)
- wild turkey (*Meleagris gallopavo*)
- white-tailed deer (*Odocoileus virginianus*)

Old Field

These grass/forb dominated areas are relatively short-lived. If not maintained, these areas succeed to a shrubland, woodland, or forest community. In the interim, old field communities provide good nesting and foraging habitat in the form of seeds and foliage for songbirds such as the field sparrow, finches, black-capped chickadee, and eastern bluebird. Old fields also provide preferred nesting and foraging habitat for open country and grassland bird species such as bobolink, red-winged blackbird, horned lark, eastern meadowlark, northern harrier, and savannah sparrow. Birds of prey, such as northern harrier, also use open fields as hunting areas.

Non-resident animals often visit old-field communities either at certain times of the day, or in certain seasons when food in other habitats is scarce. Old field communities experience prolonged sun exposure during much of the day, resulting in the loss of snow cover before other communities. Grasses may begin to initiate growth here long before food sources become available in other communities. Therefore, browsing species, such as the white-tailed deer are

frequent visitors in such areas, as are other mammals such as red fox and Eastern coyote out hunting for a meal of field mice or moles.

Emergent Wetland Habitat and Open Water

These community types provides excellent habitat for amphibians, fishes, aquatic invertebrates, waterfowl and other waterbirds. The emergent wetlands within the site likely provide foraging habitat for aerial insectivores such as songbirds and bats. Wildlife species expected to use these areas include great blue heron, mallard duck, green frog, spring peeper, and American toad. Areas of more open water likely support various fishes and turtles. During the Site visit, the following species were documented in emergent wetlands and open water:

- Canada goose
- mallard duck (*Anas platyrhynchos*)
- green frog (*Rana clamitans*)
- snapping turtle (*Chelydra serpentina*)
- largemouth bass (*Micropterus salmoides*)
- common carp (*Cyprinus carpio*)

Enhancement and Restoration Opportunities

Overall, the Site provides a significant amount of wetland habitats along a vital riparian corridor. However, there are some opportunities for ecological/habitat enhancement and restoration as described below.

Non-Native Invasive Species Control

As mentioned previously, non-native invasive species are present on the Site. New and more aggressive non-native invasive species are migrating into New York State. As a proactive measure to safeguard the Site and its natural resources, it is highly recommended that an Invasive Species Control Plan be developed and implemented while developing the Site. Specifically, trailside areas could benefit from a vegetative management plan to help prevent the spread of invasive species throughout the Site as usage increases. As part of an Invasive Species Control Plan, a monitoring program would help to closely document the status and prevent the spread of invasive species that have not yet become a nuisance. Examples of some of the items to be included in an Invasive Species Control Plan include:

- Control methods for invasive species, which may include cutting or pulling by hand, selective herbicide application, and biological controls.
- All herbicides should be applied by state certified applicators in accordance with label restrictions. These chemicals should not be used in any areas with documented rare plants.
- In general, do not mow areas with invasive plant infestations as this method fails to remove the roots/rhizomes and can serve to spread seeds.
- Concentrate initial control efforts on areas with light infestations or where invasive species are just becoming established as such areas are easiest to control.

- Do not spread soil or compost within the Site that may be contaminated with the roots, rhizomes or seeds of invasive plant species.
- When selecting any new plant material, give preference to shrubs that provide food and cover for wildlife. Planting food and cover producing shrubs (especially under existing stands of mature trees) will enhance the habitat value of the Site for a variety of wildlife species, especially songbirds. However, only native species of plants should be used.
- Encourage *structural diversity*. Plantings should provide a multi-layered effect, as this is attractive to songbirds for cover, feeding and nesting.
- Encourage *botanical diversity*. Consider planting more native vines, shrubs and mast producing trees (e.g., oak or beech).

Wildlife Habitat Management

Old Field Management: Effective management of the old field habitat found within the Site is needed because many species that depend on this habitat are experiencing population declines throughout New York. These declines may be caused by a number of factors, but changes in land use and vegetation succeeding toward mature forest has resulted in less available habitat for these species. For example, the loggerhead shrike was historically a fairly common breeder throughout western New York. Today the species is listed as endangered in the state with no nests located in recent years. Sightings are occasionally reported in Monroe County. One hypothesis for the decline is the loss of hawthorn-lined fields and pastures, such as those found in and around the Site.

Old field habitats require ongoing, active management. If these habitats are not mowed, brush hogged, burned, cut, grazed or disturbed in some way, they will eventually revert to forest. A management plan for the old field habitat should be developed with consideration of the following guidelines:

- Management should increase plant diversity and structure (i.e., vegetation heights).
- Each area should be mowed or otherwise disturbed every 2-5 years depending on vegetation growth and desired habitat characteristics.
- Areas may be mowed on a rotation or in random patterns, but mowing should leave some areas undisturbed each year.
- Mowing and/or tree cutting should occur outside the primary nesting season.
- Minimum mower height should be 4-6 inches.
- Monitor and remove trees as they grow. Trees and shrubs that are cut may be used to create brushpiles, which are valuable cover for many wildlife species.
- Invasive species are often quick to overtake disturbed areas and the Site should be monitored as management progresses. Control methods are most effective if used before invasive species become well established.

White-tailed Deer: During the site visit, evidence of white-tailed deer use was observed throughout the Site. It is recommended that an assessment of the Site's deer population be conducted. Overall deer population and health of the herd can be based on visual inspection of deer herds, evidence of overbrowsing, deer-vehicle collisions, complaints of landscape damage by neighbors, etc. If overpopulation is indicated, coordination with the NYSDEC to develop an approach to population control/vegetation protection is recommended.

Forested Wetland Protection: The forested wetlands found on the Site are a vital natural resource within the Black Creek and Mill Creek riparian corridors. Development of the Site should incorporate the perpetual protection of this resource into any site plan developed.

Copies To: Tom Robinson, **edr**

This field report was prepared by Michael Martin of **edr**.