



# Kratzer Farm

## *Natural Areas Stewardship Report*

APRIL 2010

Lower Macungie Township, Lehigh County  
~86 acres



**Barn and agricultural field at Kratzer Farm**



Kratzer Farm  
 Municipal Boundaries  
 Parcel Boundaries

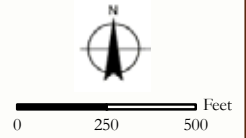
1. 2005 Aerial Photography received from PA DCNR, PAMAP Program ([www.pasda.psu.edu](http://www.pasda.psu.edu)).  
 2. Parcel boundaries, roads, ponds, and streams received from Lehigh County.

Disclaimer: This map is not a survey. The information imparted with this map is meant to assist Natural Lands Trust, Inc., describe the placement of certain retained, reserved, or excluded rights and to calculate acreage figures. Property boundaries, while approximate, were established using the best available information, which may have included: surveys, tax maps, field mapping using G.P.S., and/or orthophotos. Natural Lands Trust, Inc., makes no representation as to the accuracy of said property lines (or any other lines), and no liability is assumed by reason of reliance thereon. Use of this map for other than its intended purpose requires the written consent of Natural Lands Trust, Inc.



**Natural Lands Trust**  
 1031 Palmers Mill Road, Media, PA 19063  
 610-353-5587 ~ [www.natlands.org](http://www.natlands.org)

***Plant Communities***  
**KRATZER FARM**  
 +/- 86 Acres  
 Lower Macungie Township, Lehigh County, Pennsylvania



0 250 500 Feet  
 Compiled By: MTM 07/13/10

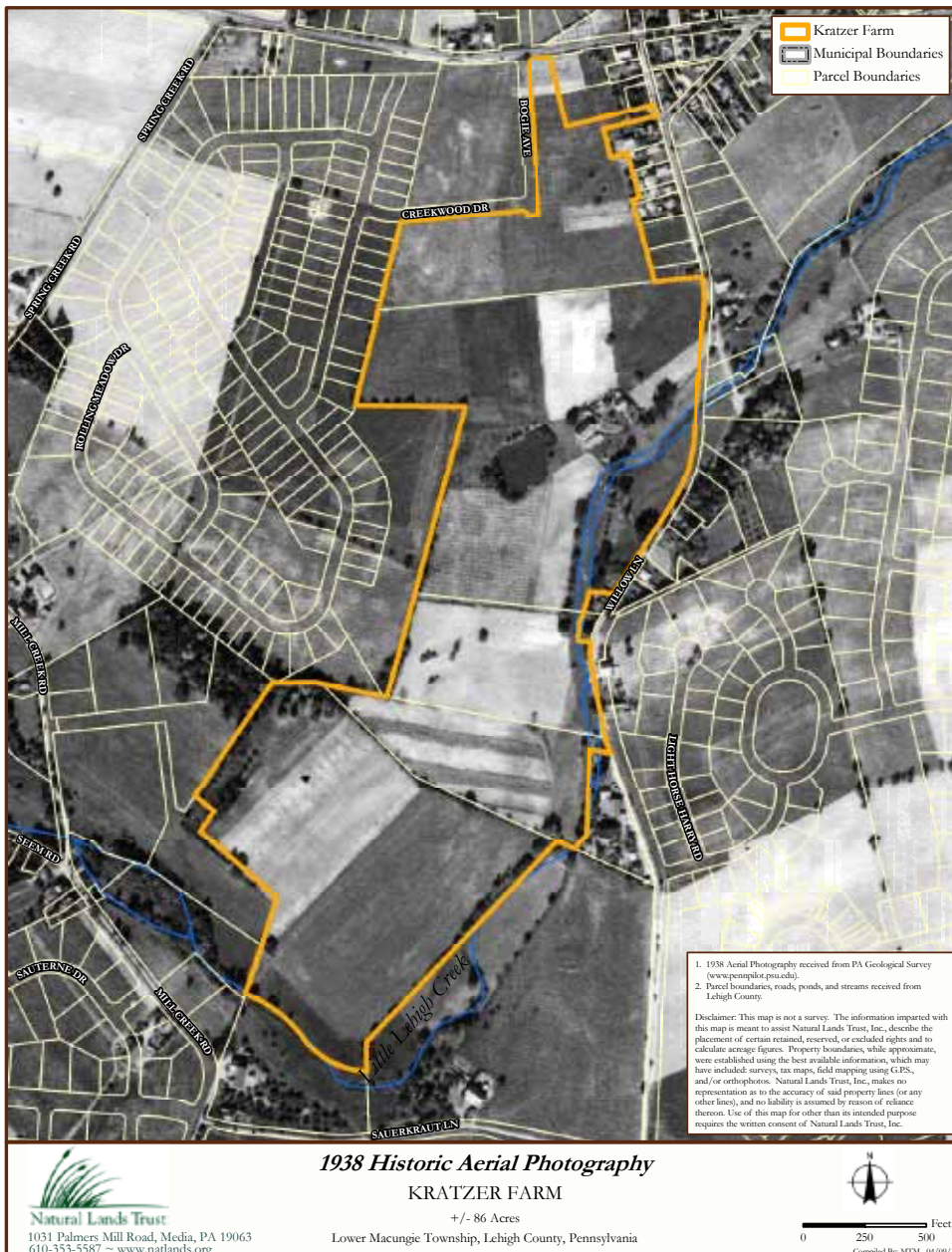
## General Description of Natural Areas

Kratzer Farm is located in Lower Macungie Township on Willow Lane north of Sauerkraut Lane. The property extends north to Lower Macungie Road and shares its western boundary with the Rolling Meadow subdivision (see **Plant Communities map** showing property boundaries, page 2). David Steckel and Andrea Stevens of Natural Lands Trust conducted a field inspection of the approximately 86-acre parcel on April 20, 2010 and were accompanied by Sara

Pandl, Planning/Community Development Director, Lower Macungie Township, Lee Lichtenwalner, Director of Special Projects, Lower Macungie Township, Julie McDonnell, Secretary of the Lower Macungie Parks and Recreation Board, Chris Sacchi, Member of the Lower Macungie Environmental Advisory Council, Rebecca Kennedy, Watershed Specialist, Lehigh County Conservation District, and Erin Frederick, Conservation Program Specialist, Lehigh County Conservation District. Photographs

of the natural features on the site were taken during the site visit.

Lower Macungie Township has owned Kratzer Farm for about 15 years and leases much of the land for agricultural uses. The scenic rural landscape of the property is underlain by fertile limestone soils that have been farmed for decades (see **1938 Historical Aerial Photography, left**). Natural areas on the property include small terrestrial forest communities, hedgerows, a pond, and a section of the Little Lehigh Creek and associated seeps and floodplain forests along the eastern property boundary. We accessed the property along a driveway from Willow Lane leading to a house and a large barn.



### 1938 Historical Aerial Photography

KRATZER FARM

+/- 86 Acres

Lower Macungie Township, Lehigh County, Pennsylvania



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**Young mixed hardwood terrestrial forest (above and below)**



## Plant Resources

The general plant communities at Kratzer Farm are described below with invasive species indicated in **bold**. The locations of the forests and the wet meadow are shown on the plant communities map.

A young **mixed hardwood terrestrial forest** covers a portion of the northern parcel of Kratzer Farm, south of the community garden and Creekwood Drive, and also occurs in fragments in the central and southwestern parts of the property. This forest is dominated by black cherry (*Prunus serotina*), box-elder (*Acer negundo*), and crabapple (*Malus* sp.) with less frequent red maple (*Acer rubrum*) and mulberry (*Morus* sp.). Black-haw (*Viburnum prunifolium*) is one of the few native species that

occurs in the shrub layer. **Garlic mustard** (*Alliaria petiolata*) is abundant in the groundcover. Invasive shrubs and vines are numerous especially along the forest edge and include **multiflora rose** (*Rosa multiflora*), **shrub honeysuckle** (*Lonicera* sp.), **autumn-olive** (*Elaeagnus umbellata*), and the native grape vine (*Vitis* sp.). Islands of trees and shrubs closer to the community garden support tuliptree (*Liriodendron tulipifera*), black walnut (*Juglans nigra*), butternut (*Juglans cinerea*), staghorn sumac (*Rhus typhina*), **sweet cherry** (*Prunus avium*), and **wineberry** (*Rubus phoenicolasius*).

**Hedgerows** with maturing black walnut, black cherry, and invasive shrubs border agricultural fields across the property.



**Hedgerow**



**Large oak trees (in flower) in mature red oak-mixed hardwood forest**



**Pond**

A **pond** lies west of the barn and house and was formerly the site of a quarry. The pond is surrounded by a narrow buffer of young to maturing **mixed hardwood forest** with red ash (*Fraxinus pennsylvanica*), black walnut, silky dogwood (*Cornus amomum*), and occasional mayapple (*Podophyllum peltatum*) and jack-in-the-pulpit (*Arisaema triphyllum*) on the forest floor. Invasive shrubs and

vines (grape and **oriental bittersweet**, *Celastrus orbiculatus*) continue to be abundant along the forest-field edge.

A small area of mature **red oak-mixed hardwood forest** extends into the property from the west near a shared boundary with the Rolling Meadow subdivision, and west of a township composting facility. This forest appears in the **1938**



**Mayapple in mixed hardwood forest surrounding pond**



**Bladdernut in flower**



**Floodplain forest bordering Little Lehigh Creek and agricultural field**



**Large black willow along Little Lehigh Creek**



**Floodplain wetlands (above and below)**



**Wet meadow**



**Seasonal pools created in ruts**



**Tadpoles in seasonal pool habitat**

**Historical Aerial Photography** of the site, page 3. Large (~40" diameter) white oak (*Quercus alba*) and black oak (*Quercus velutina*) are canopy dominants with less frequent shagbark hickory (*Carya ovata*) and black cherry (*Prunus serotina*). Sassafras (*Sassafras albidum*) and **Norway maple** (*Acer platanoides*) occur as understory trees with spicebush (*Lindera benzoin*) and greenbrier (*Smilax* sp.) in the shrub layer. South of this mature forest in a **mixed hardwood terrestrial forest** along the property boundary, we found additional understory and shrub species including shadbush (*Amelanchier* sp.), bladdernut (*Staphylea trifolia*), and several species with horticultural affinities, including **pretty honeysuckle** (*Lonicera x bella*, a hybrid of two shrub honeysuckle species).

A mature **sycamore – box-elder floodplain forest** buffers the Little Lehigh Creek along much of the eastern boundary of Kratzer Farm. In addition to sycamore (*Platanus occidentalis*), silver maple (*Acer saccharinum*), and abundant box-elder, other tree species noted in this forest include **Norway maple**, **tree-of-heaven** (*Ailanthus altissima*), red maple, eastern cottonwood (*Populus deltoides*), butternut, and black walnut. Understory and shrub layers include **winged euonymus** (*Euonymus alatus*), **shrub honeysuckle**, **multiflora rose**, willow (likely black willow, *Salix nigra*), silky dogwood, and American elder (*Sambucus canadensis*). **Wetlands** with skunk-cabbage (*Symplocarpus foetidus*) and reed canary-grass (*Phalaris arundinacea*) are common along this floodplain.

A **wet meadow** occurs west of the Little Lehigh Creek and south of the township's access road to the composting facility. This low area is mowed and dominated by reed canary-grass and other cool-season grasses, rushes, and forbs. We noted several **seasonal pools** that have been created by vehicle/equipment ruts in this wet meadow.

Between the barn and the Little Lehigh Creek, we found a large butternut tree, measured at approximately 52" in diameter (at breast height). This specimen was likely planted near the barn and residence in the 19<sup>th</sup> century for its sweet nuts. It may be one of the largest butternuts in the state.

## Water Resources

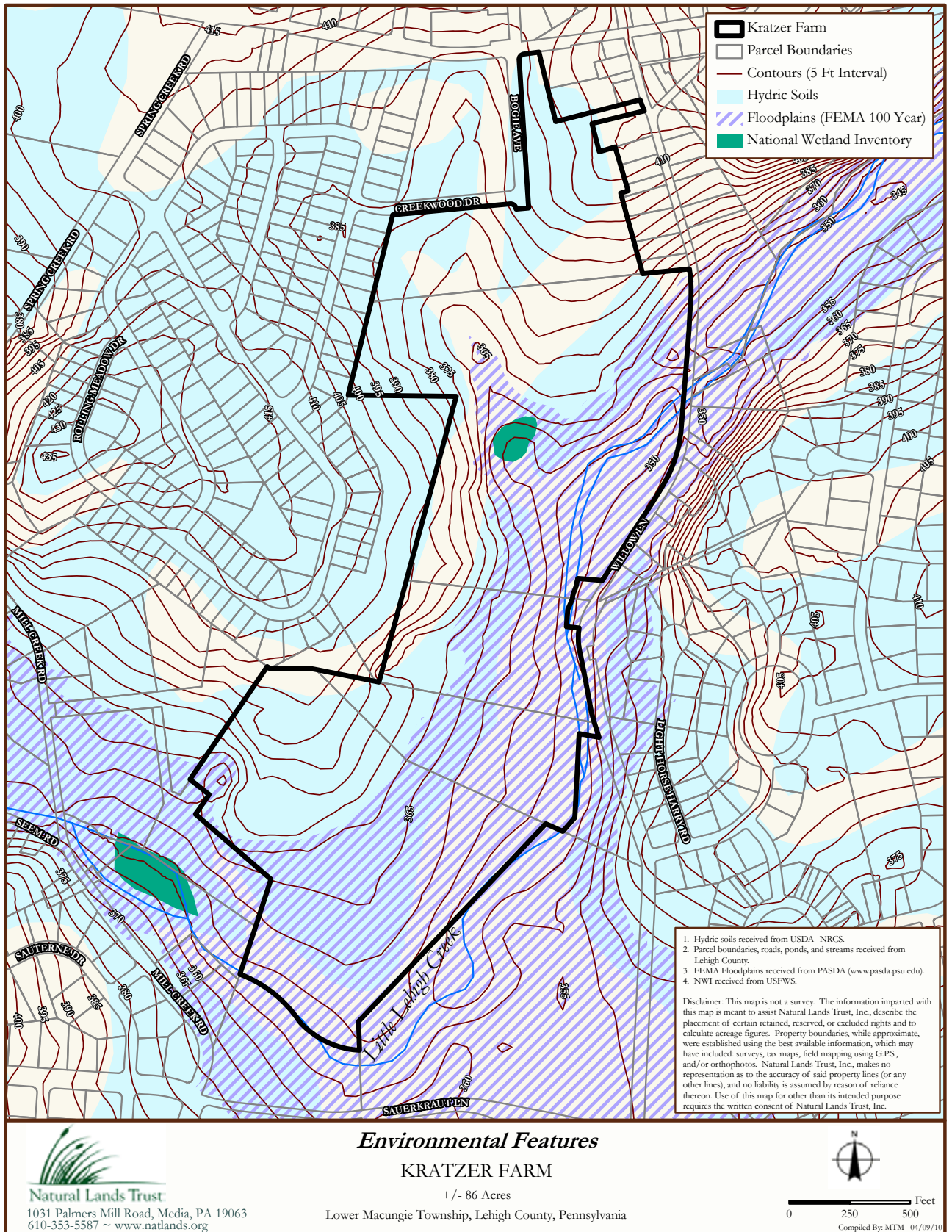
Kratzer Farm falls within the Little Lehigh Creek Watershed and is underlain by the Allentown Formation made up of primarily dolomite and limestone (secondary) bedrock. Hydric soils occur across most of the property and a wide swath of 100-year floodplain extends onto the property from the Little Lehigh Creek (see **Environmental Features map**, page 10). The Little Lehigh Creek, a tributary of



Little Lehigh Creek



Large butternut tree near barn



the Lehigh River, is designated by the Pennsylvania Department of Environmental Protection as High Quality Waters with Cold Water and Migratory Fishes. High Quality Waters are those watersheds and streams with “excellent quality waters and environmental or other features that require special water quality protection.”

Water resources and wetland habitats on Kratzer Farm include a wet meadow, floodplain forests, and associated wetlands along the Little Lehigh Creek, in addition to the pond in the central portion of the property.

### Current Use and Stewardship

Kratzer Farm was set aside largely to help preserve the agricultural land base in the township. The township currently accepts 5-year leases for the farm fields and hopes to perpetuate agricultural use in the future, including continuation of the community garden and the possibility of establishing a Community Supported Agriculture (CSA) operation. The township uses part of the property for bulk material storage and yard waste composting. Stewardship initiatives have included tree planting on the open banks of the Little Lehigh Creek and periodic mowing of riparian meadows and the utility right of way. Public use—aside from fishing—is not generally encouraged.



**Fishing is encouraged on the property**

## Stewardship Issues, Opportunities and Recommendations

The following stewardship issues and opportunities were observed during the site visit to Kratzer Farm on April 20, 2010. They are described in the context of the overall stewardship goal for the natural areas to protect and enhance plant communities to support resident and migratory wildlife. We have provided a summary of issues and opportunities for stewardship on the site that are followed by general recommendations to address the issue or fulfill the opportunity.

### *Invasive Plants*

A ubiquitous problem encountered in the stewardship of natural lands in southeastern Pennsylvania—and increasingly recognized as a threat worldwide—is the presence of invasive plant species. An invasive species is one that rapidly spreads and outcompetes multiple native species, chiefly because of the absence of predators, pathogens, and herbivores that keep it in check in its native range. Most invasive plants are particularly well adapted to colonize disturbed areas. In southeastern Pennsylvania, disturbance from human activities, particularly sprawl, coupled with the rich horticultural history of the southeastern counties, has afforded numerous invasive species the opportunity to become well established throughout the region. Even though the occasional immigration of new species into plant communities is a normal process, the current high rate of introduction—fueled by the planting of exotic (non-native) species for horticulture, wildlife management, and erosion control—is threatening the integrity of native plant communities and lowering native biodiversity. Not only do invasive plants alter the makeup of the plant communities on a site, but they also may affect soil chemistry and hydrology and are usually less beneficial to wildlife than the native plants they replace, contributing further to the loss of biodiversity.

The many forest-field edges and hedgerows on Kratzer Farm are moderately to heavily impacted by invasive plants because they provide ideal conditions—high availability of light and a

history of soil and vegetation disturbance—for the establishment and spread of these invasive species.

The invasive grape vine (a native species) is commonly seen climbing into canopy trees along the edges of forest fragments on Kratzer Farm. This vine can greatly raise a tree’s vulnerability to windthrow through the increased weight (that elevates the tree’s center of gravity) and by the vast increase in surface area. As a result, the tree becomes a collector of wind, ice, and snow. **Oriental bittersweet**, a non-native invasive vine, is also common on the property. This vine can smother canopy trees and prevent them from reaching the canopy to replace trees felled by old age, windthrow, or pathogens.



**Edges provide havens for invasive plants**



**Shrub honeysuckle**

In addition to invasive vines, other problematic invasive species on the site include **Norway maple**, occasional **tree-of-heaven** and **sweet cherry** in the forest fragments, and heavy cover of **multiflora rose**, **shrub honeysuckle** and **garlic mustard** in most gaps and forest edges.

Since the diversity of native species in a system is vital to providing suitable habitat for resident and migratory wildlife, as well as providing an enjoyable environment for community residents in the future, we suggest the following measures to control invasive plant species on Kratzer Farm. In general, it is best to address invasive plant control with a top-down (starting in the canopy and working down through understory, shrub, and groundcover layers), least-first strategy (starting in the least impacted areas). The “Invasive Vegetation Management” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008) provides guidelines for monitoring and controlling invasive plants typical of the southeastern Pennsylvania landscape.

When considering invasive plant control, it is important to keep in mind that *effective control of invasive plants, especially in the understory, shrub, and groundcover layers of the forests, will only be possible if implemented in conjunction with a deer management program* (see “Forest Regeneration” section below). It is also important to note that the extensive edge area and seed sources in the region and the prolific nature of these plants guarantee that even with complete eradication at Kratzer Farm, invasive species can quickly reestablish themselves as a serious stewardship problem if not monitored and addressed on a regular basis.

#### **RECOMMENDATIONS**

The following invasive control recommendations for Kratzer Farm are presented in general order of priority:

- 1) Cut vines in canopy trees.** All **oriental bittersweet** vines should be cut and the cut stump treated with a systemic herbicide, if possible. Because the native grape vine is beneficial for native wildlife, only cut grape vines that are climbing into the canopy of the forests

and compromising the structural integrity of native trees. Cut stumps of grape vines can be left to resprout. Care should be taken not to cut the Virginia creeper or poison ivy vines that occur in the forests and hedgerows. These are native species that benefit wildlife and rarely become large enough to compromise canopy trees.

2) **Norway maple** and **tree-of-heaven** are most effectively controlled with a basal bark application of Garlon 4 herbicide and basal oil. We recommend using a 20–30% mix of Garlon 4 in basal oil applied in a 12-inch band around the base of the trunk, avoiding runoff. Depending on the season, it may take time for this treatment to work; for example, a winter application may result in leaf out in spring, followed by defoliation. Once the trees are dead they can be cut down (if they create a potential hazard for visitors) without stimulating suckering or left as snags for wildlife habitat.

3) Improve the integrity of the forests on the property by controlling invasive shrubs, particularly the **multiflora rose** and **shrub honeysuckle**. These species can be cut to the stump and a glyphosate herbicide applied to the cut stump. Alternatively, after cutting, shrubs can be left to resprout and the young foliage treated with a glyphosate herbicide. If herbicide is not used, shrubs can be excavated and pulled out, although soil disturbance should be kept to a minimum to prevent conditions favorable for future invasions.



**Grape vines climbing into canopy trees**



**Black-haw (white flowers) among vines**



**Norway maple along a forest edge**

4) In gaps where invasive shrubs and trees have been removed, replant with native species to improve wildlife value and protect exposed slopes from erosion. Species of native trees and shrubs currently growing on the site would be most suitable for planting (e.g., oaks, red maple, red ash, butternut, black-haw, spicebush, silky dogwood near the creek). The “Native Plant Materials” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008) also provides a list of native species that are appropriate for the natural areas on the site.

5) Control **garlic mustard** on the forest floor by pulling, bagging, and removing plants from the site before seed set in the spring. This is a good activity for volunteers of all ages and should be started as soon as possible to prevent further spread.

Any volunteer or contractor used for invasive plant control should be able to distinguish native species from invasive species (e.g., **Norway maple** from sugar maple, **oriental bittersweet** from native vines). In sensitive wetland areas on the property (floodplain, pond) only herbicides approved for aquatic use (e.g., Rodeo) should be applied.



**Garlic mustard in flower on the forest floor**

### **Forest Regeneration**

Deer overabundance is a problem that affects most natural areas in our region. The habitat value of forests is greatest where there is an extensive unbroken canopy of mature trees with a diversity of native understory species that includes shrubs and herbaceous plants. Deer impact forest health by consuming seeds (particularly acorns) and browsing on seedlings, shrubs, and herbaceous plants. As population density increases, this activity can adversely affect populations of other wildlife species, especially songbirds, through a decrease in plant species and structural diversity within the forest.

Currently, deer overbrowsing is affecting the regeneration in the small forested areas at Kratzer Farm. Shrub and groundcover layers are well browsed and spicebush is becoming prominent, suggesting a more abundant deer population (deer generally avoid spicebush).

The recommended deer density to allow for adequate tree regeneration is 20 deer per forested square mile (one deer per 32 acres). However, to perpetuate a healthy native forest with a diversity of native shrubs and wildflowers, the recommended deer density is 10 deer per forested square mile (one deer per 64 acres).

### **RECOMMENDATIONS**

- If hunting is considered by the township in the future, develop a deer management plan for the property. See information about Natural Lands Trust’s deer management program and deer management opportunities in the “Wildlife Management” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008).
- If hunting is permitted, in order to avoid potential conflicts with users, post signs during the hunting season to make visitors aware of the use of the property by hunters and to take appropriate precautions. Signs should also explain why hunting is important to maintaining forest health.

### **Native Meadow Restoration**

Native meadows are characterized by a diverse structure and composition of short and tall grasses

and native wildflowers that provide feeding and nesting habitat for declining grassland birds (e.g., Eastern Meadowlark, Bobolink) and small mammals, as well as nectar sources for numerous butterflies and other insects. Native meadow species are naturally adapted to the soils and climate of our region and can, if necessary, survive on very little rain (and no irrigation). Once established, native meadows require just one mowing each year to limit encroachment by trees and shrubs. Occasional spot herbicide treatments are also necessary to manage invasive species.

There is a growing consensus that a large open landscape (hundreds of acres) with diverse cover types in patches of various sizes, including warm- and cool-season grasslands and forb-dominated meadows is the preferred habitat for grassland birds. Structural diversity—created by planting a patchwork of meadow types, each with a mix of species—produces cover for the greatest variety of grassland and meadow wildlife species. Agriculture (row crops, pasture, hay fields) without hedgerows can be a compatible economic land use within a mosaic of native grasslands and meadows intended to provide grassland bird habitat.

#### RECOMMENDATIONS

- Contact the Lehigh County Conservation District’s Agricultural Resource Conservationist (Bill McFadden, 610-391-9583 ext. 20) to develop/update a conservation plan for the agricultural fields that will provide guidance in the use of best management practices on the farm.
- Consider converting selected agricultural fields to native meadows to enhance wildlife habitat value. Fields underlain by hydric soils (see **Environmental Features map**, page 10) would be particularly suitable for conversion to native meadows because of the difficulty in operating equipment in wet areas. In areas dominated by exotic species, it is best to eliminate the existing vegetation using herbicides and replant with native meadow species suitable for soil conditions. See the “Native Plant Materials” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008) for recommended species. Meadows can be seeded with desirable

species using a no-till drill once the existing vegetation is eliminated. For more information about establishing native meadows, see the “Meadow Management” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008).

- Consider limiting mowing in the wet meadow and the power line right-of-way on the property to once each year, preferably in late winter (February or March) when the ground is frozen. Mowing at this time of year has less impact on the nesting and foraging activities of native wildlife (birds, small mammals, butterflies) and also offers more visual diversity and interest for visitors on a year-round basis. An additional mowing during the growing season may be necessary to control woody and invasive plants and encourage native warm-season grasses. Monitor newly-managed meadow(s) for several years and catalog changes in species composition. If, after that time, most of the species are native, continue to mow annually and add plugs to enhance native species composition, if desired.
- Over time, remove hedgerows between fields to provide more continuity for grassland birds that prefer uninterrupted open landscapes. Hedgerows rarely improve the habitat value of a property because they provide havens for invasive plants and predators (hawks, fox, raccoon) of grassland birds.



**Power line right of way south of Creekwood Drive that could be converted to a native meadow**



**Area with no forested riparian buffer along Little Lehigh Creek**



**Erosion from the Rolling Meadow subdivision**

### **Water Quality and Wetland Restoration**

Impacts to the riparian forests on Krazter Farm should be carefully managed to protect and enhance the associated water resources and to realize the many wildlife benefits and ecosystem services these forests provide, including:

1. Buffering adjoining land uses that may generate run-off and cause erosion;
2. Anchoring streamside soils and absorbing nutrients that contribute to water quality degradation;
3. Shading surface waters, permitting greater diversity of native aquatic species; and
4. Depositing twigs and limbs that provide structures and shelters for a variety of fishes and aquatic organisms.

There are several opportunities for enhancing water quality in the Little Lehigh Creek and improving wetland habitats on the property.

#### **RECOMMENDATIONS**

- Consider acquisition of adjacent parcels to the south that contain portions of the Little Lehigh Creek and its floodplain.
- Establish and enhance the forested riparian buffer along the entire length of the Little Lehigh. Consider increasing the width of the riparian forest habitat (at least 75 feet on each side of the creek is the recommended width) into the adjacent open habitats to enhance the benefits of these vegetated buffers. Recommendations for native plant species that would be suitable closer to the creek and in an expanded buffer are included in the “Native Plant Materials” section of the *Natural Lands Trust Stewardship Handbook for Natural Lands in Southeastern Pennsylvania (2008)*.
- A second option for improving the riparian buffer along the Little Lehigh—particularly those forested areas bordered by farm fields—is to convert a swath of the farm field to a native meadow. Tall meadows provide many of the environmental benefits of forests and are more effective than forests in slowing surface stormwater

flows from farm fields. If the township decides to encourage passive use of the property, a trail could easily be established within this meadow swath.

- Equipment access for a recent tree planting has caused soil disturbance and active erosion on the slope between the material storage area and open space in the Rolling Meadows subdivision. This area should be stabilized to prevent future runoff from the subdivision open space. Contact the Lehigh County Conservation District for guidance. A low berm above the slope may be one option. If the slope will not be needed for future vehicle access, it could be planted with native shrubs and trees to expand the adjacent woodlands. Species occurring in the nearby red oak-mixed hardwood forest would be most suitable for planting, as well as those listed in the “Native Plant Materials” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008).
- The silt fence for the soil pile within the material storage area is in need of repair. It should be reinstalled according to Lehigh County Conservation District standards.
- If the depth of the pond is not excessive, consider converting all or part of the pond to a shallow wetland basin with varied topography to enhance native wildlife habitat. See attached Natural Lands Trust publication *Land Stewardship Case Study: Shallow Wetland Basin—Converting a Farm Pond* for more information about how a wetland basin can be excavated with pits and mounds to enrich wetland wildlife diversity. Contact the Lehigh County Conservation District’s Watershed Program (Rebecca Kennedy, 610-391-9583, ext. 18) about specifications (design and engineering) and permitting requirements for this conversion. Contact the Department of Environmental Protection’s (DEP) Wetland Replacement Program (Shelby Reisinger, Bureau of Watershed Management, Division of Waterways, Wetlands, and Stormwater Management, 717-783-2408) to explore funding opportunities for a pond conversion.

- Seek advice from the Lehigh County Conservation District (Rebecca Kennedy, see contact information above) regarding the rutted area of the wet meadow. Although the ruts are functioning as seasonal pool habitat for amphibians, they are unsightly and a mowing obstacle. If not too problematic (i.e., permits, administrative approvals), consider creating a shallow seasonal wetland with smooth edges for easy annual mowing. Otherwise, fill in the ruts in late August and seed with native wet meadow species (See “Native Plant Materials” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania*).

### **Wildlife Enhancement**

Additional opportunities for enhancing wildlife habitat at Kratzer Farm are listed below.

#### **RECOMMENDATIONS**

- Consider installing Bluebird nesting boxes on the edge of the agricultural fields and within the wet meadow. See attached Natural Lands Trust publication *Bluebird Nesting Boxes* for tips about placement and maintenance of these structures.
- Consider installing Kestrel boxes in open areas and along woodland edges of the property. American



**Soil pile and remnants of silt fence**

Kestrels nest in tree cavities, but in the absence of these natural niches, Kestrels readily adopt nest boxes to raise their young and reduce competition for cavities with the introduced European starling. See Pennsylvania Wildlife Fact Sheet No. 13 *Managing Habitat for American Kestrels* for more information about these boxes.

### ***Hazards, Debris, and Unwarranted Use***

Some debris and crude structures (e.g., a tree fort) from past and current activities remain on the property. Some of this residue from human activities presents an eyesore and potential hazard for future visitors, particularly “free-range” children.

Neighbors of open space parcels often view these areas as “open” for use as extensions of their property. Without regular monitoring of property lines, management creep—mowing, planting,

storing materials—can occur. Open space parcels can also become convenient areas to dispose of trash, particularly yard waste. This latter type of unwarranted use was observed on the Kratzer property during the site visit.

There is a potential for hazard trees (trees that due to structural defects could fall in part or whole on a “target” such as a road, residence, or person) developing along the property boundaries (most immediately along the boundary with the Rolling Meadows subdivision) where trees on the property are near neighboring structures, public roads, or in areas where the public may in the future pause for an extended time (parking areas, benches, etc.). As a landowner, the township is responsible for making a reasonable effort to prevent trees and branches from falling into an adjacent road right of way or property through the regular monitoring and removal of hazard trees.

### **RECOMMENDATIONS**

- Remove surface debris and unwarranted structures. This is a good project for volunteers such as boy scouts or community groups.
- Monitor high use areas (e.g., along the boundary with the Rolling Meadows subdivision and the boundary with Willow Lane) for hazard trees by foot once each year and following severe storms. Ideally, a certified arborist should be hired to complete this task and address any identified



**Tree fort and debris**



**Metal debris in forest**

hazards through pruning or removal. See the “Hazard Tree Monitoring Program” section of the Natural Lands Trust *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania (2008)* for information about procedures for hazard tree monitoring. Morris Arboretum in Philadelphia offers courses on identifying hazard trees.

- The boundaries of Kratzer Farm should be surveyed and posted to prevent encroachment issues (e.g. dumping of yard waste) by neighbors. Signs could be small (3 ¾" x 3 ¾", 0.12 gauge aluminum diamond shape signs can be purchased through Voss signs: [www.vosssigns.com](http://www.vosssigns.com)) and should indicate township ownership. Posting every 50–100 feet is adequate and particularly important where the property abuts private land.

### ***Future Public Use and Appreciation***

The Kratzer property could provide an attractive venue for public use if the township perceived such a need. There is direct access to the site from public roads and the Willow Lane subdivision. With relatively minor adjustments to the farm lease (removal of field edges from the lease) a pedestrian loop trail could be created. The township would, of course, need to determine that it has the resources to properly maintain trails and access roads before it encouraged additional public use.

One resource that should be protected regardless of the level of public use is the large butternut tree near the barn. Care should be taken to not locate any future improvements (parking area, hard surface trail) near this tree. It would also be helpful to remove competing vegetation from around its base to prevent competition for resources.

### **RECOMMENDATIONS**

- When the need and resources are identified, develop a trail plan for the property and identify trail routes and construction techniques that are compatible with the landscape and soils. Connect trails on Kratzer Farm to surrounding properties if feasible to enhance and extend visitor experiences across the landscape.
- Contact the county service forester (Tim Dugan, 610-582-9660) about nominating the butternut tree near the barn for champion tree status in Pennsylvania. Check the Champion Trees of Pennsylvania website ([http://www.pabigtrees.com/trees/species/juglans\\_butternut.htm](http://www.pabigtrees.com/trees/species/juglans_butternut.htm)) for information about the nomination process.
- Clear competing vegetation away from the base of the butternut tree. DO NOT use herbicides for this purpose as they may be translocated to the butternut through root grafts with the competing trees.



**Yard waste pile near property boundary**



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