Wilma Quinlan Nature Preserve

Natural Areas Stewardship Plan

ADDENDUM

NEW BRITAIN BOROUGH, BUCKS COUNTY
+/- 24 ACRES

Natural Lands Trust
land for life

July 2014

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ADDENDUM

This addendum to the 2007 Wilma Quinlan Nature Preserve and Miriam Groner Property Stewardship Plan (+/- 28 acres) focuses on management techniques for invasive plants on the 24-acre Wilma Quinlan Nature Preserve. The 2007 plan includes additional information that can be used as a reference, particularly a list of plant species for the Preserve.

Natural Lands Trust staff accompanied by Peter LaMontagne, Dave Horn, Tom Price, and Bob Binkley, conducted a field inspection of the property on July 3, 2014. The dominant plant species and condition of vegetation management units as related to invasive plants were assessed for changes and documented by field notes and photographs.

Current Use and Stewardship

The current stewardship priorities for the Wilma Quinlan Nature Preserve include:

1. Maintaining a safe and enjoyable environment for community residents;
2. Protecting and enhancing existing plant communities to provide wildlife habitat for resident and migratory wildlife; and
3. Protecting the water quality of the Neshaminy Creek and its tributaries that flows through the property.

Plant Resources

The general plant communities and dominant plant species in the vegetation management units have not changed since the 2007 plan, with the exception of the meadow on the Miriam Groner Property, which was replanted with native wildflowers. Many of the recommendations have been instituted on the Preserve and improvements in forest and meadow health were seen at the July 3, 2014 site visit. Only one new invasive species was observed. **Japanese knotweed** (*Fallopia japonica*) is established along the south bank of the Neshaminy Creek within Unit 4—Riparian Forest/Zone.

The report refers to the vegetation management units as delineated in the 2007 plan as follows:

Unit 1—Young Upland Woodland

A Young Upland Woodland is an area dominated by trees less than a foot in diameter. The leaf canopy varies from between 10% and 60%. They rest on well-drained dry to mesic soils.

Unit 2—Mature Upland Forest

A Mature Upland Forest is an area dominated by larger (> 20" diameter) canopy trees in which the leaf canopy is closed or nearly closed and the majority of the tree crowns are overlapping, typically with between 60% and 100% tree cover. Typically there are well-defined canopy, understory, shrub, and herbaceous layers. They lie on well-drained dry to mesic soils.

Unit 3—Upland Meadow

An Upland Meadow is an open area dominated by grass and wildflower species. They lie on well-drained dry to mesic soils.

Unit 4—Riparian Forest/Zone

A Riparian Forest is an area adjoining a body of water, normally having soils and forest vegetation characteristics of floodplains or areas transitional to upland zones.

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MANAGEMENT UNITS

Wilma Quinlan Nature Preserve
and Miriam Groner Property
New Britain Borough, Bucks County, Pennsylvania

N

0 100 200 Feet

Compiled By: DCR 05/04/06

Stewardship Issues, Opportunities, and Recommendations:

The following stewardship issues and opportunities were observed during the site visit to the Preserve on July 3, 2014.

Invasive Plants

Invasive plants remain the primary stewardship issue within the Preserve. As in 2007, they are particularly prevalent in the young upland woodland, and the riparian forest/zone. The mature upland forest and meadows are less impacted by invasive plant species. To implement the priority recommendations of the 2007 plan, the Borough hired a contractor to cut invasive vines growing on canopy trees in these management units. This has been augmented by periodic cutting by volunteers. This activity has maintained the canopy tree layer and allowed the young upland hardwood to, in most areas, mature into a forest community with greater than 60% canopy cover. The vines have re-grown and need to be cut again to protect the canopy trees. A few small gaps remain, the largest (approximately one acre) lying in the center of the unit, dominated by brambles, multiflora rose, and vines (grape, oriental bittersweet).

The only new invasive species of concern is **Japanese knotweed**, which was observed on the south bank of Neshaminy Creek. Our tour did not include the southern portion of the Preserve, so the extent of this occurrence is not known. After vine cutting, this should be the next invasive issue addressed by the Borough.

RECOMMENDATIONS:

Recommendations for invasive species control on the Wilma Quinlan Nature Preserve are listed below. Additional information is available in the "Invasive Vegetation Management" section of Natural Lands Trust's *Stewardship Handbook for Natural Lands in Southeastern Pennsylvania* (2008), which provides guidelines for monitoring and controlling invasive plants typical of the southeastern Pennsylvania landscape. Any volunteer or contractor used for invasive plant control should be able to distinguish native species from invasive species (e.g., **Norway maple** from native maples).

In general, herbicides such as Roundup and Rodeo (for aquatic use) are appropriate for the treatment on the invasive plants found on the Preserve. In sensitive wetland areas on the Preserve (the riparian zone, headwater stream, spring), only herbicides approved for aquatic use (e.g., Rodeo) should be applied. Please note that the person applying herbicides on public property must have a Pennsylvania Pesticide Applicator certification.

Young upland woodland

Invasive vines in canopy trees

Young upland forest canopy gap

Unit 1—Young Upland Woodland

1) Continue to cut vines growing on canopy trees

2) Afforest woodland gaps: mow to clear the area (be sure to retain native tree saplings) and then plant with native evergreen and deciduous tree species. Mowing should occur in late fall or winter after inspecting the areas for obstacles (rock piles, old fences, stumps) and native tree seedlings. Any seedlings should be flagged and protected from mowing. Recommended species include tuliptree (*Liriodendron tulipifera*), bitternut hickory (*Carya cordiformis*), red oak (*Quercus rubra*), eastern red-cedar (*Juniperus virginiana*), and white pine (*Pinus strobus*). The evergreens (eastern red-cedar and white pine) could be concentrated in the northern section

Tuliptree sapling in young upland woodland

of the large gap to help shade the south-facing woodland edge and slow the re-growth of invasive vines. All deciduous trees (planted and volunteers) should be protected from deer browsing and rubbing with tree shelters and wraps and free from competition for several years through an annual mowing of the area and an herbicide application in a two-foot band around their base. Evergreens should be large enough at planting to tolerate deer browsing. They will also need to be kept free of vines and other competition through mowing and hand cutting.

Miriam Groner Meadow

Unit 2—Mature Upland Forest

1) Continue to cut vines growing on canopy trees.
2) In the event of a fallen canopy tree, replant trees in the area to restore the canopy.

East meadow

Unit 3—Meadow

1) Continue to mow annually in February or March.
2) Treat the walnut tree sprouts with herbicide.
3) Continue to pull and cut thistle and other invasive plants. If a large patch develops, treat with herbicide.
4) In open areas, seed or plant with native meadow species to create more diversity and pollinator habitat.
5) If trying to create more diversity in a meadow, open up some patches in the meadow by treating with herbicide or mowing and seed or plant native meadow species.
6) Contact Kelly Gill of The Xerces Society for Invertebrate Conservation to request advice on improving the meadows for pollinator habitat.

West meadow

Unit 4—Riparian Forest/Zone

1) Continue to remove vines from trees

2) Treat Japanese knotweed with herbicide safe for aquatic use (e.g., Rodeo).

3) In the event of fallen canopy tree, replant trees in the area to restore the canopy.

4) Speak with sewer company about their maintenance plans along the sewer line to determine if there are best management practices they are willing to use and discuss the possibility of assisting with the management and maintenance of the right of way. This may include installing and maintaining a meadow or increasing the riparian buffer with woody plants to decrease the trail width and slow stormwater runoff.

Riparian forest/zone

Other Stewardship Issues/Opportunities

Although this addendum is focused on invasive plants, there remain one issue and one opportunity—both noted in the 2007 plan—that can directly impact the stewardship priorities for the Preserve. These are soil erosion and expansion of the Preserve. Soil erosion remains an issue on the main trail running from the South Landis Mill Road entrance to the Creek. The resulting exposed soil is a potential spot for invasives to become established. Please see the Trail Design and Maintenance section (page 47) of the 2007 Wilma Quinlan Nature Preserve and Miriam Groner Property. Additional technical advice and potential funding are available to address this issue through the Bucks County Conservation District and the Pennsylvania Department of Environmental Protection.

1) Contact the Bucks County Conservation District for technical advice on best management practices to address existing erosion issue. Contact the Pennsylvania Department of Environmental Protection (DEP) regarding the potential for funding through the annual Growing Greener Grant Program. DEP grants are focused on implementation. A design could be developed by the Borough engineer with assistance from the Conservation District and possible funding from the PECO Green Region grant program.)

Expansion of the Preserve is an opportunity that should be considered as this incorporates all three of the stewardship priorities for the Preserve. Securing ownership to the parcels along the creek will not only provide enhanced recreational and educational opportunities for Borough residents, but assist in protecting the water quality of the Neshaminy Creek, enhance wildlife habitat, and help prevent introduction of invasive plants through clearing and landscaping—which has occurred on an adjoining property to the west of the Preserve. While the Preserve does have associated funding, there is potential additional funding through the state and county available to seize this opportunity.

1) Consider applying to the Pennsylvania Department of Conservation and Natural Resources annual grant program (Community Conservation Partnership Program) for funding to purchase adjacent parcels. Contact Regional Advisor Drew Gilchrist to discuss.

2) Consider applying to the Bucks County Planning Commission municipal grant program (Bucks County Municipal Open Space Program) for funding to purchase these adjacent parcels. For more information, contact David Johnson, Open Space Coordinator.

Stewardship Implementation Schedule

PRIORITY[1]	STEWARDSHIP RECOMMENDATIONS	SEASON	WHO COULD IMPLEMENT?
Invasive Plants			
1	Cut vines on canopy trees	Fall/Winter	Contractor or Volunteers[2]
1	Manage **garlic mustard**	Early Spring	Volunteers
1	Control **Japanese knotweed**	Early Summer	Contractor or Volunteers[2]
1	Mow the meadow annually	Late Winter/Early Spring (February/ March)	Contractor or Volunteers
1	Monitor meadow for invasive vegetation and manually remove or spot treat, as needed	Anytime	Contractor or Volunteers[2]
2	Mow to clear the invasive shrubs in the young upland woodland	Winter	Contractor
2	Treat invasive shrubs in woodland and forest	Late Summer/Fall	Contractor or Volunteers[2]
1	Replant gaps in forest with native shrubs and trees	Spring or Fall	Volunteers or Contractor
2	Support pollinator habitat in meadow management	Anytime	Volunteers
1	Contact Conservation District and PA DEP regarding soil erosion	Anytime	Volunteers
1	Contact PA DCNR regarding funding for Preserve expansion	Anytime	Volunteers

[1] 1 = high priority (implemented within 1-3 years);
2 = mid-priority (implemented within 3-5 years);
3 = low priority (implemented within 5-10 years)

[2] Must have PA Pesticide Applicator Certification to apply herbicides on public property

Sources of Funding and Technical Support

The Xerces Society for Invertebrate Conservation
Kelly Gill, Pollinator Conservation Specialist, Mid-Atlantic & Northeast
Kelly@xerces.org
(609) 267-1639 ext. 110

USDA Natural Resources Conservation Service
Kelly Gill, Partner Biologist
Kelly.Gill@nj.usda.gov
(609) 267-1639 ext. 110

Pennsylvania Department of Environmental Protection (DEP)
2 East Main Street
Norristown, PA 19401
(484) 250-5900

Pennsylvania Department of Conservation and Natural Resources (DCNR)
Drew Gilchrist, Regional Adviser
agilchrist @pa.gov
(215) 560-1183
http://www.dcnr.state.pa.us/

Bucks County Planning Commission
David Johnson, Open Space Coordinator
dpjohnson@co.bucks.pa.us
(215) 345-3400
http://www.buckscounty.org/government/CommunityServices/PlanningCommission/OS/MunicipalOpenSpace

Natural Resources Conservation Service
Bucks County, Perkasie Field Office
Dave Schaffer, District Conservationist
(215) 453-9527 ext. 107
http://www.nrcs.usda.gov/wps/portal/nrcs/site/pa/home/

Stewardship Handbook for Natural Lands in Southeastern Pennsylvania (2008)
By Natural Lands Trust
http://www.natlands.org/services/for-land-owners/stewardship-handbook/