

WEST VINCENT TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

ORDINANCE NO. ____

AN ORDINANCE TO PROMOTE THE PROTECTION OF FOREST RESOURCES BY AMENDING THE WEST VINCENT TOWNSHIP CODE, CHAPTER 390 ZONING, INCLUDING PROVISIONS PERTAINING TO GREENWAYS, THE FRENCH CREEK SCENIC RIVER CORRIDOR, TIMBER HARVESTING, FOREST RESOURCE AND TREE PROTECTION, INVASIVE PLANT SPECIES, AND RELATED DEFINITIONS

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Board of Supervisors of the Township of West Vincent, Chester County, Pennsylvania as follows:

SECTION 1. The West Vincent Township Zoning Ordinance, Article II, Definition of Terms, Section 390-8, Definition of Terms, is hereby amended to add the following new definitions:

FELLING

The act of cutting a standing tree so that it falls to the ground.

FOREST

Vegetative community dominated by trees over 16 feet tall that form a closed or nearly closed canopy, with a minimum of 60% tree canopy cover. Forest areas may be categorized as follows:

FOREST, CRITICAL VALUE – Interior forest areas with invasive plant species not sufficiently present to threaten forest’s ecological health; OR, forest within a Natural Heritage Area or Natural Heritage Area buffer as mapped by Chester County and/or delineated by the Pennsylvania Natural Heritage Program; OR, forest areas that are determined to be old-growth; OR, forest within a riparian buffer area.

FOREST, INTERIOR – Forest areas of minimum 3.75 acres that are greater than 300 feet from a non-wooded perimeter area. For a forest to have interior area, it must be at least 25 total contiguous acres. Interior forests uniquely support species with specialized habitat needs.

FOREST, OLD GROWTH – Forest areas that have been in existence for 100 years or more.

FORESTRY

The management of forests and timberlands when practiced in accordance with

accepted silvicultural principles, through developing, cultivating, harvesting, transporting and selling trees for commercial purposes, which does not involve any land development.

HERITAGE TREE

A specimen tree that is listed by the Township as having exceptional cultural or historic significance. The list of identified heritage trees is maintained at the Township office.

LANDING

A place where logs, pulpwood, or firewood are assembled for transportation off of a logging site.

LOGGING

See "Timber Harvesting".

OPERATOR, TIMBER HARVEST

An individual, partnership, company, firm, association, or corporation engaged in timber harvesting, including the agents, subcontractors, and employees thereof.

PRE-COMMERCIAL TIMBER STAND IMPROVEMENT

A forest practice, such as thinning or pruning, which results in better growth, structure, species composition, or health for the residual stand but which does not yield a net income to the landowner, usually because any trees cut are of poor quality, too small or otherwise of limited marketability or value.

SKIDDING

Dragging trees on the ground from the stump to the landing by any means.

SLASH

Woody debris left in the woods after logging, including logs, chunks, bark, branches, uprooted stumps, and broken or uprooted trees or shrubs.

STAND

Any area of forest vegetation whose site conditions, past history, and current species composition are sufficiently uniform to be managed as a unit.

TIMBER HARVESTING

That part of forestry involving cutting down trees and removing logs from the forest for the primary purpose of sale or commercial processing into wood products.

TOP

The upper portion of a felled tree that is unmarketable because of small size, taper, or defect.

WOODLAND

Vegetated communities that include trees over 5 meters (16 feet) tall forming an open canopy with 25% to 60% tree canopy cover. Hedgerows, groves, copses, and thickets are types of woodland.

WOODLAND, CRITICAL VALUE – Woodlands that are within a Natural Heritage Area or Natural Heritage Area buffer as mapped by Chester County and/or delineated by the Pennsylvania Natural Heritage Program); OR, woodland within a riparian buffer area.

SECTION 2. The West Vincent Township Zoning Ordinance, Article II, Definition of Terms, Section 390-8, Definition of Terms, is hereby amended to revise the following definitions:

CONSERVATION AREA, PRIMARY

Environmentally ~~constrained lands~~sensitive areas comprising floodplains, submerged lands, wetlands, ~~riparian and buffers,~~ wetland buffers, and prohibitive steep slopes (above 25%).

CONSERVATION AREA, SECONDARY

Features, such as precautionary slopes (15% to 25%), seasonal high-water table soils, forests, woodlands, visual resources, and other features as ~~depicted on~~determined by the ~~Township Township Conservation Area Map, which do not create severe limitations for development but for which designation as greenway areas, along with the preservation of primary conservation areas, is as~~ desirable for purposes of providing an interconnected system of conserved greenway land and recreation.

LOT AREA/SIZE, NET

A. The acreage contained within the property lines of a lot, excluding the following areas:

- (1) Any area within an existing street right-of-way;
- (2) Any area comprising existing stormwater management basins, lakes, ponds, and/or on-lot berms;

- (3) Any area overlain by the Floodplain Conservation District as defined in Article **XVI** of this chapter;
- (4) Areas of slope in excess of 25% as defined in Article **XVII** of this chapter;
- (5) Wetlands, as defined in § **390-8** of this chapter;
- (6) Any area comprising rights-of-way or easements for gas, oil, natural gas, electric or communications transmission facilities, whether below or above ground, that do not serve the lot or lots traversed.

~~(6)~~(7) Fifty percent (50%) of any Critical Value Forest or Critical Value Woodland area.

- B. Where two or more of these conditions overlap, the single most stringent reduction factor shall apply in the calculation of net lot or tract area/size.

SPECIMEN TREE

~~A unique, rare or otherwise specifically selected plant or healthy tree considered worthy of conservation by the Township because of its species, size, age, shape, form, or cultural/historical importance, or any other significant characteristic, including listing as a "species of special concern" by the State of Pennsylvania Natural Heritage Program as Endangered, Threatened, Rare, or Vulnerable and/or in the Visual Resource Inventory of the Township Open Space and Recreation Plan; particularly as applied to trees over 20 inches diameter at breast height (dbh) or as identified as such pursuant to the table in § 390-174. Any healthy native tree of 36 inches DBH or greater shall be considered a specimen tree. Dead, dying, or trees that pose a hazard to life and property shall not be considered specimen trees.~~

TRACT ACREAGE, ADJUSTED

Where density or intensity of development of a particular tract is based on adjusted tract acreage (ATA) under this chapter, the ATA shall constitute all areas within the title lines of the tract, excluding the following weighted percentages of environmentally sensitive areas, rights-of-way and easements:

- A. All existing rights-of-way or easements for public or private streets;
- B. An area equivalent to 75% of any of the following areas:
 - (1) Areas within a flood hazard district subject to flooding in a one-hundred-year storm and identified in Article **XVI** of this chapter;
 - (2) Submerged lands, riparian buffers, wetlands, and wetland buffers as delineated under the criteria of the United States Army Corps of Engineers, and/or the Pennsylvania Department of Environmental Protection as wetlands;

- (3) Areas of slopes in excess of 25%, as defined in Article **XVII** of this chapter;
- (4) Areas within the rights-of-way of high-tension electrical transmission lines (69 kV or greater) and pipelines.

C. An area equivalent to 50% of [any of the following areas](#):

~~(5)(1)~~ Seasonal High Water Table Soils as defined herein.

~~(6)(2)~~ [Critical Value Forest or Critical Value Woodlands and defined herein.](#)

SECTION 3. The West Vincent Township Zoning Ordinance, Article II, Definition of Terms, Section 390-8, Definition of Terms, is hereby amended to delete the following definition:

CONSERVATION AREA MAP

SECTION 4. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Section 390-121 Purposes and Subsection 390-121.B are hereby amended to read as follows:

§ 390-121. Purposes.

The design standards established under this chapter have been established to support the natural resource conservation objectives of the [Township-Phoenixville Regional Comprehensive Plan and its Open Space and Recreation Plan](#), while accommodating new growth and development. The purposes of these standards are:

- B. To protect unique natural features of the Township, including aquifers, water bodies, floodplains, wetlands, woodlands [and forests](#), and steep slope areas, from disturbances;

SECTION 5. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Section 390-122 Uses and Improvements, and Section 390-123 General Design Standards are hereby revised as follows:

§ 390-122. Uses and improvements on greenway lands.

Subject to other relevant provisions of this chapter, the following uses and improvements shall be permitted on greenway lands:

- A. Conservation of open land in its natural state, including but not limited to [forest](#), woodland, fallow field, and managed meadow.
- B. Agriculture and horticulture uses, including raising crops or livestock, and aquaculture, including ~~residences and associated~~ buildings that are specifically needed to support an active, viable agricultural or horticultural operation. Specifically excluded are intensive agriculture, wholesale nurseries, and commercial livestock operations involving swine or poultry.

- C. Pastureland for horses, excluding commercial hack stable operations. Unroofed equestrian facilities and structures, including training and exercise facilities, shall be permitted but may not occupy more than half of the minimum required greenway land. Roofed equestrian facilities and structures within greenway lands shall not individually, in the aggregate, occupy more than exceed 25%25,000 square feet, nor shall all structures in total cover more than 5% of the greenway area. ~~of the minimum required greenway land.~~
- D. ~~SilvicultureForestry, including timber harvesting, in keeping with established standards for selective harvesting and sustained yield forestry per § 390-166 in this Chapter.~~
- E. Neighborhood greenway land uses, such as village greens, commons, picnic areas, community gardens, trails per § 315-48 of Chapter 315, Subdivision and Land Development, of the Code of the Township of West Vincent, and similar low ~~to medium~~-intensity recreational uses, ~~specifically~~ Specifically excluding excluded are high-intensity recreational uses, motorized off-road ~~vehicles~~vehicle tracks, rifle ranges, and other uses similar in character and potential impact as determined by the Board.
- F. ~~Active, m~~Medium-intensity recreation areas not housed within a building, such as playgrounds, playing fields, courts and bikeways, provided such areas do not occupy more than half of the minimum required greenway land. Playing fields, playgrounds, and courts shall not be located within 100 feet of abutting properties, except for developments in districts that permit mixed uses, where this setback may be reduced at the discretion of the Board of Supervisors. ~~Parking facilities for the same shall also be permitted, provided that they generally be gravel-surfaced, unlighted, properly drained, provide safe ingress and egress, and contain adequate parking.~~
- ~~G. Water supply and sewage disposal systems and stormwater best management practices (BMPs) facilities, excluding lagoons, structures and access areas, provided that such permitted facilities combined do not occupy more than 25% of the required greenway land. Sewage disposal facilities alone shall occupy no more than 10% of greenway land.~~
- H.G. Easements for drainage, emergency access, sewer lines or waterlines, or other public purposes.
- ~~I.H. Underground utility rights-of-way.~~ Aboveground and/or underground utility and street rights-of-way may traverse greenway areas but shall not count toward the minimum required greenway land.

§ 390-123. General design standards for greenways in all new residential developments.

- A. Greenway lands shall be laid out ~~in general accordance with the Township's Conservation Area Map~~ to ensure that an interconnected network of greenway land will be provided, as well as to maintain large, contiguous areas of forested lands. The required greenway land shall include primary conservation areas and secondary conservation areas.
 - (1) Primary conservation areas comprise environmentally sensitive areas ~~such as including~~ floodplains, submerged lands, wetlands, riparian and wetland buffers, critical value forests, critical value woodland, and slopes over 25%. Clearing in primary conservation

areas shall be prohibited, except as necessary to create trails or to remove hazardous and/or invasive vegetation.

(2) Secondary conservation areas include ~~special features such as~~ precautionary slopes (15% to 25%), seasonal high-water table soils, non-critical value woodlands, non-critical value forests, visual resources, and ~~other features which do not create severe limitations for development but~~ lands on which conservation ~~of~~ is desirable for purposes of providing an interconnected system of greenway land and recreation. Clearing in secondary conservation areas shall generally be prohibited, except as necessary to create trails and recreation facilities and/or vegetation management. The determination of necessity shall lie with the Board of Supervisors.

~~(1)~~(3) Where applicable, greenways shall be designed to preserve woodlands and forests, especially to maximize preservation of interior forests and old growth forest.

B. Minimum required greenway land. The minimum percentage of land to be designated as permanent greenway, in all subdivisions in the RC, R-3 and R-2 Zoning Districts, shall be as set forth in the applicable zoning district, per an applicant's designated tier.

C. Location of greenway lands.

(1) Greenway lands in Tier I developments may be contained within ~~large-estate conservancy lots or may be set aside,~~ as undivided land with common rights of usage among the subdivision residents, ~~or a combination of the two, or different parts of it may be designated in each of these ways. Up to 5,000 square feet per dwelling unit may be subject to the Township's public land dedication requirement in accordance with Subsection E below.~~

(2) In Tier I and Tier II subdivisions, the required greenway land comprises all of the primary conservation areas within the total tract, ~~plus any land that is subject to the Township's required public land dedication.~~

(3) In Tier III and Tier IV subdivisions, the greenway land shall comprise a minimum of the applicable percentage of the adjusted tract acreage, ~~respectively,~~ plus all of the primary conservation areas within the tract. The greenway land may be owned and maintained by the Township, a homeowners' association, land trust, another conservation organization recognized by the Township, or by a private individual and subject to the terms of a conservation easement ~~(typically, as part of the original farmhouse)~~. Except when used for active agriculture, less than 50% of the land composing the greenway land shall be available for the common use ~~and passive enjoyment~~ of the subdivision residents. Resident access to greenway land used for active agriculture is at the discretion of the Board of Supervisors. These ownership options may be combined so that different parts of the greenway land may be owned by different entities. ~~Up to 5,000 square feet per dwelling unit may be required by the Board of Supervisors to be dedicated for public use in accordance with Subsection E below. Such dedicated land would comprise part of the minimum greenway requirement and would not be in addition to it.~~

(4) Greenway land within Tier III and Tier IV subdivisions shall generally remain undivided. Alternatively, up to 50% of the greenway land may be included within one or more large conservancy lots at the discretion of the Board of Supervisors, with the remainder ~~(not less than 30%)~~ deeded to a homeowners' association, land trust, or the Township. See §§ **315-51** and **315-52** of Chapter **315**, Subdivision and Land Development, of the Code of the Township of West Vincent for greenway design criteria. In determining the amount of greenway land which may be included in the conservancy lots of a given subdivision application, the Board of Supervisors shall consider, among other things, the effect that such conservancy lots have on the location and interconnected nature of the balance of the greenway land proposed and the reduction in the ability to utilize greenway lands as buffer areas to reduce the impact that the proposed development has on adjacent parcels of land. Neither the building envelope nor the impervious coverage on conservancy lots shall be considered as greenway land. In situations not involving "conservancy lots" of 10 acres or more, waivers to the minimum standard for undivided greenway land in Tier III subdivisions and minimum standard for undivided greenway land in Tier IV subdivisions may be granted by the Board of Supervisors to enable applicants to provide a greater variety of larger lot sizes within their proposed subdivisions. Under this waiver provision, such larger lots may consume up to 20% of the undivided greenway land that is normally required. Any such proposed reduction in the undivided greenway land shall not compromise the integrity of that land from an environmental, functional or visual standpoint. In order to safeguard these values, those parts of the enlarged house lots that would have ordinarily been included in the undivided greenway land (based on the locational criteria for greenway lands in this chapter and in Chapter **315**, Subdivision and Land Development, of the Township's Code) shall be protected through permanent conservation easements prohibiting construction and land management practices inconsistent with conservation purposes. ~~For example, tree cutting shall generally be prohibited and existing fields or meadows shall be managed as such. Meadow mowing shall be permitted only between October and March (after wildlife have left their nests and after wildflower seed has been set).~~ Because of the potential of streams, brooks and creeks as corridors for neighborhood paths and community trail linkages, individual private lot lines shall not be allowed to extend to within 100 feet of their banks.

(5) Buffers for adjacent public parks or nature preserves. Where the proposed development adjoins public parkland (Township, county, state or federal), or nature preserves owned by any governmental agency or private conservation organization, a greenway buffer at least 150 feet deep shall be provided within the development along its common boundary with such lands, within which no new structures shall be constructed, nor shall any clearing of trees or understory growth be permitted (except as may be necessary for trail construction or the removal of invasive plant and tree species). Where this buffer is unwooded, the Board may require vegetative screening to be planted or that it be managed to encourage natural forest succession through "no-mow" policies and the periodic removal of invasive alien plant ~~and tree~~ species.

D. Permanent greenway protection ~~through conservation easements. In Tiers I, II, III and IV~~

~~subdivisions, the greenway Required greenway land shall be permanently protected and held in public or private ownership that prohibits future development and ensures that the purposes of § 390-121 are achieved. that is required to be reserved and created through the subdivision process shall be subject to permanent conservation easements prohibiting future development. (For example, the clearing of woodland habitat shall generally be prohibited, except as necessary to create trails, low to medium-intensity recreation facilities, and to install subsurface septic disposal systems or spray irrigation facilities. The determination of necessity shall lie with the Board of Supervisors. A list of permitted and conditional uses of greenway lands is contained in § 390-122 above.) Land set asides for public recreational use and the "fee in lieu" alternative. The standards contained in § 315-47C of Chapter 315, Subdivision and Land Development, of the Code of the Township of West Vincent shall apply to new subdivisions proposed for review and approval by the Township.~~

SECTION 6. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Subsection 390-124.E Specific Design Standards is hereby amended to read as follows:

§ 390-124. Specific design standards for greenway planning in residential subdivisions.

E. Greenway land shall be located in a manner which preserves and protects the following resources:

- ~~(1) w~~Watercourses, floodplains, and delineated wetlands,
- ~~(2) Riparian and wetland buffers~~
- ~~(3) Critical value forests and critical value woodlands~~
- ~~(4) Interior forest habitats, through the consolidation of permanently protected woodland and forest areas~~
- ~~(4)(5) Non-critical value forests and non-critical value woodlands~~
- ~~(6) Springs and seasonal high-water table soils~~
- ~~(7) Prime agricultural soilslands~~
- ~~(8) Slopes in excess of 25%~~
- ~~(9) Slopes 15-25%~~
- ~~(2)(10) Visual and historic resources~~

SECTION 7. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Subsection 390-125.A Greenway ownership is hereby amended to read as follows:

- A. ~~In general, g~~Greenway land in any subdivision may be owned by a homeowners' association, the Township, a land trust, another conservation organization recognized by the Township,

or by a similar entity. Such land may also remain privately owned in connection with conservancy lots and subject to permanent conservation easement restrictions. In developments with 25 or more dwelling units, a maximum of 50% of the required greenway land may remain in private ownership, while a minimum of 50% of the required greenway land shall be in common or public ownership.

SECTION 8. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Subsection 390-125.B.2.a Greenway ownership is hereby amended to read as follows:

- (a) The greenway land and associated facilities may be held in common ownership by a homeowners' association and shall be subject to a permanent conservation easement. The association shall be formed and operated under the following provisions:

SECTION 9. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Section 390-125.B.3 Greenway ownership is hereby amended to read as follows:

- (3) Ownership by condominium associations. In order to facilitate public matters such as the collection of taxes on greenway land and associated facilities, such land and facilities shall be controlled through the use of condominium agreements, approved by the Board. Such agreement shall be in conformance with the Uniform Condominium Act of 1980. All common greenway land shall be held as common element and shall be subject to a permanent conservation easement.

SECTION 10. The West Vincent Township Zoning Ordinance, Article XX, Design Standards for Site Planning and Greenway Lands in Residential Developments, Section 390-125.C.2 Greenway ownership is hereby amended to add a new subsection (c), so that subsections (a), (b), (c), and (d) read as follows:

- (a) The organization is acceptable to the Board and is a bona fide conservation organization with perpetual existence;
- (b) The conveyance contains appropriate provision for proper reverter or retransfer in the event that organization becomes unwilling or unable to continue carrying out its functions; ~~and~~
- (c) The Township is a party to the conservation easement agreement; and
- (d) The terms of such easement are satisfactory to the Township in all respects, including, but not limited to, the existence of the developer and the organization.

SECTION 11. The West Vincent Township Zoning Ordinance, Article XXIII French Creek Scenic River Corridor, Section 390-149.C.1 is hereby amended to read as follows:

- (1) Tier III and Tier IV design options. Unless clearly impractical, ~~it is recommended that~~ any new

development in the French Creek Scenic River Corridor which meets the eligibility requirements of the applicable zoning district shall consider utilizing the Tier III or Tier IV design options of such district.

SECTION 12. The West Vincent Township Zoning Ordinance, Article XXIII French Creek Scenic River Corridor, Section 390-149.C.4 is hereby deleted, and all subsequent subsections of Section 390-149.C are hereby renumbered.

SECTION 13. The West Vincent Township Zoning Ordinance, Article XXIII, General Regulations, Section 390-166, Timber harvesting/logging, is hereby amended in its entirety to read as follows:

§ 390-166. Timber harvesting/logging.

A. Purpose

The Hopewell Big Woods is a globally significant landscape within the federally designated Highlands region. The Hopewell Big Woods occupy approximately two thirds of West Vincent Township and contain Exceptional Value watersheds and habitat for migratory birds and interior forest-dwelling species, including endangered, threatened, rare, and vulnerable species. Because of this exceptional resource value, West Vincent Township encourages the owners of forest land to continue forestry use and management, including the production of timber, and for recreation, wildlife, and amenity values. The timber harvesting regulations contained in this Section are intended to further this policy by:

- (1) Promoting good forest stewardship;
- (2) Protecting the rights of adjoining property owners;
- (3) Minimizing the potential for adverse environmental impacts by incursions of invasive species, increased soil erosion, and over-browsing by deer; and
- (4) Avoiding unreasonable and unnecessary restrictions on the right to practice forestry.

B. Applicability

To encourage maintenance and management of forested or wooded open space and promote the conduct of forestry as a sound and economically viable use of forested land throughout the township, forestry activities, including timber harvesting, shall be a permitted use by right in all zoning districts. The regulations in this section apply to all timber harvesting within the Township that impacts one acre or more. These provisions do not apply to the cutting of trees for the personal use of the landowner or for pre-commercial timber stand improvement.

C. Notification; Preparation of a Logging Plan Required Procedures

- (1) Notification of Commencement and Completion

For all timber harvesting operations that exceed one acre, the landowner shall notify the Township enforcement officer at least three (3) business days before the operation commences. No timber harvesting shall occur until the notice has been provided.

- (a) The applicant shall file a notification form, found in Appendix N of this Chapter, specifying the land on which harvesting will occur, the size of the harvest area, and the anticipated starting or completion date of the operation.
- (b) Upon notification, the Township will provide the applicant a copy of Appendix K – Recommended Best Practices for Timber Harvest Operations.
- (c) The applicant shall notify the Township in writing within three (3) business days before the logging operation is complete.

(2) Logging Plan

Every landowner on whose land timber harvesting is to occur shall prepare a logging plan meeting the requirements of Subsection D below. No timber harvesting shall occur until the plan has been prepared. The provisions of the plan shall be followed throughout the operation. The plan shall be available at the harvest site at all times during the operation and shall be provided to the township enforcement officer upon request. Applicants are encouraged to apply forest stewardship best management practices specified in Appendix K.

(3) Responsibility for Compliance

The landowner and the operator shall be jointly and severally responsible for complying with the terms of the logging plan.

D. Contents of the logging plan

(1) Minimum requirements. At minimum, the logging plan shall include the following:

- (a) Design, construction, maintenance, and retirement of the access system, including haul roads, skid roads, skid trails and landings;
- (b) Design, construction, and maintenance of water control measures and structures such as culverts, broad-based dips, filter strips, and water bars;
- (c) Design, construction, and maintenance of stream and wetland crossings;
- (d) The general location of the proposed operation in relation to municipal and state highways, including any accesses to those highways;
- (e) Description of the general characteristics of the area to be logged, including species composition of the forest canopy, presence of invasive vegetation, evidence of forest regeneration.

- (f) Impacts on PA Natural Heritage Area Core Habitats as mapped in Appendix L, including Beaver Hill Road Woods, Birch Run Woods, Horseshoe Trail Wetlands; and planned efforts to protect endangered, threatened, or rare species that may occur within those areas.
 - (g) Desired outcome of timber harvest (e.g. even-aged stand, regeneration of certain tree species, managed successional area, etc.);
 - (h) Anticipated negative outcomes of the timber harvest, such as colonization by invasive species, over-browsing of regenerating growth by deer, reduction of interior forest habitat, impacts to endangered, threatened, rare, and/or vulnerable species, etc.; and
 - (i) Feasible interventions by landowner/ operator to manage anticipated negative outcomes. These may include best practices to promote forest regeneration, control anticipated invasive vegetation, and/or limit deer browse.
- (2) Map. Each logging plan shall include a map or drawing containing the following information:
- (a) Site location and boundaries, including both the boundaries of the property on which the timber harvest will take place and the boundaries of the proposed harvest area within that property;
 - (b) Topographic and hydrologic features related to potential environmental problems, including watercourses, mapped wetlands, and precautionary or prohibitive slopes;
 - (c) Location and estimated extent of invasive vegetation colonies;
 - (d) Location of all earth disturbance activities such as roads, landings, and water control measures and structures;
 - (e) Location of all crossings of waters of the Commonwealth; and
 - (f) The general location of the proposed operation to municipal and state highways, including any accesses to those highways.
- (3) Compliance with state law. The logging plan shall address and comply with the requirements of all applicable state laws and regulations including, but not limited to, the following:
- (a) Erosion and sedimentation control regulations contained in 25 Pennsylvania Code, Chapter 102, promulgated pursuant to the Clean Streams Law (35 P.S. §§691.1 et seq.); and
 - (b) Stream crossing and wetlands protection regulations contained in 25 Pennsylvania Code, Chapter 105, promulgated pursuant to the Dam Safety and Encroachments Act (32 P.S. §§693.1 et seq.);

- (4) Relationships of state laws, regulations, and permits to the logging plan.

Any permits required by state laws and regulations shall be attached to and become part of the logging plan. An erosion and sedimentation pollution control plan that satisfies the requirements of 25 Pennsylvania Code, Chapter 102, shall also satisfy the requirements for the logging plan and associated map specified in Subsection D.1 and D.2 above.

E. Forest practices.

The following requirements shall apply to all timber harvesting operations in the Township:

- (1) Felling or skidding on or across any public thoroughfare is prohibited without the express written consent of the Township or the Pennsylvania Department of Transportation, whichever is responsible for maintenance of the thoroughfare.
- (2) No tops or slash shall be left within twenty-five feet of any public thoroughfare or private roadway providing access to adjoining residential property.
- (3) All tops and slash between twenty-five and fifty feet from a public roadway or private roadway providing access to adjoining residential property or within fifty feet of adjoining residential property shall be lopped to a maximum height of four feet above the surface of the ground.
- (4) No tops or slash shall be left on or across the boundary of any property adjoining the operation without the consent of the owner thereof.
- (5) Litter resulting from a timber harvesting operation shall be removed from the site before it is vacated by the operator.
- (6) The applicant shall indicate the extent to which any seeding and stabilization of access or haul roads will be implemented upon completion of the timber harvest. Any plan for seeding or other vegetative stabilization shall include specifications on materials (including species) and methodology.
- (7) Upon submittal of the logging plan, applicants will be provided a Township guide to recommended forest stewardship best management practices.

F. Enforcement

- (1) West Vincent Township shall designate an Enforcement Officer to enforce the provisions of this Section.

- (2) Inspections

The Township Enforcement Officer may go upon the site of any timber harvesting operation before, during, or after active logging to (1) review the logging plan or any other required documents for compliance and (2) inspect the operation for compliance with the logging plan and other on-site requirements of these regulations.

(3) Violation notices; suspensions.

Upon finding that a timber harvesting operation is in violation of any provision of this Section, the township enforcement officer shall issue the operator and the landowner a written notice of violation describing each violation and specifying a date by which corrective action must be taken. The township enforcement officer may order the immediate suspension of any operation upon finding that (1) corrective action has not been taken by the date specified in a notice of violation; (2) the operation is proceeding without a logging plan; or (3) the operation is causing immediate harm to the environment. Suspension orders shall be in writing, shall be issued to the operator and the landowner, and shall remain in effect until, as determined by the township enforcement officer, the operation is brought into compliance with this Section or other applicable statutes or regulations. The landowner or the operator may appeal an order or decision of an enforcement officer within thirty days of issuance to the governing body of the Township.

(4) Penalties

Any landowner or operator who (1) violates any provision of this Section; (2) refuses to allow the Township Enforcement Officer access to a harvest site pursuant to Subsection G.2 above or who fails to comply with a notice of violation or suspension order issued under Subsection G.3 above is guilty of a summary offense and upon conviction shall be subject to a fine of not more than three hundred dollars, plus costs, for each separate offense. Each day of continued violation of any provision of this Section shall constitute a separate offense.

SECTION 14. The West Vincent Township Zoning Ordinance, Article XXIII, General Regulations, Section 390-174, Tree Protection, is hereby amended in its entirety to read as follows:

§ 390-174. Tree protection.

- A. General requirements. Except for timber harvesting performed pursuant to § **390-166** of this chapter, clearing of forests, woodlands, and specimen trees shall be minimized when performed in the execution of Township-permitted activities. Where clearing and tree removal is determined by the Board of Supervisors to be necessary for the reasonable use and improvement of property, the following standards shall apply:
- (1) The maximum allowable clearing of wooded areas on a lot or tract for permitted construction or land development shall be as follows:
 - Critical Value Forests – 15%
 - Non-Critical Value Forests – 20%
 - Critical Value Woodlands – 25%
 - Non-Critical Value Woodlands on residential tracts – 35%

- Non-Critical Value Woodlands on nonresidential tracts – 50%

In cases where the Board of Supervisors determines that there is no feasible alternative to exceeding these thresholds, replacement tree plantings shall be provided per Subsection **C** below for any tree of 12-inches or greater DBH.

- (2) Where disturbance of wooded areas is unavoidable, disturbance of critical value woodland or forest shall be permitted only when there is no possible alternative disturbance on a non-critical value woodland or forest.
 - (3) Each building and/or structure shall be constructed in such a way as to provide the least alteration or disturbance of existing trees, woodlands and forests. Clear cutting shall be minimized and trees shall be selectively removed where possible.
 - (4) Preserved woodlands and forests shall interconnect with wooded areas on adjacent properties in order to preserve interconnected and un-fragmented habitat and to enable natural movement and migration of wildlife.
- B. Protection of specimen and heritage trees. Any officially listed heritage tree shall require Township approval prior to removal. Specimen trees shall not be removed from any lot or tract which is the subject of a subdivision or land development application except where the landowner demonstrates to the satisfaction of the Township Board of Supervisors that such removal is essential to facilitate reasonable use or improvement of the property. In such cases, removal of specimen trees shall be minimized. When removed, specimen trees shall be replaced in accordance with subsection **C** below.
- C. Tree replacement.
- (1) Tree replacement standards. The cutting of declining, damaged or diseased trees, or those which present a hazard to an existing structure are exempt from the tree replacement requirement. Otherwise, any landowner who removes or causes to have removed a specimen tree, or trees in excess of the clearing thresholds in Subsection **A(1)** above shall provide replacement tree mitigation pursuant to the following standards:
 - (a) When required, the replacement of trees shall occur on the same lot or tract where disturbance occurs, except as may otherwise be permitted in Subsection **C(1)(b)** below, and shall occur as prescribed in the following tree replacement schedule:
 - [1] Replacement deciduous trees shall be a minimum of two inches' caliper, or eight feet minimum height if multi-stem trees. Evergreen replacement trees shall be seven feet minimum height.
 - [2] The number of replacement trees shall be determined by dividing the cumulative diameter at breast height (DBH) of the trees to be replaced by the factors below and rounding up to the next whole number of trees:
 - a. Critical Value Forest/Woodland Trees – Total tree DBH inches to be removed divided by four

- b. Non Critical Value Forest/Woodland Trees – Total tree DBH inches to be removed divided by six
 - [3] Replacement trees shall be of nursery grade quality. Any native species tree proposed as part of a land development or other site improvement may count toward the replacement requirement.
- (b) Where replacement trees are required but not suitable for the particular site prescribed due to the size of the site or other limitations, the Board of Supervisors may allow the following as alternative planting mitigation:
 - [1] The required number may be reduced by providing larger sized trees so that the total number of equivalent caliper inches is provided.
 - [2] The required trees may be planted on public lands, conservation lands, or for riparian buffer plantings. In such cases, each 2-inch caliper tree may be substituted with twelve (12) #2 container trees planted on 10-foot centers as reforestation plantings.
 - [3] The applicant may provide a fee to the Township equal to the estimated installed value of plantings for subsequent installation on public lands, conservation lands, or for riparian buffer plantings
- (c) Replacement trees shall be monitored and guaranteed for a period of eighteen months. If a replacement tree(s) dies or is dying within the guarantee period, the landowner shall replace the dead or dying tree(s).
- D. Tree protection zone. A tree protection zone is an area radial to the trunk of a tree, woodland, or forest area to be preserved in which no disturbance shall occur, including earth disturbance, earth compaction, vehicular and foot traffic, material and stockpiling and/or construction of proposed improvements and utilities. The tree protection zone extends from the tree trunk a distance equal to 12 times the trunk diameter, or to the tree's dripline, whichever distance is greater. Thus, a 24-inch DBH tree would have a circular critical root zone with a minimum radius of 24 feet. Sensitive species or mature trees in the last quarter of life expectancy will have larger tree protection zones, which should be established by an experienced arborist.
 - (1) Trees to be preserved within fifty (50) feet of any proposed construction, grading, clearing, or related disturbance shall have their tree protection zones demarcated by minimum four foot high orange construction fencing or approved equivalent.

SECTION 15. The West Vincent Township Zoning Ordinance Article XXIII General Regulations is hereby amended to add a new section 390-176 as follows:

§ 390-176. Invasive Plant Species.

A. Purpose

The purpose of this section is to reduce the negative impacts of invasive species and noxious weeds on biodiversity, natural and agricultural resources, and public health, safety, and welfare through prevention, control, and restoration.

The term “invasive species” refers to vegetative growth that can jeopardize the function, habitat value, and aesthetic integrity of natural areas by altering nutrient cycling, hydrology, light levels, affordance of habitat, and native species regeneration.

Weeds and invasive species are regionally widespread, disturbance-adapted, grow vigorously in varied habitats, often have multiple means of reproduction, and can adapt flowering times and resource allocation. These traits are not limited to nonnative or nonindigenous species. Some native plants (e.g. Canada Goldenrod - *Solidago canadensis*) can become so abundant in certain situations that they degrade species diversity and habitat quality over time.

Disturbed areas such as roadsides, agricultural fields, utility rights-of-way, logging sites, and construction zones are particularly susceptible to invasive species establishment. Invasion typically stems from a series of interacting factors, including invader traits, habitat characteristics, and the nature and timing of disturbance. Failing to address invasive species can have widespread impacts on biodiversity, silviculture, wildlife habitat, public health and safety, and recreational and aesthetic values.

B. Applicability

Invasive plants shall not be planted under any Township permitted activity, and where present their management/eradication should be implemented to the extent possible.

C. Lists of Invasive Plant Species

These lists are based on regional and Chester County floristic assessments, but may not include all invasive plants that could occur in West Vincent Township. Species are listed by type (i.e., tree, shrub, vine, grass, etc.) with habitat and reproductive means noted. Species designated as noxious weeds under Pennsylvania’s Noxious Weed Control Law (Chapter 110) are marked with a star (*). Species available in the nursery trade as landscape plants are marked with a degree symbol (°).

Trees

Common Name	Botanical Name	Habitat	Reproductive Means
Callery (Bradford) Pear °	<i>Pyrus calleryana</i>	open uplands	• seed

Norway Maple °	<i>Acer platanoides</i>	open to shaded uplands and lowlands	• seed
Paper Mulberry	<i>Broussonetia papyrifera</i>	open to semi-shaded uplands and lowlands	• seed
Princesstree (Empress Tree) °	<i>Paulownia tomentosa</i>	open uplands	• seed
Silk Tree (Mimosa) °	<i>Albizia julibrissin</i>	open uplands and lowlands	• seed • resprouts vigorously
Tree-of-Heaven	<i>Ailanthus altissima</i>	open uplands and lowlands	• seed • resprouts vigorously
White Mulberry °	<i>Morus alba</i>	open to semi-shaded uplands and lowlands	• seed

° Sold in the nursery trade as an ornamental

Shrubs

Common Name	Botanical Name	Habitat	Reproductive Means
Autumn and Russian Olive	<i>Eleangus</i> spp.	open to semi-shaded uplands and lowlands	• seed • vegetative (limited)
Burning Bush°	<i>Euonymus alatus</i>	open to shaded uplands and lowlands	• seed
Bush Honeysuckles°	<i>Lonicera</i> spp.	open to shaded uplands and lowlands	• seed • vegetative
Butterflybush°	<i>Buddleja</i> spp.	open uplands	• seed
Common Buckthorn	<i>Rhamnus cathartica</i>	open uplands	• seed
Japanese Barberry °	<i>Berberis thunbergii</i>	open to shaded uplands and lowlands	• seed
Multiflora Rose *	<i>Rosa multiflora</i>	open uplands and lowlands	• seed
Privet °	<i>Ligustrum</i> spp.	Open to semi-shaded uplands and lowlands	• seed • vegetative
Wineberry	<i>Rubus phoenicolasius</i>	open to semi-shaded uplands and lowlands	• seed • vegetative

* Noxious weed as designated by Pennsylvania's Noxious Weed Control Law

° Sold in the nursery trade as an ornamental

Grasses, Rushes, and Sedges

Common Name	Botanical Name	Habitat	Reproductive Means
Bamboos °	<i>Bambusa vulgaris</i> , <i>Phyllostachys aurea</i> , <i>Pseudosasa japonica</i>	open to semi-shaded uplands and lowlands	• vegetative

Common Reed	<i>Phragmites australis</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Japanese Stiltgrass (annual)	<i>Microstegium vimineum</i>	open to shaded uplands and lowlands	<ul style="list-style-type: none"> • seed • tillers (vegetative)
Johnsongrass *	<i>Sorghum halepense</i>	Open uplands, lowlands	<ul style="list-style-type: none"> • seed • vegetative
Reed Canary Grass	<i>Phalaris arundinacea</i>	open lowlands	<ul style="list-style-type: none"> • seed • vegetative

* Noxious weed as designated by Pennsylvania's Noxious Weed Control Law

° Sold in the nursery trade as an ornamental

Herbaceous Forbs

Common Name	Botanical Name	Habitat	Reproductive Means
Bull Thistle *	<i>Cirsium vulgare</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed
Canada Thistle *	<i>Cirsium arvense</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Chinese Lespedeza (semi-woody)	<i>Lespedeza cuneata</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed
Common Crown Vetch	<i>Coronilla varia</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Garlic Mustard (biennial)	<i>Allaria petiolata</i>	open to shaded uplands and lowlands	<ul style="list-style-type: none"> • seed
Giant Hogweed * (biennial)	<i>Heracleum mantegazzianum</i>	open uplands and lowland	<ul style="list-style-type: none"> • seed
Japanese Knotweed	<i>Fallopia japonica</i>	open uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Lesser Celandine	<i>Ranunculus ficaria</i>	open to shaded lowlands	<ul style="list-style-type: none"> • seed • vegetative
Mugwort (Common Wormwood)	<i>Artemisia vulgaris</i>	open to semi-shaded uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Purple Loosestrife *	<i>Lythrum salicaria</i>	open lowlands	<ul style="list-style-type: none"> • seed • vegetative
Shrubby Bushclover	<i>Lespedeza bicolor</i>	open to semi-shaded uplands and lowlands	<ul style="list-style-type: none"> • seed • vegetative
Spotted Knapweed	<i>Centaurea stoebe</i> ssp. <i>micranthos</i>	open uplands	<ul style="list-style-type: none"> • seed

* Noxious weed as designated by Pennsylvania's Noxious Weed Control Law

° Sold in the nursery trade as an ornamental

Vines

Common Name	Botanical Name	Habitat	Reproductive Means
Common Periwinkle °	<i>Vinca minor</i>	open to shaded uplands and lowlands	• vegetative
English Ivy °	<i>Hedera helix</i>	open to shaded uplands and lowlands	• seed • vegetative
Japanese Honeysuckle °	<i>Lonicera japonica</i>	open to shaded uplands and lowlands	• seed
Japanese Hop (annual)	<i>Humulus japonicas</i>	open to semi-shaded uplands and lowlands	• seed
Kudzu *	<i>Pueraria montana</i> var. <i>lobata</i>	open to semi-shaded uplands and lowlands	• seed • vegetative
Mile-a-Minute * (annual)	<i>Polygonum perfoliatum</i> (<i>Persicaria perfoliata</i>)	open to semi-shaded uplands and lowlands	• seed
Oriental Bittersweet °	<i>Celastrus orbiculatus</i>	open to shaded uplands and lowlands	• seed • vegetative
Porcelainberry	<i>Ampelopsis brevipedunculata</i>	open to semi-shaded uplands and lowlands	• seed
Swallowwort, black	<i>Cynanchum louiseae</i>	open to semi-shaded uplands and lowlands	• seed • vegetative
Swallowwort, European	<i>Vincetoxicum rossicum</i>	open to semi-shaded uplands and lowlands	• seed
Wisteria (Chinese and Japanese) °	<i>Wisteria sinensis</i> <i>Wisteria floribunda</i>	open to semi-shaded uplands and lowlands	• seed • vegetative

* Noxious weed as designated by Pennsylvania's Noxious Weed Control Law

° Sold in the nursery trade as an ornamental

Aquatic Plants

Common Name	Botanical Name	Habitat	Reproductive Means
Eurasian Water Milfoil	<i>Myriophyllum spicatum</i>	Disturbed water bodies	• vegetative
Parrot-Feather	<i>Myriophyllum aquaticum</i>	Non-tidal, slow moving, often high-nutrient freshwater.	• vegetative
Water Chestnut	<i>Trapa natans</i>	Freshwater, often nutrient-rich lakes and rivers	• vegetative

Species to Monitor for Invasive Proliferation

Common Name	Botanical Name	Habitat	Reproductive Means
Hydrilla (<i>aquatic</i>)	<i>Hydrilla verticillata</i>	freshwater	• vegetative
Japanese Silvergrass °	<i>Miscanthus sinensis</i>	open to semi-shaded uplands and lowlands	• seed
Jetbead (<i>shrub</i>) °	<i>Rhodotypos scandens</i>	open to shaded uplands and lowlands	• seed
Small Carpetgrass	<i>Arthraxon hispidus</i>	open uplands and lowlands	• seed
Wavyleaf Basketgrass * *	<i>Oplismenus hirtellus</i> <i>ssp. undulatifolius</i>	open to shaded uplands and lowlands	• seed • roots at lower stem nodes

* Noxious weed as designated by Pennsylvania’s Noxious Weed Control Law

° Sold in the nursery trade as an ornamental

D. Bamboo.

Bamboo shall not be planted anywhere in West Vincent Township. Where colonies of bamboo exist, they shall be removed. If removal of existing bamboo is not feasible, its spread shall be prevented with deep underground root barriers and management to remove any shoots that appear beyond the barriers. Bamboo shall at all times be prevented from encroaching along property lines, public walks, and vehicular travel ways.

E. Prevention and Control of Invasive Plant Proliferation

The procedures described in Appendix M shall be incorporated on any property subject to West Vincent Township application or permit, and are recommended practices for any other property in the Township.

SECTION 16. The West Vincent Township Zoning Ordinance is hereby amended to add the following appendices:

APPENDIX K – Recommended Best Practices for Timber Harvest Operations

APPENDIX L – West Vincent Township Natural Heritage Areas

APPENDIX M – Practices for Prevention and Control of Invasive Plants

APPENDIX N – West Vincent Township Timber Harvest Notification Form

ZONING 390

Attachment 13

Township of West Vincent

Appendix K

Recommended Best Practices for Timber Harvest Operations

Purpose

The purpose of this document is to support the requirements of Section 390-166 of the West Vincent Township Zoning Ordinance (ZO) pertaining to the harvesting of timber. The following best practices are recommended help to protect site integrity, prevent environmental impacts, enhance stand regeneration, reduce equipment wear-and-tear, and improve cost and labor-efficient harvest operations.

Site Assessment and Planning

The landowner/operator should determine the boundaries of the following sensitive features within the timber harvest area. The landowner/operator is encouraged to protect these features in timber harvesting operations. Features marked with an asterisk (*) may be subject to state and/or federal protections:

- **Hydrologic:**
 - Perennial/ ephemeral streams*
 - Wetlands, seeps, vernal pools*
 - Floodplains, riparian buffers
 - Poorly drained soils as identified by a NRCS Soil Survey
- **Habitats:**
 - Cliffs, ledges, talus, rock outcrops, caves, large snags (standing dead trees);
- Natural Heritage Areas as documented by the Chester County Natural Heritage Inventory Update 2015;
- Threatened, endangered, rare, or vulnerable species as documented by a Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review*
- **Historic/cultural:**
 - Stone walls, charcoal hearths, etc.

The following are recommended practices to protect sensitive features:

1) Delineate buffer areas around sensitive features as follows:

- Maintain a 300' buffer around habitats of threatened and endangered species. Avoid habitats of rare and vulnerable species.
- Maintain a 150' buffer from High Quality or Exceptional Value watercourses, wetlands, vernal pools, and seeps.

- Strive for preserve areas that are not “islands” of isolated habitat. If there are multiple preserve areas on site, try to connect them to create corridors for movement.

2) Delineate special vegetation outside preserve areas to be protected:

- Stands of seedlings, saplings, and pole-size trees to aid forest regeneration.
- Trees with exfoliating bark and standing snags that provide habitat for bats and other cavity-nesting species.

Site Management during Timber Harvest

The following align with the Timber Harvesting Guidelines of the Pennsylvania Forestry Association and with PADEP’s *Timber Harvesting Operations Field Guide*.

1) Considerations for design, construction, and maintenance of the access system (landing areas, skid roads and trails, and haul roads):

- Design the access system to avoid sensitive features and preserve areas identified during Site Assessment.
- Locate landings in relation to the main haul road, then lay out skid roads and trails on a gentle slope to the landings. Place landings on the highest ground possible to prevent muddy conditions. Consider using fabric mats or pads under fill and landing areas.
- Minimize the area of disturbance as much as possible. Consider using existing roads on site as haul or skid roads. Concentrate haul roads, skid roads, and skid trails to a few primary corridors and limit the number and size of landings. Restrict road widths to 12 feet wide for one lane and 20 feet wide for two lanes.
- Minimize rutting, erosion, and flooding on roads through proper construction. Design roads with slopes between 2 percent and 10 percent and crown roads as necessary. Avoid designing roads that travel straight up hills.
- Gate road entrances to limit vehicle access.
- Maintain haul roads with occasional grading to reshape water control measures and remove ruts.
- Design stream crossings at a 90-degree angle and with as gentle a slope as possible.
- Locate skid trails so that low quality “bumper” trees provide protection for more valuable trees along the skid trails.

2) Design, construction, and maintenance of control measures and structures required by 25 PA Code Chapters 102 and 105: Operators are encouraged to consult with PADEP and the Chester County Conservation District for guidance on best management practices that comply with state regulations.

3) Recommended timber-harvesting methods and techniques include:

- Use equipment and techniques that minimize soil disturbance, such as cable skidding, low ground-pressure equipment and/or tracked vehicles. Avoid grapple skidders unless the material is gathered by a swinging head feller-buncher. Winch logs out of buffer areas to prevent disturbance by equipment. Limb logs before skidding.
- Shelterwood cutting is not recommended when existing canopy cover is below 70%, where there is a combination of high deer density and low regeneration, or where extensive invasive species can out-compete forest regrowth. If performing a shelterwood cut under these conditions, eradicate invasive plants with herbicide prior to making the first shelterwood cut, and protect regenerating growth from deer.
- Thinning treatments can be used to increase the vigor of trees to remain while also initiating seed production.
- Use directional felling techniques to avoid damage to preserve/buffer areas, sensitive features, and vegetation to remain. Mark trees for cutting on both sides so the operator can determine optimal felling direction and hitch selection. Remove tops from streams, wetlands, ponds, floodplains and seeps where possible.
- Equipment used in weed-infested areas should be cleaned of debris to avoid spreading seeds to non-infested areas.

4) Important considerations for timing harvest operations include:

- Start operations at the back of the lot and work toward the landing so as to minimize work in cutover areas. Finish harvesting one section before moving to the next.
- Limit harvesting to upland areas during wet conditions.
- Avoid construction of stream crossings during trout spawning season.
- When harvesting in wet areas, schedule the harvest for when the soil is dry or frozen. Vehicle activity should cease if excessive rutting occurs.
- Cutting following a mast year (when trees produce large crops of seeds, fruit, acorns, and/or nuts) can increase opportunities for regeneration.
- Protect snags and trees with exfoliating bark from mid-May to late-June, when bats and other cavity dwelling species are raising young.
- Time shelterwood harvest of oak stands to occur in the late fall/winter after a mast year to increase regeneration by oak seedlings. This may require thinning stands that cast dense shade. Once oak regeneration is approximately knee high or more, the residual canopy can be harvested.
- The following seed production intervals and longevity for trees should serve as a guide in assessing when to time harvesting activities in relation to seed produced.

Species	Seed Production Intervals (in years)	Seed Longevity (in years)
American Beech	1 year in 6 intervals	none
Black Cherry	2-3 year intervals	
Eastern Hemlock	1-2 year intervals	1-2 years
Hickory	1-3 year intervals	Lack of viability beyond the first winter is common
Oaks	3-5 year intervals	Lack of viability beyond the first winter is common
Red Maple	2-3 year intervals	1-2 years

Source: Latham et al, 98-99.

Post-Harvest: Site Retirement and Regeneration

- 1) **Retire the access system per the erosion and sedimentation (E&S) control plan. Regrade roads and landings for proper drainage. Remove culverts where feasible and replace with waterbars, broad-based dips, or ditches. Remove all temporary stream crossings and restore per state requirements.**

- 2) **Stabilize disturbed soil with seeding and/or mulching. Important considerations include:**
 - Seeding with native vegetation is strongly encouraged. Seed mixes recommended in the DEP’s *Timber Harvest Operations Field Guide* and by industry groups are not recommended as they include exotic species that could impact regeneration. Seed mixes should include species that germinate quickly and that occur at all stages of succession. The following suppliers can recommend optimal mixes:
 - Ernst Conservation Seeds, Meadville, PA
 - ArcheWild, Quakertown, PA
 - Prairie Nursery, Westfield, WI
 - Prairie Moon Nursery, Winona, MN
 - Do not lime or fertilize as this can encourage weeds.
 - A 2-3” deep layer of hardwood chip mulch can encourage germination of hard mast species like oak.

- 3) **Invasive plants can out-compete native vegetation after logging. The landowner/operator should have a plan to manage invasive plant species identified on the logging plan. Consult the following for invasive species identification and management resources:**
 - Penn State Invasive Plant Species Management Quick Sheets (<https://plantscience.psu.edu/research/projects/wildland-weed-management/publications>)

- PA DCNR Invasive Plant Fact Sheets
(<https://www.dcnr.pa.gov/Conservation/WildPlants/InvasivePlants/InvasivePlantFactSheets/Pages/default.aspx>)
- Brandywine Conservancy Invasive Plant Information Sheets
(<https://www.brandywine.org/conservancy/resources/invasive-plants>)

4) Provisions for treatment of slash include:

- Slash should be placed around seedlings, saplings, and stump sprouts to protect from deer damage. Slash piles can also enclose small harvest areas to limit deer access.
- Unmarketable logs should be left in place as nurse logs for seedlings.

5) Provisions for preventing deer damage to regenerating growth include:

- Exclusion fencing
- Slash piles as outlined above
- Hunting, including participation in the Pennsylvania Game Commission’s Deer Management Assistance Program (DMAP).

6) If natural regeneration fails, supplemental planting may be necessary. Contact PA DCNR for recommended suppliers. Important considerations include:

- Bare root plants are cost- and labor-efficient for large areas. Bare root material should be planted when dormant, usually late winter/early spring.
- Container-grown plants can be planted any time of the year but are more expensive and laborious to plant than bare-root material.
- The following are recommended species for supplemental planting:

SHRUBS FOR WET SOILS

Aronia arbutifolia	Red Chokeberry
Aronia melanocarpa	Black Chokeberry
Cephalanthus occidentalis	Button Bush
Cornus amomum	Silky Dogwood
Ilex verticillata	Winterberry Holly
Salix discolor	Willow species
Viburnum lentago	Nannyberry
Viburnum trilobum	American Cranberry Bush

TREES FOR WET SOILS

Acer rubrum	Red Maple
Acer saccharinum	Silver Maple
Betula nigra	River Birch
Carpinus caroliniana	American Hornbeam

<i>Carya ovata</i>	Shagbark Hickory
<i>Ilex opaca</i>	American Holly
<i>Liquidambar styraciflua</i>	Sweetgum
<i>Magnolia virginiana</i>	Sweetbay Magnolia
<i>Myrica cerifera</i>	Southern Bayberry
<i>Nyssa sylvatica</i>	Blackgum
<i>Platanus occidentalis</i>	American Sycamore, Buttonwood
<i>Quercus bicolor</i>	Swamp White Oak
<i>Quercus palustris</i>	Pin Oak
<i>Salix nigra</i>	Willow species

SHRUBS FOR DRY SOILS

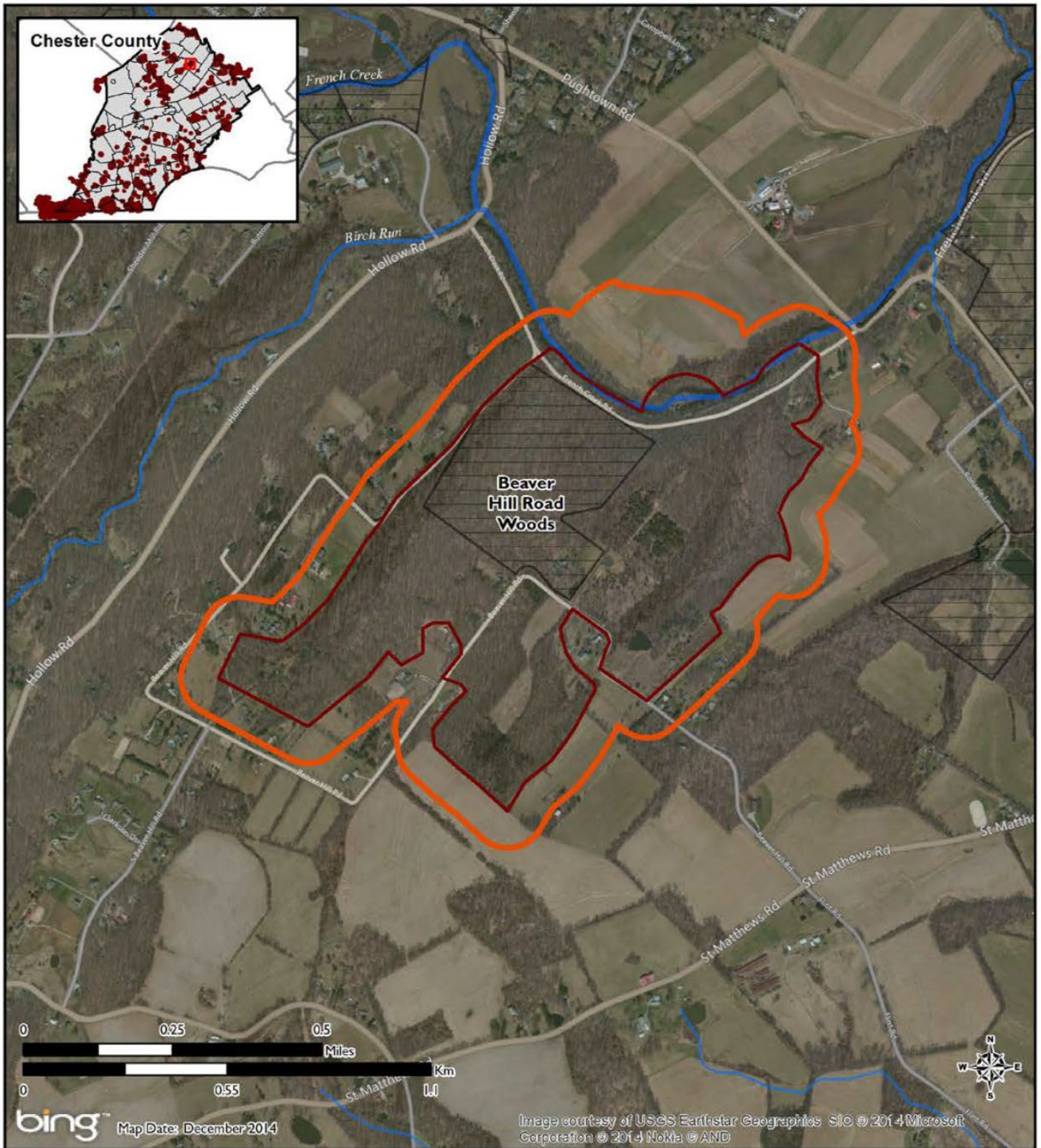
<i>Cornus racemosa</i>	Gray Dogwood
<i>Hamamelis virginiana</i>	Common Witchhazel
<i>Myrica pensylvanica</i>	Northern Bayberry
<i>Rosa carolina</i>	Pasture Rose
<i>Rhus aromatica</i>	Fragrant Sumac
<i>Rhus copallina</i>	Shining Sumac
<i>Rhus glabra</i>	Smooth Sumac
<i>Rhus typhina</i>	Staghorn Sumac
<i>Viburnum lentago</i>	Nannyberry

TREES FOR DRY SOILS

<i>Acer rubrum</i>	Red Maple
<i>Betula lenta</i>	Black Birch, Sweet Birch
<i>Carya spp.</i>	Hickory species
<i>Celtis occidentalis</i>	Hackberry
<i>Fagus sylvatica</i>	American Beech
<i>Juniperus virginiana</i>	Eastern Redcedar
<i>Liriodendron tulipifera</i>	Tuliptree, Tulip Poplar
<i>Prunus serotina</i>	Black Cherry
<i>Quercus alba</i>	White Oak
<i>Quercus macrocarpa</i>	Bur Oak
<i>Quercus prinus</i>	Chestnut Oak
<i>Quercus rubra (borealis)</i>	Red Oak
<i>Quercus velutina</i>	Black Oak
<i>Sassafras albidum</i>	Sassafras

- 7) Monitoring visits are critical to ensuring the long-term success of forest regeneration. Monitoring should minimally occur once during the cool season (spring/fall) and once during warm season (summer) months to 1) evaluate regrowth; 2) assess impacts from invasive species, deer, and erosion; 3) determine necessity of an intervention strategy to achieve the desired outcome.**

West Vincent Township Natural Heritage Areas



Beaver Hill Road Woods Natural Heritage Area

Forest habitat supports a population of spring coralroot, a critically imperiled plant species in Pennsylvania, and a population of a sensitive species of concern.

Significance Rank:
STATE



Pennsylvania Natural Heritage Areas

- Core Habitat
- Supporting Landscape
- Other Supporting Landscape
- Conservation Lands



Beaver Hill Road Woods NHA

PNHP Significance Rank: *State*

Site Description

Beaver Hill Road Woods NHA is a wooded area dominated by tulip poplar and silver maple near Wilsons Corner. This NHA is more than 200 acres in size, including a few residences. The surrounding area has been fragmented by agriculture and residential development. The steep bank south of French Creek and two tributaries are included in this NHA, which provides habitat for **spring coral root**, a plant species of concern. Beaver Hill Road Woods NHA also supports a **sensitive species of concern**, not named at the request of the jurisdictional agency overseeing its 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			
Spring Coral-root (<i>Corallorhiza wisteriana</i>) 	G5	S1	TU (PE)	5/22/1999	BC
Sensitive species of concern A ³ 	---	---	---	5/6/2009	B

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.

Spring coral-root has been documented from Pennsylvania west to Oregon and south to Arizona and Florida. It is found through much of the United States, but is at the northern edge of its range in Pennsylvania and has been found in several southern counties. This orchid is saprophytic, meaning that it gets its nutrients from organic material instead of photosynthesis. Spring coral root may not flower every year, and flowers only last a short time, making surveys for this species difficult.

Threats and Stresses

Disturbances to the forest, such as logging and development, may eliminate the existing habitat. Invasive species would also likely colonize any newly disturbed areas.

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

- Logging may disturb the small amount of remaining habitat, as well as cause changes in hydrology and allow for the introduction of additional invasive species.
- Invasive species are present in this site and may displace native vegetation and alter the habitat required by the species of concern.
- Over-browsing by white-tailed deer impacts all of the native vegetation and structure of the habitat.

Conservation Recommendations

All of Beaver Hill Road Woods NHA is privately owned, with a portion protected by a conservation easement. The steep hillsides along the streams should limit development opportunities. Avoid logging any additional areas and maintain a forested buffer along the streams to protect the water quality and minimize erosion.

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

- Protect the existing forested areas from logging and disturbance along the forest edge. Maintaining as many intact habitats as possible, given the location within a residential area, will help to preserve habitat for as many species as possible.
- 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. Further disturbance within this habitat will create additional opening for the establishment and spread of invasive species.
- Monitor deer density and maintain it at a level that is able to be supported by the landscape.

Location

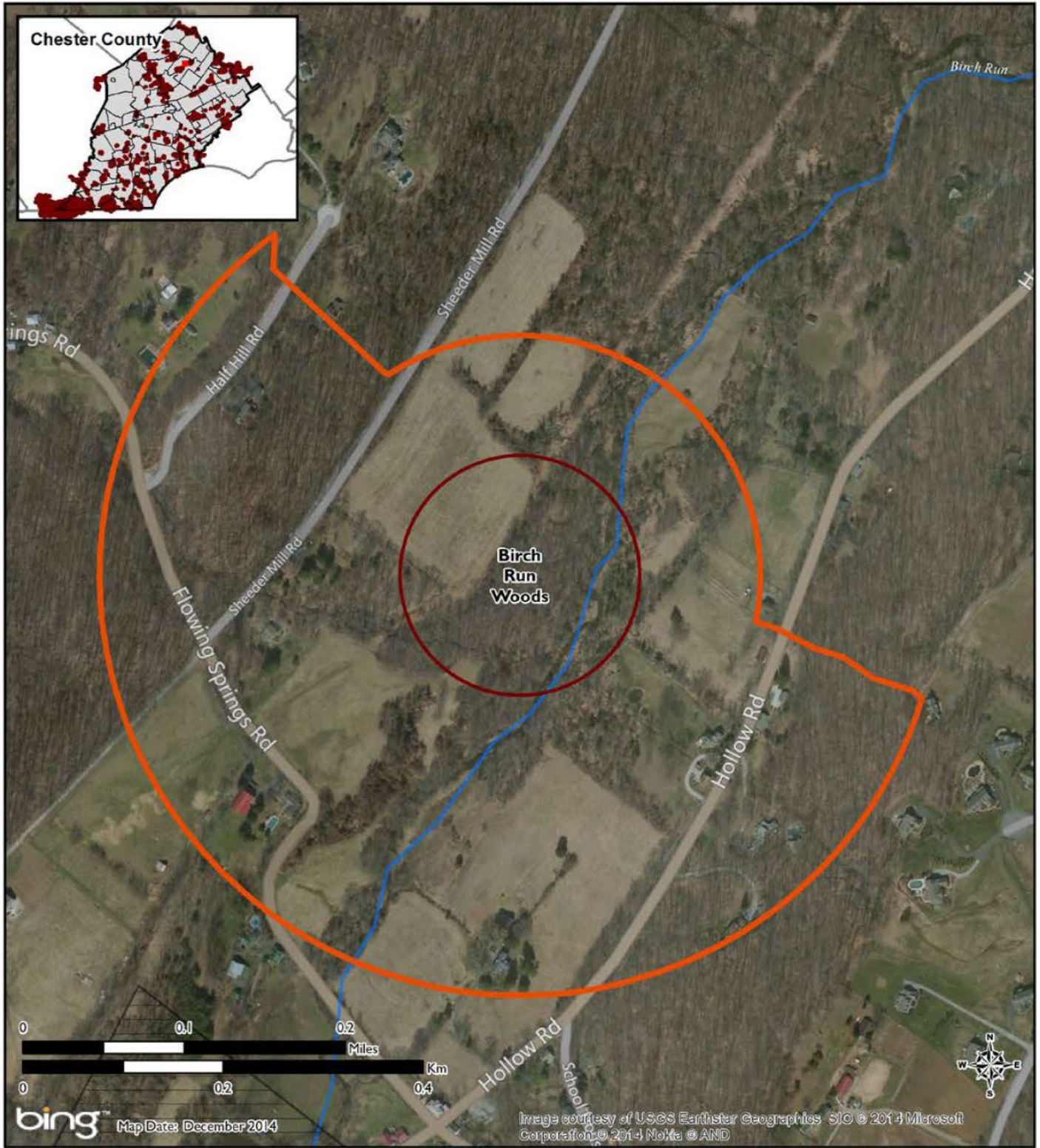
Municipalities: *West Vincent Township, East Vincent Township*

USGS quads: *Phoenixville, Pottstown*

Previous CNHI reference: *French Creek-East-Chester Co*

Associated NHAs: *None*

Overlapping Protected Lands: *French and Pickering Creeks Conservation Trust Conservation Easement*



Birch Run Woods Natural Heritage Area

Disturbed upland forest supports a population of wild kidney bean, a plant species of concern.

Significance Rank:
STATE



Pennsylvania Natural Heritage Program

Pennsylvania
Natural Heritage Areas

-  Core Habitat
-  Supporting Landscape
-  Other Supporting Landscape
-  Conservation Lands


Birch Run Woods NHA

PNHP Significance Rank: *State*

Site Description

This NHA is located along a forested hillside above Birch Run. A power line right-of-way cuts through the NHA along the edge of the forested habitat. Agricultural fields make up the northern end of the NHA and surrounding habitat. The disturbed forest along the right-of-way is dominated by a number of invasive shrub species, including multiflora rose, Oriental bittersweet, and Japanese honeysuckle. This habitat also supports a small population of **wild kidney bean**, a plant species of concern.

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			
Wild Kidney Bean (<i>Phaseolus polystachios</i>) 	G5	SIS2	N (PE)	10/7/2001	C
Sensitive species of concern A ³	---	---	---	6/2/2000	E
Sensitive species of concern B ³	---	---	---	6/2/2000	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.

Wild kidney bean is distributed across most of the eastern United States. Its range stretches from New York west to Michigan and south to Florida and Texas. In Pennsylvania it has a scattered distribution, with the majority of occurrences in the southeastern counties. Wild kidney bean can be found in a variety of habitats, including open woods, thickets, banks, and slopes.

Threats and Stresses

A large number of invasive species occupy this habitat and may continue to spread and change the overall species composition. Maintenance along the right-of-way may disturb natural habitats with mowing or herbicide spraying. Excessive deer browse may hamper the growth of native species.

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.
- Herbicide and fertilizer used along right-of-ways, roads, and fields may wash into the forested area and degrade the habitat or cause direct mortality.
- Succession of the shrubby habitat may shade the area too much for the wild kidney bean to persist.
- Over-browsing by white-tailed deer impacts all of the native vegetation and structure of the habitat.

Conservation Recommendations

Attempt to remove invasive species, while taking care to not open large gaps that may cause an increase in other invasive species. Minimize disturbance along the right-of-way and other portions of the NHA that will fragment the existing habitat.

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.
- Limit the application of chemicals within the NHA and surrounding areas in order to protect the quality of the habitat.
- Periodically cut woody vegetation to maintain the current habitat conditions. Time maintenance with consideration to limit disturbance of wild kidney bean.
- Monitor deer density and maintain it at a level that is able to be supported by the landscape.

Location

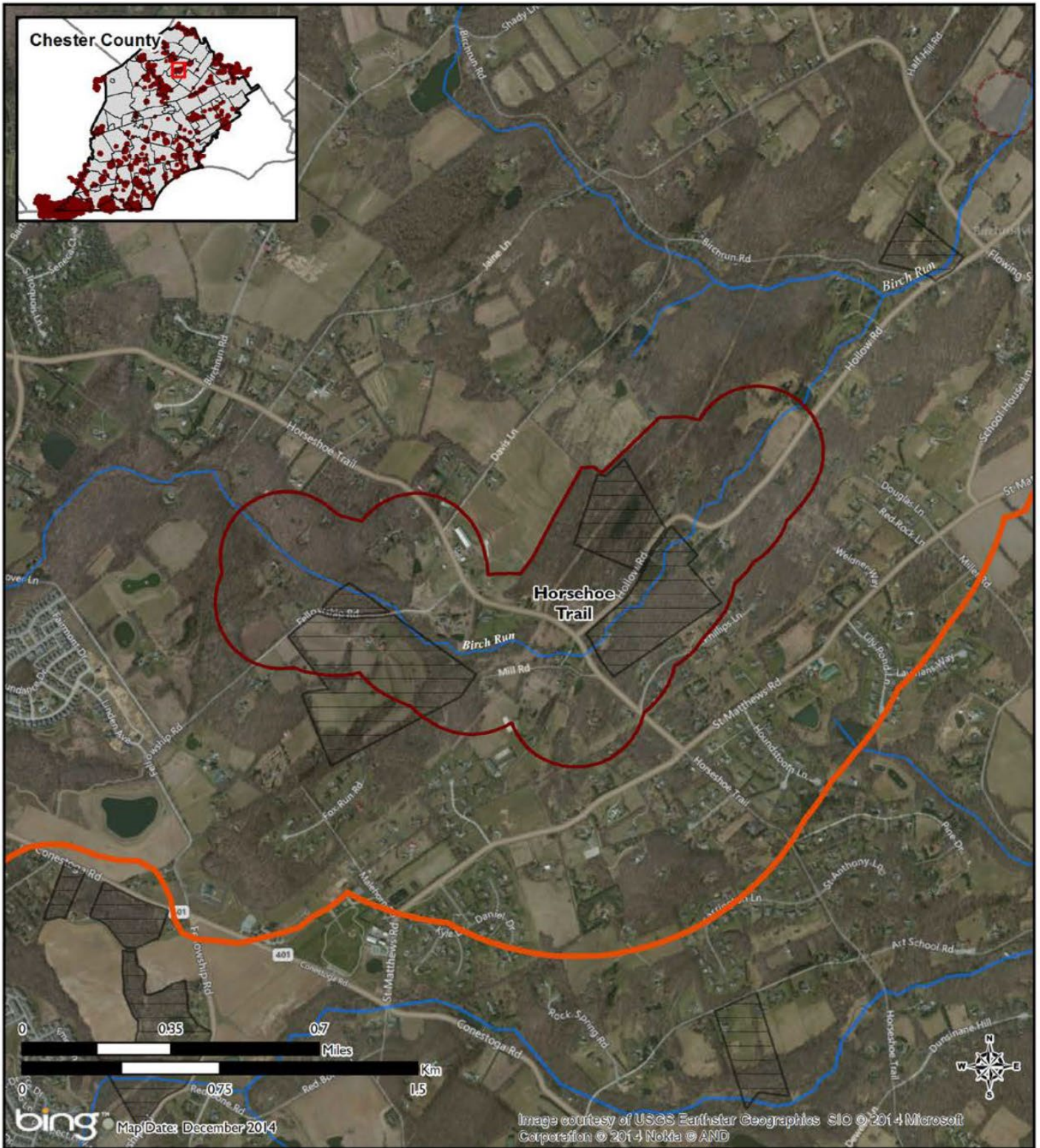
Municipalities: *West Vincent Township*

USGS quads: *Pottstown*

Previous CNHI reference: *None*

Associated NHAs: *None*

Overlapping Protected Lands: *None*



Horseshoe Trail Natural Heritage Area

Wetlands at this site support a population of a sensitive species of concern.

Significance Rank:
STATE



**Pennsylvania
Natural Heritage Areas**

-  Core Habitat
-  Supporting Landscape
-  Other Core Habitat
-  Other Supporting Landscape
-  Conservation Lands

Horseshoe Trail NHA

PNHP Significance Rank: *State*

Site Description

The Horseshoe Trail NHA encompasses a mostly forested landscape surrounding Birch Run. Residential housing is spread intermittently throughout the NHA, which is bordered by active agricultural operations. Birch Run and the adjacent forested landscape found within Horseshoe Trail NHA provide suitable habitat for a **sensitive species of concern** that is not named at the request of the jurisdictional agency overseeing its 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			
Sensitive species of concern A ³	S	---	---	4/16/2007	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.

Threats and Stresses

The riparian zone and adjacent forest within this NHA are surrounded by active agricultural fields and encroaching residential development.

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

- Degradation of water quality or quantity can have a negative impact on the habitat supporting the species of concern found at this location. The storm water runoff from roadways, suburban development and agriculture should be considered a potential source of significant contamination. Runoff from these sources has significantly higher levels of sediment, nutrients, pesticides, herbicides, and other pollutants than runoff filtered through a natural habitat.
- Fragmentation due to development or infrastructure activities can result in habitat loss and degradation of the site.
- Exotic invasive plant species threaten to compete with and displace native species.
- Over-browsing by white-tailed deer is a serious threat to the overall plant diversity and forest regeneration. An overabundance of deer can create the effect of park-like forests in which the native plant understory and vertical stratification are greatly reduced.

Conservation Recommendations

This site will be best protected by maintaining the integrity of vegetative buffers along Birch Run and assuring a consistent hydrologic regime.

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

- Protect the riparian zone and repair others that have been degraded by encouraging the growth of native vegetation. Careful determination is needed to avoid planting trees in floodplains that should remain as open canopied herbaceous wetland habitats. These habitats should be

maintained in their current open condition, with tree plantings to occur uphill of areas containing hydric soils.

- Avoid fragmenting the existing forests and wetlands with additional buildings or infrastructure. The primary conservation concern for this habitat should be to focus on safeguarding the quality and expanse of the natural landscape. While providing the primary habitat for the populations of species of concern, the natural landscape also helps to protect water quality of the streams that drain through this NHA.
- Control invasive species of plants to prevent native species from being crowded out by introduced species. Target pioneer populations of invasive plants for immediate and continued removal. It is much easier and more effective to keep a place invasive-free than to try and repair a heavily infested habitat. Invasive species management should be coordinated by individuals familiar with the native species as well as the invasive species present. Continual invasive species monitoring and control will be necessary.
- Reduce the deer density in the area. Uncommon species of native plants are particularly susceptible to deer herbivory.

Location

Municipalities: *West Vincent Township*

USGS quads: *Pottstown, Downingtown*

Previous CNHI reference: *None*

Associated NHAs: *None*

Overlapping Protected Lands: *French And Pickering Creek Trust Property, Agricultural Easement*

ZONING 390

Attachment 13

Township of West Vincent

Appendix M

Practices for Prevention and Control of Invasive Plants

A. Avoid planting invasive and noxious weed species.

Do not plant known or potentially invasive plant species, which are sometimes still sold as ornamental landscape plants (example: Burning Bush, *Euonymus alatus*). Native alternatives exist for all landscape situations and have superior ecological/habitat value. When planting nursery-grown stock, check for “hitch hiking” weeds.

B. Minimize disturbance, particularly to established native plant communities.

Disturbance to soil and vegetative cover creates opportunities for invasive species establishment. Protecting established native plant communities from disturbance, including deer browse and other threats, strengthens the ability of these communities to resist invasion.

C. Reclaim/restore disturbed areas.

When disturbance occurs, monitor for emergence of problem species. If existing native growth cannot adequately colonize the disturbed area, reseed or replant promptly with appropriate native species from certified sources so that weeds do not become established.

D. Avoid importing soils and ensure fill materials are weed free.

Soil and fill materials can serve as vectors for spread of invasive species through seeds or sprouting vegetative parts. Do not move fill in which invasive species are established.

E. Avoid fertilizing and liming the soil.

Lower nutrient, acidic soils favor native plant communities adapted to these conditions and disfavor most invasive species, many of which evolved in richer soils. Applications of lime and fertilizer make soil nutrients more available for weedy growth at the expense of native plant communities.

F. Ensure tools, equipment, and mulching materials are weed free.

Equipment, tools, mulch, and clothing can serve as vectors for spreading seeds and reproductive parts of invasive species. Locate and use weed-free project staging areas. Clean tools and equipment prior to working in established native plant communities and after working in an infested area during seed

dispersal periods. Restrict vehicles or other traffic that may transport weed seeds or plant material from entering a job site unless first washed and inspected. When practical, collect and incinerate plant parts removed from equipment. Sources of mulch should be free of invasive plant parts and seed; use of weed-free straw or wood fiber mulch is preferred.

G. Consider invasive species when making trail and roadway decisions.

Hikers, cyclists, horses, and vehicles can serve as invasion vectors. Avoid establishing trails and roadways within infestations. Monitor for emergence of invasive species along pathways through established native plant communities.

H. Adhere to best stormwater management practices to prevent spread of invasive plants.

Water can disperse seeds and vegetative parts of invasive species. Preventing erosion and sedimentation is critical to water quality and prevention of invasive plant establishment.

I. Inspect annually for emergence of invasive species.

Monitor for the emergence of invasive species on an annual basis (or more often if possible) to enable planning and control efforts before invasive species become difficult to eradicate.

J. Best Practices for Invasive Plant Control

Prevention and early detection are the most cost effective controls. Weed control efforts must take into account the ecological and cultural context, exploiting life cycle and form differences between invasive plants and desirable native growth. The amount of control required will depend on when the problem is addressed; the nature of the invading species; and the degree to which it displaces desired growth.

Targeted application of herbicides often has fewer adverse impacts on soils, surrounding vegetation, and the plant community's long-term trajectory than mechanical controls, and is less labor and time intensive. Herbicides are also sometimes the only effective means of controlling particularly pernicious species without substantial site disturbance, which presents its own maintenance and ecological costs. Herbicides should be applied only as directed by the manufacturer and in compliance with regulations.

Effective invasive plant control incorporates the following best principles and practices.

1. Determine whether to act. In determining whether to attempt control or eradicate an invasive species, consider:
 - a) *Is it realistic to act?* Constraints can include budget, the scale of the problem, and available labor.
 - b) *If no action is taken, will the invasive species remain stable, increase, or decrease?* Assess invasive species for level of vigor, adaptability to surrounding environment, and colonization strategy (by seed and/or vegetative expansion).

- c) *Are there desirable existing species to be protected?* Consider existing species and how they can be protected and encouraged to proliferate.
 - d) *Will removal of the invasive species cause loss of wildlife habitat?* Consider how temporary removal of vegetative cover may affect wildlife. Where necessary, phase eradication efforts to minimize impacts.
2. Consider the site's vegetative trajectory. Successful weed control requires an integrated approach that considers a site's current vegetative composition and the trajectory of that composition:
 - a) Where is the site's vegetative trajectory headed if nothing is done?
 - b) What species in that trajectory are desirable and undesirable?
 - c) What actions can be taken to favor desirable existing species?
 - d) Can species be introduced to further project goals?
3. Prioritize areas for control, emphasizing least-invaded areas first. Research shows that satellite colonies can expand faster than large core areas. Therefore, prevent deterioration by tending to least-infested areas before targeting large, established weed populations.

Where infestation is limited, check at different times of year for weed presence. Conduct spot weeding as necessary; removing a single large weed next to a native plant enables the remaining plant to grow faster due to reduced competition. While less-invaded areas are being stabilized, suppress growth of invasive plants, where possible, in invasive dominated areas so that the vigor and reproductive ability of species in these areas is reduced. Focus subsequently on the next best areas. Expand treatment areas as resources allow and once natives achieve dominance of at least 70% cover.

4. Determine the level of acceptable control. Determine whether the target invasive species will be eradicated or controlled at an identified threshold. This may vary by species and context. In some cases, eradication may not be possible.
5. Allow for optimal timing of control actions. A control plan for invasive species should take into account optimal timing of control actions. For instance, controls should be initiated prior to seed formation to minimize further spread. Evergreen species can be targeted when native non-evergreen growth is dormant. Cool season weeds in a warm season community can sometimes be controlled prior to the emergence of warm season growth.
6. Exploit life cycle and size differences between invasive species and desirable growth. Use selective herbicides to avoid damaging non-target growth. When a height differential exists between desirable native growth and invasive exotics, selective height cutting or herbicide treatment can target growth above or below the height of the desirable species. Evergreen

invasive species can be treated with herbicides when desirable non-evergreen native species are dormant.

7. Use herbicide selectively in targeted applications. To avoid adverse environmental impacts, herbicide selection and application should be targeted and made by an experienced applicator. Targeted spot applications are generally preferable to broadcast applications.
8. Minimize disturbance to soils and desirable growth during control actions. Select control methods that minimize disturbance to soils and desirable growth to reduce opportunities for emergence of new weeds.
9. Limit seeding of invasive plants before and during control actions. For species that spread by seed, initiate control prior to seed set. If treatment is on hold while targeting higher priority areas, suppress plants' abilities to set seed, usually through sequential cutting during the growing season. If a target species has already flowered but seeds have not yet dispersed, cut off the seed heads, bag and remove from the site to the extent possible. As some herbaceous species will set seed even after being cut, the cut top-growth should be removed.
10. Accommodate for a second wave of invasive species emerging after initial controls. In some instances, control of one invasive species may result in a second invasion due to the disturbance associated with the control actions and the removal of competitive cover. Assess species present to determine whether a second wave is likely and plan accordingly.
11. Recruit existing desirable species where possible. Where present, recruit existing desirable species to colonize areas where invasive plants are removed. For example, removing weeds next to existing colonies of native species that reproduce vegetatively can be an effective recruitment strategy.
12. Use resources efficiently. Do not put efforts into controlling weeds that desirable species will outcompete over time. When possible, coordinate control efforts with conservation groups and adjacent property owners, maximizing treatment efforts and cost effectiveness.
13. Determine whether and when new plantings will be installed. Where existing desirable growth is either absent or not capable of colonizing, seeding and planting container-grown material can replace removed invasive species and prevent subsequent invasions. Conducting weed eradication and planting simultaneously offers several benefits: competition from desirable plants can aid eradication efforts, with planted vegetation taking over where invasive species are removed, thereby avoiding any non-competitive periods. When it is not possible to eradicate weeds without affecting planted species, planting should occur after weed control. New plantings should match habitat conditions, be of an appropriate competitive level given

expected invasive species pressures, and tolerate expected management procedures. Where desired vegetation is establishing, traffic may need to be temporarily restricted.

14. Avoid weed mats and landscape fabrics. Landscape fabrics are generally not recommended as such materials can break down over time and wash off into waterways. They can also leave unsightly tears or hummocks where weeds that have germinated are pulled out and the fabric comes out with the roots.
15. Consider location when composting or disposing of mechanically removed invasive plants. Due to the vigorous reproductive capacity of invasive plants, removed invasives should not be disposed of indiscriminately. Composting cut/pulled invasive species or leaving them in situ should occur only when seeds and reproductive parts cannot reestablish.
16. Doing nothing may be appropriate in some instances. Some weeds do not present a serious problem and do not require active control as they will be outcompeted over time. Determine this by analyzing the competitive abilities of weed species present in relation to planted/managed vegetation.
17. Monitor following control treatments to ensure treatment efficacy. Monitor following control actions to assess treatment efficacy and to ensure new undesired species do not fill the void of eradicated species.

K. Invasive Plant Control Methods

A successful control plan matches methods and timing to the target species, sometimes requiring multiple integrated methods. Herbicide selection and application rates are best determined in consultation with a skilled applicator in accordance with species present and site conditions.

Control Method	Targets	Notes
Biological control (via approved introduced insects and pathogens)	Select species	<ul style="list-style-type: none"> • Approved bio-controls available for select species. • Permit may be required.
Controlled burning	Select herbaceous and woody species	<ul style="list-style-type: none"> • Permit required. • Must be conducted by a trained professional. • Favors native species that evolved with fire. • May favor some invasive species.
Flame weeder	Annuals	<ul style="list-style-type: none"> • Kills aboveground but not belowground growth. • Permit may be required.
Forestry mower (grinds stumps to limit regrowth)	Woody growth with stems less than 6" in diameter	<ul style="list-style-type: none"> • Mulch from cut woody growth helps provide erosion control and returns nutrients to the soil. • Tracked equipment avoids rutting.

<p>Girdling (cutting through the bark around a trunk's circumference)</p>	<p>Large trees</p>	<ul style="list-style-type: none"> • Some trees respond with increased seed production. • Killed tree can provide wildlife habitat. • Tree-of-Heaven (<i>Ailanthus altissima</i>) should not be girdled as it responds with rampant root and stem sprouting.
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Control Method	Targets	Notes
Herbicide applications		
<ul style="list-style-type: none"> – Basal bark method (painting the lowermost part of the trunk) 	<p>Woody plants with trunks less than 6-8" in diameter or woody species with very thin bark</p>	<ul style="list-style-type: none"> • Requires oil soluble herbicides. • Labor intensive where stem counts are high. • Total control may require several months.
<ul style="list-style-type: none"> – Broadcast sprays (treatment of all growth in an area) 	<p>Heavy infestations</p>	<ul style="list-style-type: none"> • Can affect adjacent non-target vegetation. • For woody vegetation, cut to the ground and allow 3-4 weeks for some regrowth to occur before treating regrowth.
<ul style="list-style-type: none"> – Cut and paint (painting cut stump) 	<p>Woody species</p>	<ul style="list-style-type: none"> • Allows for targeted application minimizing damage to non-target species.
<ul style="list-style-type: none"> – Hack-and-squirt or stem injection ("cup" cuts in bark hold herbicide) 	<p>Large trees</p>	<ul style="list-style-type: none"> • Do not use in the spring when upward sap flow will flush out herbicide.
<ul style="list-style-type: none"> – Spot foliar application 	<p>Small populations Undesired growth intermingled with desirable growth</p>	<ul style="list-style-type: none"> • Reduces collateral damage to adjacent non-target vegetation.
<ul style="list-style-type: none"> – Wick application (to foliage with wick applicators) 	<p>Small-to-midsized populations</p>	<ul style="list-style-type: none"> • More extensive application than spot foliar treatments. • Drift may affect non-target species.
<p>Removal by the roots (pulling out, grubbing out, tilling, multiple surface grinding, weed wrenches, etc.)</p>	<p>All species (particularly effective on annuals and biennials)</p>	<ul style="list-style-type: none"> • Disturbs the soil, which can result in germination of weed seeds, thereby requiring further weed control. Tamping the soil firmly where plants are removed helps limit opportunities for weed seed germination. • Can disturb root systems of adjacent non-target vegetation. • May require subsequent control of species that can re-sprout from root fragments remaining in the soil. • When possible, pulled/destroyed plants should be removed from the site if still able to produce seed or re-sprout.

<p>Removal of top growth (cutting/mowing to a plant's base or to a height just above the growth of desired species)</p>	<p>Annuals Herbaceous and woody plants intermingled with desirable species capable of suppressing regrowth of cut weed</p>	<ul style="list-style-type: none"> • Reduces the vigor of target species by starving the roots. • May require repeat cuttings for full control. • Annual mowing favors herbaceous growth. • Cutting weedy growth around desirable rhizomatous/stoloniferous plants provides an expansion zone into which the desirable species can expand. • When a height differential does not exist, it can be created by cutting around desirable species and then treating lower regrowth with herbicide. • When possible, cut plants should be removed from the site if still able to produce seed.
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Control Method	Targets	Notes
Root cutting (cutting the root below the soil line)	Species intermingled with desired plants able to limit regrowth of cut specimens.	<ul style="list-style-type: none">• Results in less soil disturbance and harm to adjacent non-target plants than removing target species by the roots.• Remaining root fragments can re-sprout.• When possible, cut plants should be removed from the site if still able to produce seed or sprout from vegetative parts.

ZONING 390
Attachment 14
Appendix N

WEST VINCENT TOWNSHIP TIMBER HARVEST NOTIFICATION

729 Saint Matthews Road, Chester Springs, PA 19425
(P) 610-458-1601 (F) 610-458-1603 (E) office@westvincenttp.org

This notification is required for any timber harvesting project of one acre or more:

*Name of Property Owner:

*Phone Number:

*Address of Property Owner:

*E-mail Address:

*Name of Contractor:

*Phone Number:

*Contractor's Address (street, city, zip code):

*E-mail Address:

*Location of Work (street, city, zip code):

* UPI:

Check List for Required Information: Please place a check mark (✓) in the box for each completed item:

- Property plot plan including the following:
 - Property boundaries, proposed haul and skid road(s), construction entrance, streams and wetlands, slopes of 25% or greater, and proposed limits of timber harvest area.
 - A logging plan meeting the requirements of Township Code §390-166.D shall be kept on site for the duration of activities.

- Total area to be disturbed: _____ (Acres, to nearest 0.1 acre)
 - Areas of disturbance to be calculated: Parking and loading areas, skid trails, stump grinding, clearing, etc.

- PADEP Permit Required _____yes _____no (If yes, please attach)

- Impact on PA Natural Heritage Area _____yes _____no

- Anticipated Start Date: _____ Anticipated Completion Date: _____

*Signature of property owner:

*Date:

*Signature of applicant (if different from the property owner):

*Date:

OFFICIAL USE ONLY:

Date Received: _____

Received By: _____

Permit Number: _____

SECTION 17. If any sentence, clause, section or part of this ordinance is, for any reason, found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts hereof. It is hereby declared as the intent of the Board of Supervisors that this ordinance would have been adopted had such unconstitutional, illegal or invalid sentence, clause, section or part thereof not been included herein.

SECTION 18. All ordinances or parts of ordinances conflicting with any provisions of this ordinance are hereby repealed insofar as the same affects this ordinance.

SECTION 19. This amendment shall be effective 5 days following adoption, as by law provided.

ENACTED AND ORDAINED this _____ day of _____, 2022.

BOARD OF SUPERVISORS OF
WEST VINCENT TOWNSHIP

ATTEST:

JOHN A. GRANGER, Manager

BERNIE COURIS, Chair

SARA SHICK, Vice-Chair

DANA ALAN, Member