

Environmental Impact Assessment

1. DESCRIPTION OF THE PROPOSED PROJECT

a. Briefly describe the total development project

This project seeks to restore 5 acres of native forest vegetation within Princeton's newest open space acquisition, which is located on the eastern Princeton Ridge at the corner of Herrontown and Mount Lucas Roads.

The project area is located in the eastern half of the approximately 90-acre, largely forested preserve. It was cleared of the natural forest vegetation for farming purposes more than 100 years ago and is now heavily infested with invasive species such as multiflora rose, wineberry, Japanese honeysuckle, bittersweet and mugwort. There is currently an abandoned residence as well as two barns on the site which will be demolished in 2026 prior to the start of this project to ensure future safe public access to the site. The goal of the project is to restore the building footprints and the surrounding disturbed area by removing invasive species, planting native trees and shrubs and seeding the ground with a mix of native, shade-tolerant forbs and grasses, thus setting the area on a trajectory towards native forest establishment.

b. State objectives of the project

The objectives of the project are the following:

1. Increase the value of the area for wildlife

The 90-acre preserve in which the project site is located is home to a large array of wildlife, including the state endangered red-shouldered hawk, which has been observed breeding in the forested areas surrounding the restoration site. The current invasive-dominated scrub/shrub habitat on the project site offers very limited value to local wildlife and by planting more than 5,000 native trees and shrubs, breeding habitat, shelter and food sources for local wildlife will be significantly improved.

2. Decrease edge effects in the surrounding forest and increase the site's resiliency to storm events and drought

The project site is located within a sizeable clearing inside the forested areas of the 90-acre preserve, and the edges of the surrounding forest are exposed to wind and higher light levels, which lead many invasive species to flourish in these edge habitats. By increasing canopy cover, this project takes a first step towards making the area more resilient to storm events. Planting trees and shrubs will increase soil

infiltration rates and shade and can, in the medium and long term, protect the area and surrounding deciduous forest better against prolonged droughts and heatwaves. The increase in shade also makes the project site as well as the adjacent forested areas less suitable for light-loving invasive species which thrive along forest edges and in open habitats, thus decreasing invasive species pressure.

3. Enhance the park's value for the public

The highest priority for Princeton residents according to the park survey published in the summer of 2025, was to improve stewardship of our existing open spaces. The project will result in a tangible positive change to the character of the area, showing how areas infested by invasive species can become a more valuable and arguably more aesthetically pleasing habitat for future visitors to the preserve.

c. Fully describe multi-phase projects

Phase 1: Invasive species removal

In late fall 2026, invasive woody species will be manually removed by contractors using a range of equipment including chainsaws, hedge trimmers or small, tracked machinery. Having the site cleared in late fall will minimize impacts on local wildlife, in particular nesting birds that may utilize the area. In late spring 2027, once vegetation starts to leaf out and species are readily identifiable and susceptible to herbicide uptake, herbicide will be applied to resprouting shrubs and vines. Small areas infested with mugwort and other non-woody vegetation which occur in the vicinity of the buildings, will be mowed and treated with herbicides before planting.

Phase 2: Planting

Prior to planting, an 8ft heavy-duty deer fence will be constructed around the 5-acre restoration site. Seeding of native grasses and forbs and planting of more than 5,000 native trees and shrubs will occur in fall 2027 and spring 2028. Planting will be done by contractors and volunteers.

2. DESCRIPTION OF THE ENVIRONMENT

Describe existing environmental features:

a. Vegetation

The project area is situated within a 90-acre preserve that is largely deciduous forest with areas of exceptional value deciduous wooded wetlands. Tree species in the preserve include white and pin oak, tulip poplars, sweetgum, red maple and beech as well as pockets of

spruce and white pine. In contrast, vegetation in the project area consists largely of invasive plants such as multiflora rose, wineberry, Japanese honeysuckle, stiltgrass, and mugwort with only few mature trees. The land use within the project area is categorized as ‘residential, rural, single unit’ and ‘coniferous brush/scrubland’.

b. Wildlife, including State and federal threatened and endangered species and critical habitats

According to the Landscape Project, the coniferous brush/shrubland habitat of the project area supports two species of special concern, the silver-haired bat and spotted salamander which have been sighted in 2019.

Other areas within the 90-acre preserve but outside of the project site support the state endangered red shouldered hawk, which has been observed to breed in the deciduous forest habitats adjacent to the project site (also in 2019), and the great blue heron that was recorded foraging along the Van Horn Brook in 2014. There are also vernal pools located south and west of the project site which offer breeding habitat for the spotted salamander.

Other species observed in the area include bald eagle, Cooper's hawk, red-tailed hawk, osprey, golden eagle, blue heron, four hummingbird species, wood duck, oriole, tanager, indigo bunting, redstart, red-eyed vireo, towhee, yellow warbler, pileated woodpecker, black-and-white warbler, and various thrushes as well as eastern box turtle, red fox, gray fox, mink, deer, raccoon, opossum, skunk, and wild turkey.

There are no Natural Heritage Priority Sites on the site. The Natural Heritage Grid Data shows records for Wild Comfrey in an area overlapping with parts of the project site but it is highly unlikely to occur in the habitats found here.

c. Geology, topography, and soils

The bedrock geology consists of Jurassic Diabase.

The topography of the project site is largely flat. The land to west slopes gently to moderately downward towards the headwaters of the Van Horn Brook.

The soil type is Neshaminy Silt Loam NehB (2-6% slopes).

d. Water resources/hydrology

The project site is located in the Millstone River watershed. The Van Horn Brook, a category 2 stream, rises just outside the south-western corner of the 90-acre preserve and flows across the western side of the property, approximately 250 feet west of the project site. Deciduous wooded wetlands of exceptional value are located to the south and west of the project area, which is located fully outside of the 150ft riparian and wetland buffer zones.

e. Historic/archeological resources

There are no historic properties or districts on or eligible for the National or State Register of Historic Places on the site. The structures that are currently on the site were inspected by the State Historic Preservation Office in 2025 to ensure that there were no concerns with them being demolished prior to the implementation of this project.

f. Transportation/access to site

There are currently no developed trails on the site. Access to the structures and surrounding areas is possible via existing driveways from Herrontown and Mount Lucas Road. Future pedestrian access is envisaged to connect to the trail systems in Autumn Hill, to the right-of-way between Herrontown Road and Mount Lucas Road and to Blue Spring Road in Montgomery.

g. Adjacent land uses/description of the surrounding neighborhood

Adjacent land uses are residential, wetlands and forest. Together with the other forested and preserved open spaces in the close vicinity such as Autumn Hill Reservation and Herrontown Woods, the 90-acre preserve in which the project site is located serves as an important wildlife habitat and corridor.

3. ENVIRONMENTAL IMPACT ANALYSIS OF PROPOSED ACTION

Impacts are defined as direct or indirect changes to the existing environment, whether beneficial or adverse, that are anticipated to result from the proposed action or related future actions and uses. Any off-site impacts, such as increased traffic on neighborhood roads or increased noise levels in surrounding areas, should be described. Whenever possible, environmental impacts should be quantified (i.e., number of trees to be removed, cubic yards of cut/fill, etc.). Provide the information listed below for both the construction period and the operation of the site once the project is complete.

a. Discuss all affected resources and the significance of each impact

The resource that is most affected by the project is the current vegetation within the project area: invasive shrubs, vines and herbaceous plants will be removed from an area of approximately 5 acres. No trees will be removed as part of the project. In their stead, 5,200 native trees and shrubs will be planted and fenced to provide protection from deer. The restoration will, in the long term significantly change the character of the site, which is currently characterized as a scrub/shrub habitat that will be put on a trajectory to become a deciduous upland forest habitat.

Another resource that will be significantly impacted is soil: the planting of native trees will improve soil quality by increasing stability, aeration and fertility.

A resource that may be indirectly affected is water: an improvement in soil stability and infiltration can reduce surface water flow from the project area to the wetlands that are located to the south and slightly down-slope of the site.

b. Discuss short-term and long-term project impacts

Short-term impacts are largely related to local disturbance that will occur during the construction period:

- The manual removal of invasive vegetation may affect local wildlife within the area that uses the invasive shrubs for shelter and foraging. Noise from the machinery may also carry slightly further than the project site, however, the removal is not anticipated to take longer than a few days and will take place in late fall so as not to impact breeding birds.
- Soil disturbance may occur when machinery is used on site – all machinery will be tracked and not used after heavy precipitation when site is excessively wet.
- There is the potential for herbicide to impact native species if not applied properly. Any application will be carried out in spring when vegetation is readily identifiable to avoid impact on native species. A licensed operator familiar with the local flora will be hired to carry out herbicide applications.
- The construction of the fence will cause temporary noise disturbance in the vicinity of the site, but this activity will be limited to a short period as well.
- A slight increase in traffic may be observed during the construction phase; however, this will be limited to a few weeks at a time and any contractor can utilize the driveway up to the site and park there.

Medium and long-term impacts will be positive. The establishing native forest vegetation will begin to shade out invasive species, provide breeding habitat and food sources for local wildlife and improve soil structure and function. The area will become more resilient to impacts from storms, drought and heatwaves and sequester more carbon. The seeds from the trees and shrubs may also further the establishment of native species in nearby areas. Furthermore, the restored forest area will also make the experience of this open space a lot more enjoyable for visitors.

c. Discuss anticipated increase in recreation and overall use of site over time

There are currently no developed trails on the site which is primarily used as a wildlife refuge. Following the implementation of this project, trails will be built and an increase in recreational use is expected.

d. Identify adjacent environmental features that may be affected by the proposal

The restoration area is located in close proximity to private open space off Herrontown Lane and an undeveloped forested area surrounding the housing developments off Blue Spring Road in Montgomery lies just to the north of the 90-acre preserve in which the restoration site is located. Herrontown Woods and Autumn Hill Reservation are located a few 100ft away to the east. It is anticipated that the project will have a positive effect on these areas by reducing invasive plant pressure and increasing native plants which can serve as a seed source.

e. List any permits and administrative approvals required for project and brief status (i.e., waterfront development)

No permits will be required for the proposed project.

f. For development that would impact an undisturbed portion of the project site, the local government must submit a Natural Heritage Data Request Form to the DEP's Office of Natural Lands Management (form available at the website or by writing to Natural Heritage Program, PO Box 404, Trenton, New Jersey 08625-0404). Please attach and discuss the results of the search.

The project will focus only on disturbed areas, no undisturbed portions will be affected.

g. Discuss if/how the project may be impacted by sea level rise and any related design considerations.

The project will not be impacted by sea level rise.

4. ALTERNATIVES TO THE PROPOSED ACTION

a. Identify alternate sites

There are no alternate sites.

b. Discuss alternate levels and types of development

There will be no development as part of this project.

c. Compare environmental impacts of each alternative

If the ecological restoration was not going to go ahead, the invasive species already dominating the proposed restoration area would spread further and future management would become increasingly difficult.

5. MITIGATING MEASURES

- Prior to the beginning of manual invasive species removal in late fall and again in spring prior to the application of herbicides, the open space manager will survey the site for turtles or other herpetofauna which may occur in this area.
- The application of herbicide will be carried out in spring when vegetation is readily identifiable to avoid impact on native species. A licensed operator familiar with the local flora will be hired to carry out any herbicide applications.
- All machinery will be tracked and not used after heavy precipitation when site is excessively wet.
- Tree protection zones will be installed around native trees to protect them from machinery if applicable.

6. MONITORING, EVALUATION AND LONG-TERM MAINTENANCE (FOR RESTORATION/ ENHANCEMENT PROJECTS)

a. Identify specific and measurable on-the-ground outcomes

This project will:

4. Plant 4,200 native trees, and 1,000 native shrubs
5. Clear approximately 5 acres of invasive species
6. In the medium and long-term, change the character of the project site from invasive scrub/shrub to deciduous forest
7. Provide habitat and food sources for local wildlife
8. Increase the site's resiliency to storm events and drought

b. Briefly describe the applicant's monitoring plan, including long-term maintenance of the project site. The applicant must monitor the project site for a minimum of three years to ensure project viability and success. For example, if the project includes tree planting, the applicant must be able to replace any lost trees or take other measures to achieve the desired outcome. Please note that monitoring expenses are not an eligible cost.

Plant material will be monitored twice a year, at the beginning and end of the growing season, to assess the establishment. Dead or diseased trees and shrubs will be replaced and additional wildflower and grass seeds may be reseeded if necessary. Any regrowth of invasive species that threatens the establishment of the planted native vegetation will be removed manually or through the application of herbicides. Integrity of fencing will be checked bi-weekly by municipal staff until the trees and shrubs have grown large enough when fencing will be removed.

7. AUTHORS(S) AND QUALIFICATIONS

Inga Reich

Dr. Reich holds a Ph.D. in Ecology from the National University of Galway Ireland. She has more than ten years of experience in ecological research, environmental consulting and management. Since 2024, Dr Reich has been employed as the Open Space Manager for Princeton.