Byberry Township African American Burial Ground

"Unheeded and Lone"

Interpretation Plan

February 12, 2024

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Prepared by:

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This project of the Society to Preserve Philadelphia African American Assets and the Preservation Alliance for Greater Philadelphia is funded by a grant from the National Trust for Historic Preservation's Henry A. Jordan Preservation Excellence Fund to create an interpretive plan for the historic Byberry Township African American Burial Ground in Northeast Philadelphia, Pennsylvania. The groundwork for this interpretive planning is detailed in the Consultant Report included as Appendix A.

1. Background

"Interpretive planning is a goal-driven process that determines appropriate means to achieve desired visitor experiences and provide opportunities for audiences to form their own intellectual and emotional connections with meanings/significance inherent in the resources while protecting and preserving those resources." Comprehensive Interpretive Planning, National Park Service

In the Preservation Alliance for Greater Philadelphia's application to the National Trust for Historic Preservation's Henry A. Jordan Preservation Excellence Fund for this effort, we stated our goal for this project to be:

"We will have in hand a holistic, actionable plan to effectively understand, interpret and memorialize this neglected burial ground and honor the persons of color interred there; a plan which takes into consideration the perspectives and priorities of multiple stakeholders."

1.1 History and significance

On January 17th, 1780, the Byberry Quaker Meeting purchased about 330 square feet of farmland from their neighbor to the northeast, Thomas Townsend.[1] This land was then consecrated with the sole purpose to remain a final resting place for free and formerly enslaved Africans who lived in Byberry. The site's original name was *The Burying Place For All Free Negroes or People of Color within Byberry*. Today, it is now named *The Byberry Township African American Burial Ground.*

The only known burial recorded for this site was for a formerly enslaved man named Jim Walton.[2] Jim was enslaved by Daniel Walton (of the 2nd generation of Byberry Waltons). Jim lived in Byberry when the land was still a dense forest. His primary work was at a sawmill processing timber.[3] While not much is known about Jim, it is known that he was enslaved to Daniel Walton in 1767[4] (and possibly earlier) and that he was freed sometime shortly after the passing of his former enslaver. Jim passed in the year 1780[5]–the same year that Pennsylvania passed the Act of Gradual Abolition. His burial was the first and only known burial at the Byberry Township African American Burial Ground.

Figure 1 - SPPAAA members walking towards the base of the path that led down to the burial grounds. Photo by Hannah Wallace.

The Byberry Township African-American Burial Ground is an extremely significant historic site. Located to the rear of the Benjamin Rush State Park (BRSP), this African American burial ground has survived for more than 200 years in near-undisturbed condition. It was established by a religious organization (The Byberry Quaker Meeting), specifically for the burials of African Americans who were free or had been manumitted or set free by any other

instrument of law. The members of the Byberry Preparatory Meeting of Friends held significant positions in their Religious Organization which opposed all War, including the American Revolutionary War. These individuals were involved with the founding and advancement of important institutions such as the Abolition of Slavery and the Constitutional Rights of Religious Practice, and Expression of Objection due to Conscience.[1] The Byberry Burial Ground is among the oldest known African American cemeteries in the City of Philadelphia. In 2015 the site was listed on the Philadelphia Register of Historic Places thanks to the voluntary research and advocacy work of Joseph Menkevich. Despite a storied history, the site itself is neglected and unmaintained, with no clear steward.

After 200 years of owning the burial ground, Byberry Quaker Meeting sold the land to The City of Philadelphia in 1980 for $3,000.[6] After a careful review of the meeting minutes of Byberry Quaker Meeting between 1973-1981 (accessible via Swarthmore's archive),[7] the consultant found no written evidence as to *why* Byberry Quaker Meeting decided to sell the burial ground to The City of Philadelphia in 1979. The meeting did record the transfer of funds for the sale of the burial ground on two occasions:[8]

1. December 30th, 1979 - "Edwin Bonner reported that the status of the money situation with the city of Philadelphia for the old burial ground is still the same due to an approaching change in administration."
2. June 29th, 1980 - "Edwin Bonner reported that $261.00 had been received from the Fiduciary Corp. This is one half year's interest on our funds invested with them. The check for $3,000.00 was received by the Trustees from the City of Philadelphia for the sale of the old graveyard property for people of color."

The deed transfer was never recorded by the city, thus leading to a break in stewardship for 43 years. During this time, the site succumbed to littering, dumping and the overgrowth of all plant life in the area where numerous trees have grown close to 30 feet high, and weeds exist over the entire site. There is also no signage or fencing or indication that there is a burial site.

The Society to Preserve Philadelphia African American Assets (SPPAAA) became aware of the site in February 2022. By partnering with the Preservation Alliance for Greater Philadelphia, efforts were initiated to address the status of the burial ground. However, all planning to date was based upon a title search conducted in 2022 that concluded that the deed of sale between the Byberry Meeting and the City of Philadelphia was never recorded. This would explain the lack of oversight and maintenance of the site which would leave the burial ground in this devastating condition. The Byberry Meeting is not in the position to resume active ownership of this site leaving the future stewardship of the site in question.

SPPAAA is an organization dedicated to preservation of history, which includes education and awareness. SPPAAA, and other organizations and individuals, would use this Interpretation Plan as guidance on informing the public about the existence and significance of the Byberry Township African American Burial Ground. However, SPPAAA was not formed to acquire properties. As such, there have been discussions with the Byberry Meeting and dialog with the Commonwealth of Pennsylvania about incorporating the burial ground into the Benjamin Rush State Park. Based upon the location of the burial site, with no direct access other than through the Benjamin Rush State Park, this would be a natural solution. And as of November 2023, the state is in agreement. Guidelines have been presented by the state on how to proceed with a transfer of ownership.

Barring any objection from the current owner, our desire is that the current owner agree to the transfer of the property to the Pennsylvania State Department of Conservation and Natural Resources (DCNR). This will ensure professional responsibility and lifelong oversight and maintenance of the precious Byberry Township African American Burial Ground.

The work of memorializing this sacred site was initiated in 2022 through this project by the Society to Preserve Philadelphia African American Assets (SPPAAA) and the Preservation Alliance for Greater Philadelphia (PAGP). This work was funded by the Henry A. Jordan Preservation Excellence grant from The National Trust for Historic Preservation. The pages that follow will present the progress made, relationships formed, and next steps to bring this project closer to its ultimate goals; finding a permanent steward for the land, determining whether there were any additional burials on the site and creating a memorial to honor the free and formerly enslaved Africans interred at the Byberry Township African American Burial Ground.

Figure 2: This is the intersection of the non-functioning Old Townsend Road, Burling Avenue and Meeting House Roads, aka the Byberry Township African American Burial Ground. The greenery at the end of this paved path is the beginning of the burial ground - Photo by Deborah Gary

1.2 Existing access and interpretation

During the interpretive planning process, the consultant, Hannah Wallace, penned a theme for planning – Unheeded & Lone. It is befitting that this theme will be used in future interpretative efforts. *Unheeded & Lone: The Byberry Township African American Burial Ground* is based upon the following poem.

The Grave of the Slave by Sarah Louisa Forten Purvis

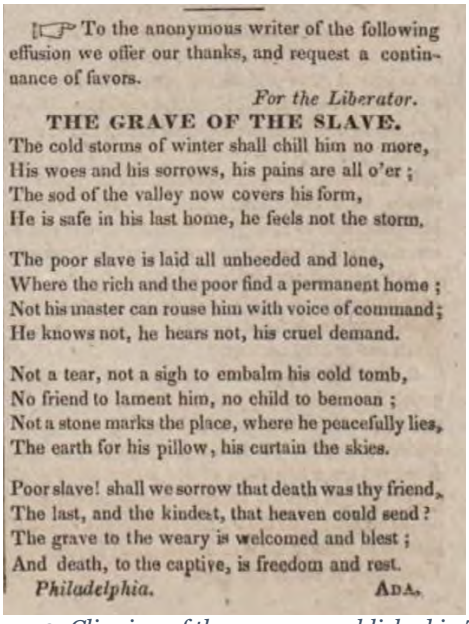
Published in *The Liberator,* January 22nd, 1831

The cold storms of winter
shall chill him no more,
His woes and his sorrows,
his pains are all o'er;
The sod of the valley
now covers his form,
He is safe in his last home,
he feels not the storm.

The poor slave is laid
all unheeded and lone.
Where the rich and the poor
find a permanent home;
Not his master can rouse him
with voice of command;
He knows not and hears
not his cruel demand;

Not a tear, nor a sigh
to embalm his cold tomb,
No friend to lament him,
no child to bemoan;
Not a stone marks the place
where he peacefully lies,
The earth for the pillow,
his curtain the skies.

Poor slave, shall we sorrow
that death was thy friend,
The last and the kindest
that heaven could send?
The grave of the weary
is welcomed and blest;
And death to the captive
is freedom and rest.



☞ To the anonymous writer of the following effusion we offer our thanks, and request a continuance of favors.

For the Liberator.

THE GRAVE OF THE SLAVE.

The cold storms of winter shall chill him no more,
His woes and his sorrows, his pains are all o'er;
The sod of the valley now covers his form,
He is safe in his last home, he feels not the storm.

The poor slave is laid all unheeded and lone,
Where the rich and the poor find a permanent home;
Not his master can rouse him with voice of command;
He knows not, he hears not, his cruel demand.

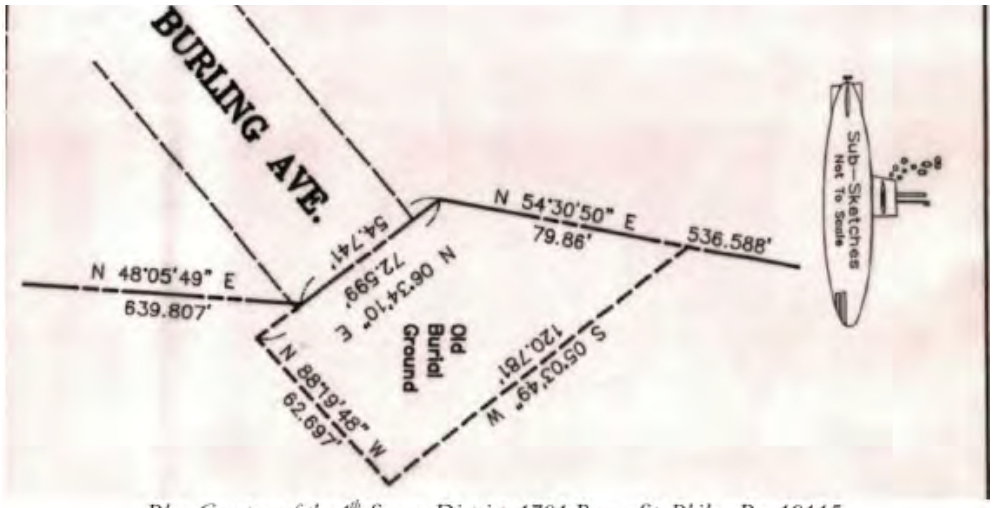
Not a tear, not a sigh to embalm his cold tomb,
No friend to lament him, no child to bemoan;
Not a stone marks the place, where he peacefully lies,
The earth for his pillow, his curtain the skies.

Poor slave! shall we sorrow that death was thy friend,
The last, and the kindest, that heaven could send?
The grave to the weary is welcomed and blest;
And death, to the captive, is freedom and rest.

Philadelphia. ADA.

Figure 3: Clipping of the poem as published in The Liberator newspaper. Available in full on Internet Archive.

This poem was written by Sara Louisa Forten Purvis. It was later set to music by the famed African American composter, Francis Johnson. Sarah and the women in her family hosting meetings in Byberry for the Philadelphia Female Anti-Slavery Society. Her sister Harriet Forten Purvis and brother-in-law Robert Purvis owned a nearby farm which doubled as an underground railroad station. Given their proximity to this site, the Forten and Purvis families likely laid friends and neighbors to rest at the Byberry Township African American Burial Ground.



Plan Courtesy of the 4th Survey District, 1701 Bower St. Phila., Pa. 19115.

The Byberry Township African American Burial Ground is located on the outskirts of Benjamin Rush State Park at the intersections of the non-functioning Old Townsend Road, Burling Avenue and Meeting House Roads.

The only access to the Byberry Township African American Burial Ground is through the Benjamin Rush State Park, located in the far Northeast corner of Philadelphia, Pennsylvania. Except for the 2015 designation on the Philadelphia Register of Historic Places and the listing of the burial ground on the Pennsylvania directory of African American burial grounds that is maintained by the PA Hallowed Grounds, little has been done to educate or interpret the Byberry Township African American Burial Ground.

The Benjamin Rush State Park is the only state park within Philadelphia city boundaries. The park provides the visitor with an area to enjoy the natural beauty of open spaces. It is free to the public.

Figure 4: Image of sign at entrance to Benjamin Rush State Park.

Location: 15001 Roosevelt Boulevard, Philadelphia, PA 19154

Phone: 215-639-4538

Hours: Open every day of the year from 8:00 AM to sunset

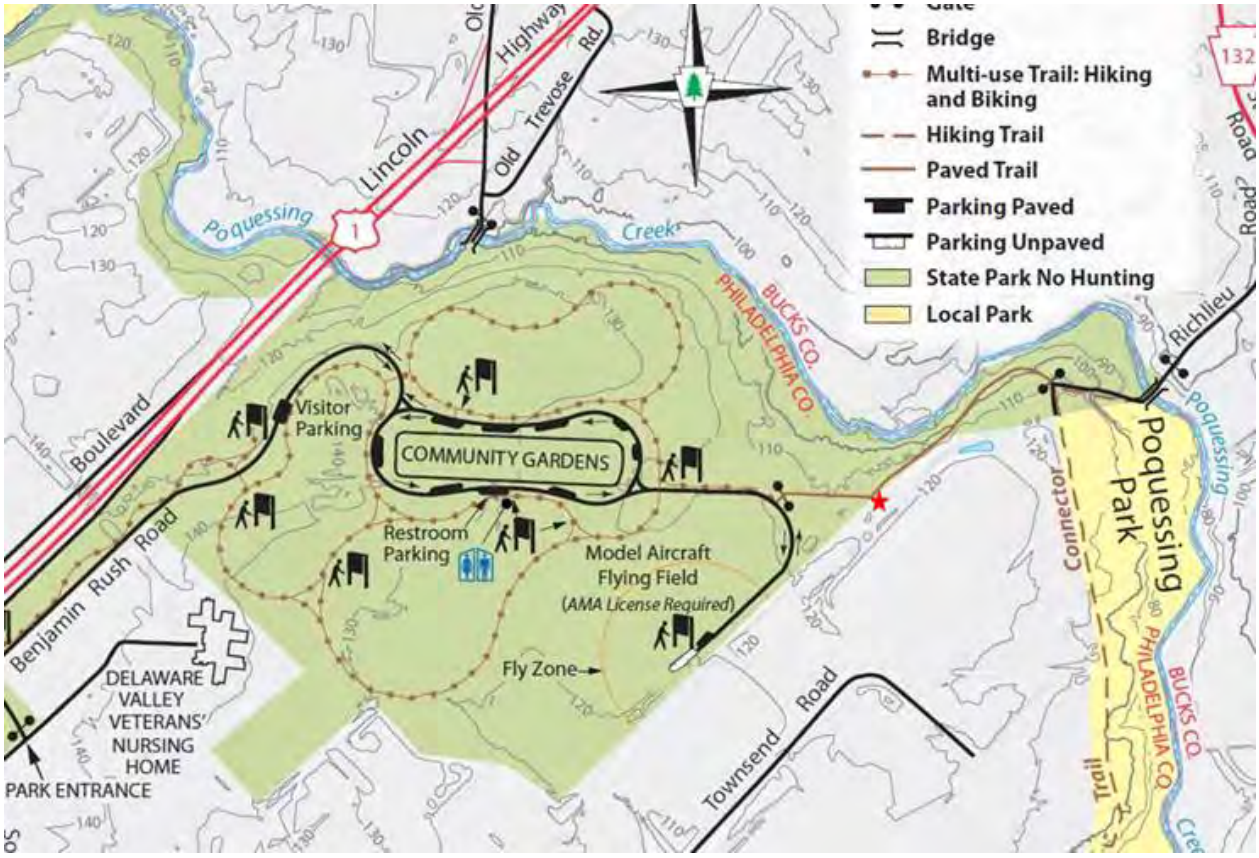


Figure 5: Map of Benjamin Rush State Park. Byberry Township African American Burial Ground at red star

1.3 Cemetery Conservation

The site is a small triangle shaped area approximately 300 sq ft and is bordered by a powerline and what appears to be organic material deposits creating a berm. The interior of the plot has numerous 20-30 ft tree species, honeysuckle shrub understory, Japanese knotweed around the perimeter, and invasive vining species. Downed woody debris is also scattered throughout. The area is slightly elevated above the surrounding terrain and has a fence located on the east side, running southwest to northeast. This fence is situated at the rear of the burial site separating the property from the neighboring parking lot of the National Archives.

"Their first concern was to "fence in the burial ground as soon as weather would permit" (Byberry Preparative Meeting Minutes, January 26, 1780). The fence underwent repairs in 1819, 1826, 1840, and 1861 (Byberry Preparative Meeting Treasurer's Accounts, March 23, 1826; March 27, 1840; June 26, 1861). Periodic fence repair and agreements made with the owners of the adjacent land appear to be continuous, from the time the land was deeded in 1780 until 1906, at which time the cemetery boundaries were shown on the Simons property plan."[9] With the exception of the rear border fence between this site and the National Archives, there is no sign of fencing today. In the 1994 survey report by Louis Berger and Associated (LBA), in preparation for construction, LBA recommended a previous 20-foot buffer be increased to 80 feet and a zone from approximately 75 to 150 feet from the cemetery site should be archeologically tested to ensure that no adverse impact would occur to the cemetery site as result of the proposed construction. Although the buffer was taken into consideration for the pending construction, a fence was not installed. LBA further recommended that additional historic research be undertaken to verify and document the legal boundaries of the

cemetery. A survey has been ordered to determine the actual boundaries. It will be conducted in 2024.

As such, except for concern for pending construction, this burial site has remained undisturbed and unmaintained, with no reported proof of conservation efforts. Its location, at the secluded rear of the park has fortunately provided a human buffer zone, yet the lack of maintenance on the site after it was sold to the City of Philadelphia in 1980, has allowed the trees to grow without control. This has caused extreme concern that the roots of these 40-year-old trees may have potentially damaged any human remains that may be found.

Further, the Department of Conservation and Natural Resources (DCNR) has made the notion of consolidation of the burial ground into the Benjamin Rush State Park a viable option due to the burial ground being adjacent to the park. DCNR has been receptive to this idea but cannot move forward until the legal limbo of stewardship is addressed. DCNR has also been helpful in providing insight on how to maintain the burial ground through a written management and maintenance document (Appendix B) provided by DCNR forester Kayla Kehres. Forester Kehres also offered hands-on support and supervision of volunteers during the first cleanup of the burial ground. Note the support of the people and agencies below:

- John Norbeck - Deputy Secretary for Parks and Forestry; jnorbeck@pa.gov
- Kaitlyn Gundersen-Thorpe - Park Manager Department of Conservation and Natural Resources; kgundersen@pa.gov
- Kayla Kehres - Forester; kkehres@pa.gov

In Appendix A, the following recommendations were provided by Philadelphia Archaeological Forum:

“On behalf of the *Philadelphia Archaeological Forum*, PAF members Jed Levin and Patrice L. Jeppson made a site visit March 6th, 2023, to the Byberry Township African American Burial Ground in Northeast Philadelphia…

The cemetery today has no visible headstones or grave markers, and the ground surface is heavily overgrown. After walking an informal survey throughout the location, PAF suggested several possible *non-invasive* research studies that could possibly lead to new information about the burial ground. These suggestions included checking historical aerial photographic archives, Infra-red photography taken via drone, archaeological assisted metal detecting, ground penetrating radar, and proton magnetometer studies - all of which have a potential to possibly reveal something about the general size and location of subsurface features in the area without involving excavation or other below ground-surface disturbances.

PAF's suggestions for non-invasive research avenues included projects requiring various levels of technical involvement and a range of costs. PAF explained the potential hindrances to such studies (e.g., sensor readings impacted by rocky soil) and discussed with those present the range of resources and experience required for such studies that are available locally and regionally.

PAF remains interested in the plans for preserving and interpreting the Byberry Township African American Burial Ground. PAF is pleased to offer assistance as needed and able to these parties."

--Patrice L. Jeppson, April 1st, 2023

Further details of the recommendations by PAF are included in Appendix A and the recommendations by the Department of Forestry are included in Appendix B.

The next phase for the Byberry Township African American Burial Ground is to curtail any damage to the site. A Preservation Plan will be developed for use by whoever is the owner of this property. In addition, during this next stage, two facts need to be clarified. There is documentation stating the established date is both January 17, 1780 or January 19, 1780. There are also documents stating the size of the burial site is 300 square feet or 330 square feet.

Figure 6: Hannah Wallace, Consultant for this Interpretation Planning project. Photo by Deborah Gary.

1.4 Policy context

Upon establishing the burial ground, it was stated: "All the Estate Right Title interest Trust benefit claim and demand whatsoever of him the said John P. Townsend of in and to the said Lot or Piece of Ground above described and premises with the Appurtenances… To Have And To Hold the said Lot of Land and Premises unto the said Watson C. Martindale his Heirs and Assigns Forever In Trust only to and for the use intent and purpose of a Burying place for all free Negroes or people of Color within the limits of Byberry particular Meeting of Friends agreeably to the grant Conditions and provisos Contained in a Certain Indenture bearing Date the Nineteenth day of the first Month in the year 1780 according to the True ruling and meaning thence and to and for no other use intent, or purpose whatsoever…"[10]

This statement ensures the lifetime existence of the Byberry Township African American Burial Ground. It also identifies that the extent of the potential interred there was those living throughout Byberry Township that are free.

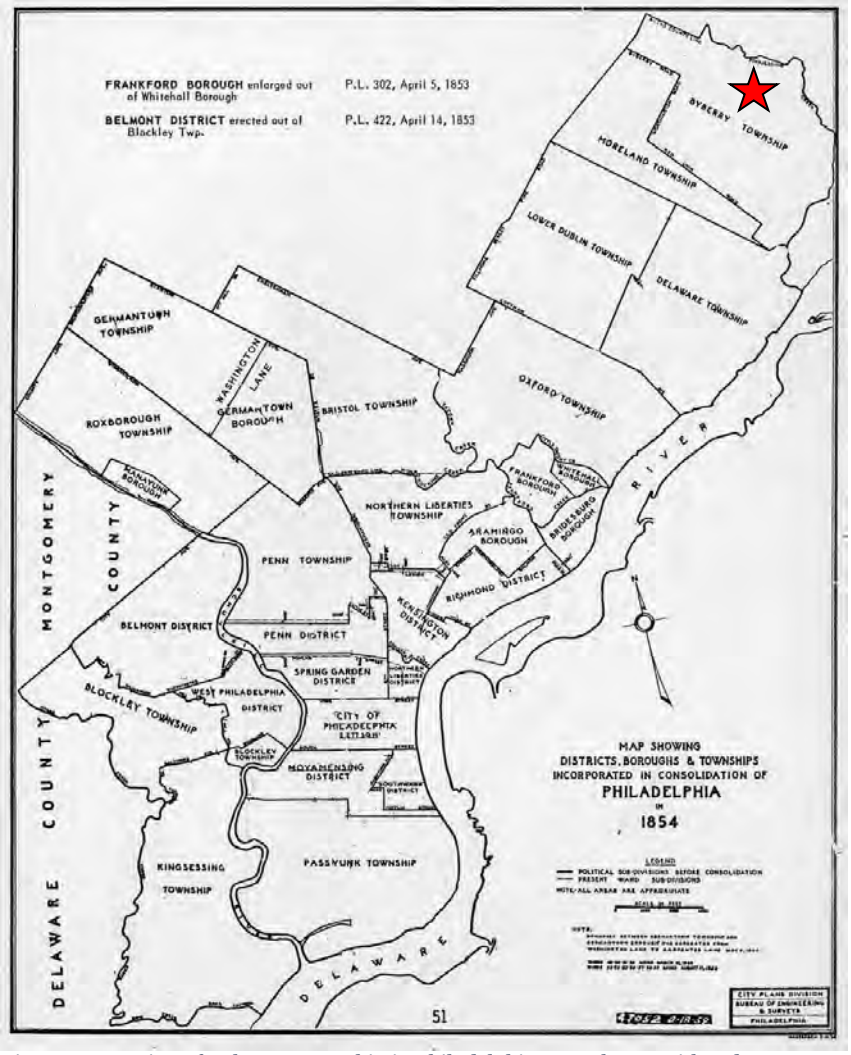


Figure 7: Location of Byberry Township in Philadelphia 1854 shown with red star

1.5 The strategy

The Byberry Township African American Burial Ground was established for the free and formerly enslaved in Byberry Township, however, as we know, the enslaved were acquired and sold without consideration. As such, the strategy that will be considered beyond memorializing the Byberry Township inhabitants, will include consideration of any enslaved, free, and manumitted men, women, and children who are lost and forgotten in the Northeast Philadelphia region and perhaps the City of Philadelphia.

2.Interpretation

2.1 Introduction

The purpose of this plan is to identify the audience, establish interpretative goals, objectives, themes, exhibit and program recommendations and design guidelines for interpretive efforts of the Byberry Township African American Burial Ground. The plan will also identify the condition of existing interpretive media and whether it needs to be updated, replaced, or removed. The Society to Preserve Philadelphia African American Assets (SPPAAA) will advocate and act to preserve, conserve and protect Philadelphia's African American history as represented by the built heritage of historic and culturally significant assets (properties, murals, monuments, placards, cemeteries, and archeological sites). That would include interpretation efforts, as identified in the plan. The Preservation Alliance for Greater Philadelphia's (PAGP) mission is to actively promote the appreciation and appropriate use and development of the region's historic buildings, communities, and landscapes. The Byberry Township African American Burial Ground has been included in their charge.

2.2 Assumptions

This plan is based on several assumptions about current and anticipated future use and management of the burial site.

- An owner will be found to absorb the responsibility for perpetual care of the burial ground.
- The owner will not build upon the burial ground unless it is a memorial or interpretative asset.
- Due to the extensive growth of trees, removal of these trees may not be feasible without disturbing the potential remains and artifacts that may exist. This does not prevent use of the trees in above ground interpretive efforts.
- The owner will welcome programming by organizations and individuals to interpret the burial ground.
- The burial ground will be open for public access.

2.3 Themes

The central overarching theme statement is a guiding principle for the interpretation of the Byberry Township African American Burial Ground. This overarching theme is supported by several interpretive themes.

OVERARCHING THEME: The heritage and culture of the ancestors lost within the Byberry Township African American Burial Ground are represented by stories of resilience, perseverance, survival, innovation and extremes.

Figure 8: Logo created for burial ground designed by Deborah Gary, SPPAAA.

The logo designed for the burial ground includes an adinkra symbol – called Nkyinkyim (pronounced N-chin – chim). It means Twisting. The symbol represents the tortuous nature of life's journey and also the toughness, versatility, and dynamism required to thrive in it. This is very fitting for what the existence of the burial ground has endured – thus leaving those interred there in an equal state of turmoil even in the afterlife.

While the interpretive themes seek to organize ideas and reveal meanings, a successful measure of the effectiveness of interpretation should not rely on the visitor being able to re-state these themes. Rather to be broadly relevant, interpretation should provide opportunities for emotional and intellectual connections. Our Themes are:

Heritage and History
The historic presence and human stories, past and present, of the Byberry Township African American Burial Ground are those of challenge, struggle, inspiration, and freedom in creating a vision for the future.

A Living Landscape
The Byberry Township African American Burial Ground is an isolated wooded weeded lot and dynamic presence in the heart of the Benjamin Rush State Park and has been shaped and continue to be shaped by natural and human forces.

A Living Monument
The future addition of interpretive installations will demonstrate the importance of preservation and provide an abundance of opportunities for education, appreciation, and reflection.

Community and Identity
Exploring the introduction of slavery, the life of the enslaved and the life of free-Blacks; exploring the life of the settlers in Byberry Township and its later incorporation into the City of Philadelphia and exploring the Quakers and non-Quakers. How does this all resonate today?

2.4 Existing Stories
Although limited, there are prior references to the Byberry Township African American Burial Ground:

- It is included on a list maintained by PA Hallowed Grounds of Pennsylvania African American cemeteries - https://pahallowedgrounds.org/list-of-african-american-cemeteries-in-pa/
- It is included in the Philadelphia Archaeology Forum Map and Database - https://www.phillyarchaeology.net/paf-activities/burial-places-forum/
- Several published have been published that are indicated in Appendix A
- Several publications are indicated in Appendix A.

2.5 Audiences
The Benjamin Rush State Park has daily visitors of all ages to make use of their existing amenities (www.dcnr.pa.gov/StateParks/FindAPark/BenjaminRushStatePark). The additional awareness of the Byberry Township African American Burial Ground will enhance the visitor experience through:

- Walking, hiking, bike riding or cross-country skiing along their trails
- Making use of their community garden – the largest in the area
- Radio-controlled flying
- Enjoying the wildlife
- We want visitors to benefit from the themes and messages of the park and burial grounds that will be an outcome of this plan.

- The burial grounds will have visitors of all ages who need to know about the history of Philadelphia, slavery/enslavement of African people, and the life of Quakers and Byberry Township.
- Interpretive efforts will be designed to address the public at all ages and education levels.
- This site provides perfect opportunities for students to gain further study in archeology or history.

Local, regional, national, and international visitors of all ages will exit the park and burial ground with take-home messages that outline the big ideas that will resonate with them from viewing the interpretive panels, kiosks, etc., of the story of the burial grounds:

- This burial ground is connected to the story of Philadelphia and the stories of African Americans
- Philadelphia is very diverse with unique people, past and present.
- Protecting the story of this burial ground is paramount.
- The stories of this section of Philadelphia are relevant to me.

Figure 9: Pyramid STEM Showcase 2023 – youth doing African American history activities.

2.6 Interpretative Activity Ideas and Proposed Outcomes

Activating Heritage and History:

The story of Byberry Township free and enslaved population. This story can be told. Many publications can be used as a reference.

- Using the map from 1864 or earlier, programs can consist of education program, tours, exhibition of life during that era free and enslaved.
- Continued research on the population of Byberry Township, Benjamin Rush, founders of Byberry Meeting
- Participation in the Friends of Northeast Philadelphia History Annual History Festival
- Research to account for the free and enslaved population of Byberry Township and the greater Northeast.
- Genealogy – discover those free, manumitted in Byberry and connect to their descendants.
- Potential for identifying additional buried at the site.
- Inclusion in the proposed Poquessing Creek Trail of History

Story of the Byberry Township free and enslaved population

- Collaborations with Byberry Meeting for further research
- Inclusion in the proposed Byberry Historic District
- Connect with the Black Quakers

Story of Jim Walton, the lone known burial

- Enslaved by Daniel Walton, the owner of a sawmill.
    - Education about sawmills and wood production
    - Location of Daniel Walton's property: details, size, outcome, etc.
- The genealogy of Jim Walton and locate any descendants.
    - Determine the African country and timeframe from where Jim was snatched.
    - Educate, reflect, represent!

Story of African Americans and Northeast Philadelphia.

The Northeast has long had a stigma of forbidden territory for African Americans. Although it is a mixed community at the present, it is still an area that shows resistance to the mixed community at times. The recent awareness of this burial ground and some 200-year-old African American churches opens up many questions to the dynamics of the relationship to African Americans in the Northeast over the centuries. This can be explored.

- Individuals can learn how African Americans played an integral part in the history of Northeast Philadelphia
- What if? If there is no additional information about Jim Walton, if there is no way to identify other potential individuals buried there, programs can be created to create "historical non-fiction". Individuals can make their creative juices flow.

Outcome: This theme provides opportunities to visit heritage sites and learn about its diverse history and diverse outcomes. Visitors should feel the spirit of those once enslaved and come away with a thought of peace for them.

Activating A Living Landscape

This is a wooded site and most likely will continue to maintain a significant amount of woodlands. This theme provides a context for understanding the past and the current landscapes and the different perspectives on resource issues.

Figure 10: Picture of Mount Vernon Slave Memorial Entrance

Arrival at the Site:

- You are entering a solemn place. Create an atmosphere.
- This burial site is like that at Mt Vernon in Alexandria, Virginia. Creating a distinct entrance at the top of the path that leads down to the memorial helps establish the significance of the space you are entering.
- Incorporate lighting along the path leading up to the memorial and within the site. This can provide a solemn atmosphere.
- The current path leading to the burial site is in disrepair and should be re-paved.
- There is a mound directly at the front of the burial site. It can be used as the focal point for identifying the burial site.

Produce benches out of wood:

- Honor the labor of Jim Walton, enslaved at a sawmill.
- Place benches along the edges or within to allow for meditation and reflection.
- The current forest landscape of trees can be used to make these benches. That provides an added layer of significance to the bench – not just to sit on, but to represent the life that spreads from the roots beyond the grave to life here on earth. A fitting tribute could be etched onto the benches.

Signage:

- There was previously no signage to identify the burial ground.
- We have temporarily added a ground level yard sign for the site. It is the first ever signage of the burial ground and has been there since the April 2023 Earth Day cleanup.
- We have approached several public schools that have carpentry training programs to see if their students can design a sign that can be mounted on the tree that stands prominently at the front of the burial site. This would be a community-based design and production option for extended adoption of the significance of this site.
- The state park is large with many paths. To help with locating the burial site, additional yard signs and directional signs need to be placed on the days of events. If large attendance is expected, directions and possibly shuttles may be needed for attendees parking at the far distant visitor parking lot.

Figure 11: Paul Steinke, Preservation Alliance; Jacqueline Wiggins and Ferdinand Morrison, SPPAAA. Photo by Deborah Gary.

- Add educational signage or plaques throughout the burial site itself.
- An Interpretive panel can be installed to tell an abbreviated story of the burial ground. Draft language was prepared for initial consideration. It is included at Appendix A

Figure 12: Picture of the Interpretive Panel at the Philadelphia National Cemetery entitled "U.S.C.T. Burials in the National Cemetery." Photo by Deborah Gary.

Wayfinding:

Incorporating wayfinding into the existing state park signage will provide immediate but limited interpretation of the burial ground. Any of the following would be helpful:

- Include language about the burial grounds in the handout available in the information stands throughout the park.
- Add a map at the informational stand at the top of the path that leads to the burial ground and all other park information stands.
- Add directional signs throughout the park.
- Include the name of the burial ground at the park entrance on Southampton Road.

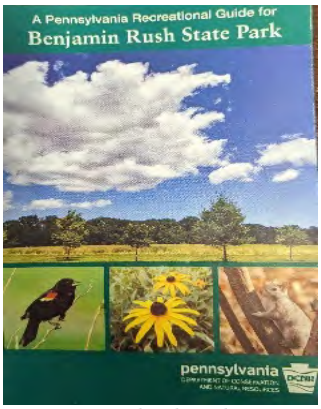


Figure 13: This handout is available in the information stands throughout the park.

Programs:

- Consider programs about earth movement, natural and man-made, and how it impacted the burial site.
- Research local native plants for the period of significance to incorporate into the site.
- Incorporate native African plants and symbols into the landscape.
- Consider activities using seeds and seedlings.
- Plan programming for Earth Day, Indigenous People Day, January founding and others.

Conduct the site survey:

A formal site survey has been ordered and will be necessary to document the borders of the site and to ensure we have accurate information for the basis of any interpretation planning.

Conduct ground penetration radar study:

A ground penetration radar study is critical to determining where Jim Walton is buried and if there are any other burials at this site. Visits have been made by several archeologists. In addition, the Graduate Studies Department at the University of Pennsylvania, has expressed interest in this project. We expect to have something completed when funding or resources permit.

- A teachable moment: Open up the ground penetration radar effort to include public educational experiences both on- and off-site

The Semiquincentennial in 2026:

- In honor of the 250th National anniversary, programming is being planned city-wide. SPPAAA has partnered with the Northeast Philadelphia History Network and PAGP to apply for a grant to plan a Poquessing Creek Trail of History that would include four sites along Poquessing Creek. The Burial Ground is one of the sites. If approved, the funds would assist in planning some signage or design for a memorial for the burial site.

Outcome: Visitors and program attendees will be encouraged and increase their awareness and interest in participating in activities.

Activate A Living Monument

Memorialize with dignity and the least disturbance to those interred.

Figure 14: An idea of an image of wood. This photo by an Unknown Author is licensed under Creative Commons CC BY-NC-ND.

- Due to the neglect that led to the development of a forest that cannot be cleared without disturbing the interred, we will make use of that landscape to incorporate a memorial. A call will be made for an artist competition to design a memorial.
- Art or educational exhibits can occur on-site and for presentation off-site at community events and programs.
- A memorial can be made of wood – Make use of the existing trees or have a wooden sculpture designed to be placed at the burial site.
- For the burial ground, we researched signs and symbols that had significance from different people of African descent, but also manifested in different ways throughout the world. From that we concluded the Adinkra symbol – Nyhinyhim – Twisting, best represented the plight of the burial site. As such, this symbol will be explained, explored, through panel discussions, essays, oral interpretation and more. This symbol can be incorporated into the design of any onsite products or offsite exhibits or materials.

- Permanent memorial - We straddle the space between sculpture and architecture in these memorials. Traditional memorials may be a wall or a statue, a more static object that you stand back from. However, using the results of the survey as a basis, we propose we approach the memorial as a spatial and interactive place that you occupy, that you move through and interact with in an engaging way. Given the nature of the wooded environment, a permanent statue can only be considered if the weight for installation does not disturb the grounds, however, it is not disqualified from consideration. A study was conducted to determine what type of memorial would be of interest at this site. The results are depicted in Appendix A and shown in the chart below.

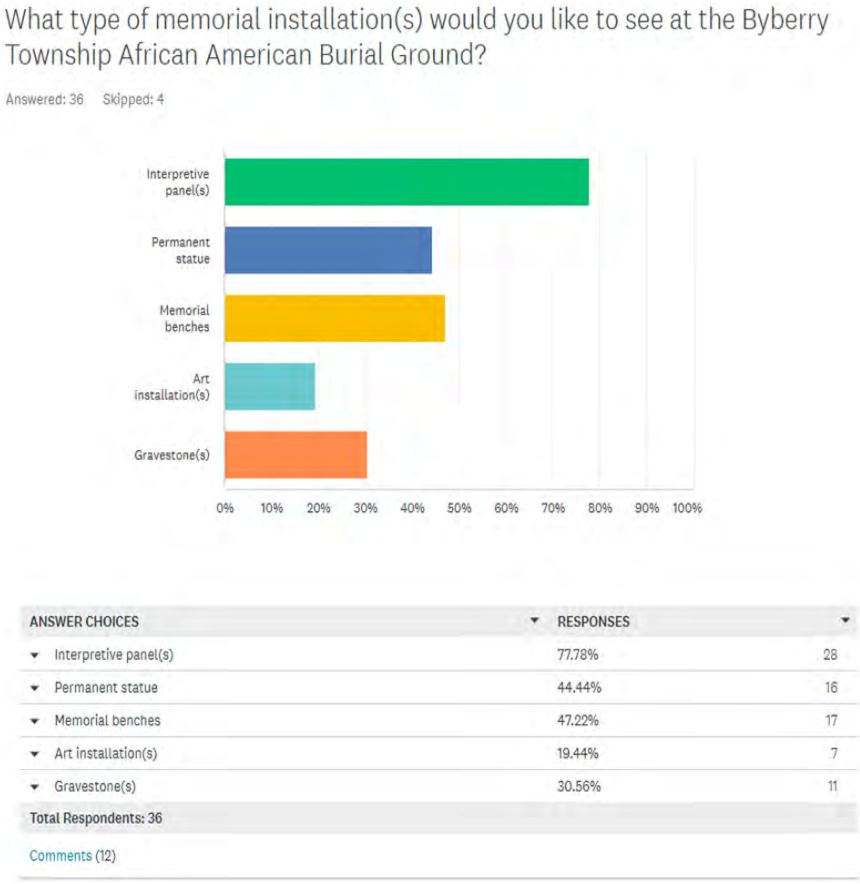


Figure 15: Excerpt from survey conducted in Spring 2023 to solicit feedback from community members and stakeholders.

Outcome: Visitors leave with a visual image and lasting memory that resonates with the significance of the site.

Activating Community and Identity

How do we get others engaged in this story?

- Advisory committee – Establish an advisory committee of local experts of African American history, communities from Northeast Philadelphia and other stewards of Black cemeteries.
- Conduct additional surveys to help establish priorities for programming.
- Continue the relationships established during the planning process as identified in the Consultant Report at Appendix A for the following future activities:
    - Transfer of ownership/future stewardship
    - Programming and programming support
    - Cleanup activities, if necessary
    - Recognition days
    - Grants and resources
- Establish relationship with African American sites and organizations in Northeast Philadelphia
- Overarching projects:

The first recorded burial was for an African American man named Jim who was formerly enslaved by Daniel Walton (https://www.anamericanfamilyhistory.com/Walton%20Family/WaltonDaniel1660.html) –an early member of Byberry Quaker Meeting. No other burial records have since been found, so the exact number of burials at this cemetery is still unknown. Efforts will be made to highlight Jim Walton – his life, genealogy, and descendants, among other things.

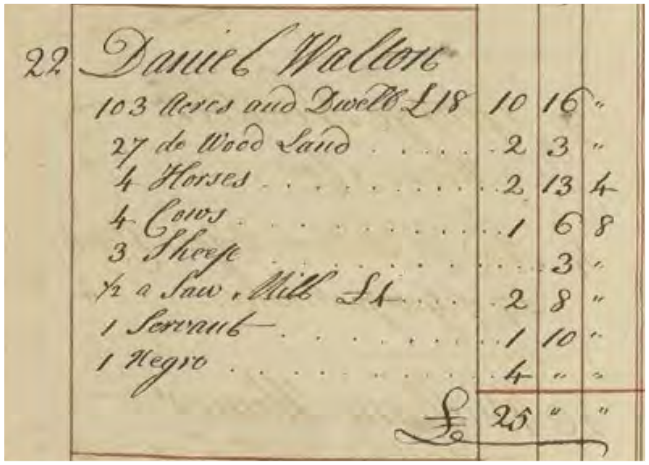

22. Daniel Walton
103 Acres and Dwell £18 10 16 "
27 do Wood Land . . . . . 2 3 "
4 Horses 2 13 4
4 Cows 1 6 8
3 Sheep . . . . . 3 "
½ a Saw Mill £4 . . . . 2 8 "
1 Servant . . . . . 1 10 "
1 Negro . . . . . 4 " "
£ 25 " "

Figure 17: Daniel Walton's 1767 Byberry Tax Assessment. Rare Book & Manuscript Library, University of Pennsylvania

Figure 16: Dr. Ifetayo Flannery – libation ceremony at the first Byberry Township African American Burial Ground Land Blessing. Photo by Deborah Gary.

The significance of genealogy research will be promoted with seminars, workshops and examples.

Annual memorials should be established. Programs or recognitions can be done. There are several dates that can be commemorated:

- November 12th – the Initial land blessing. A commemorative poem was written by author Christopher Brown. It is included in Appendix C.
- January 17th or 19th, 1780 – the date the burial grounds were established.
- Unknown date – the date Jim Walton was born, freed or died.

Outcome: These efforts will foster partnerships that strengthen ties to the community. These efforts will improve interpretive services and awareness. It will expand the reach of sources to interpret the site thus expanding the reach of the knowledge of the site.

2.7 Resources

The Friends of Northeast Philadelphia History has been actively promoting the history of Northeast Philadelphia which includes the Byberry area. They would be a primary resource for this site.

The Consultant Report at Appendix A provides a list of organizations and individuals community stakeholders that have been crucial to the progress of this project. The Appendix provides their organizational name, a description of their participation in this project and the contact information to keep in touch.

Genealogy research will be challenging. Several sites for research of the Quakers are listed in the Consultant Report in Appendix A. However, some additional local sources for general research are:

- The National Archives – which is the neighbor to this site, 14700 Townsend Road, Philadelphia, PA
- Family Search Center, The Church of Jesus Christ of Latter-Day Saints, 4720 N. Broad Street, Philadelphia, PA
- Philadelphia City Archives, 548 Spring Garden St., Philadelphia, PA

2.8 Maintenance

The Department of Conservation & Natural Resources, Bureau of Forestry | William Penn Forest District has provided guidance on what species exist in the current burial site and how to maintain and manage it.

Figure 19: Group photo of the April 22, 2023 clean-up day. Image by unknown volunteer.

Figure 18: Deborah Gary, Victoria Best, and Jacqueline Wiggins at Indigenous People Day cleanup. Image by Hannah Wallace.

Until ownership takes responsibility, overgrowth will be managed with quarterly volunteer cleanups or a paid landscaping contractor.

- In 2023, cleanups took place on Earth Day, Indigenous Peoples Day and other days as needed.
- In addition to seeking volunteers, several organizations have agreed to continue to support the cleanup efforts.
- Defining the borders:
    - Absent fencing, consideration will be given to provide surface distinction: i.e, plantings of annuals, placing boulders or wood stumps or anything else to distinguish the edging.
- The current condition will be addressed in a Preservation Plan being developed by a consultant assigned for the Pennsylvania African American Cemetery Stewardship grant funded by Pennsylvania Hallowed Grounds with an expected completion date of April 2024.
- Inclusion in the SPPAAA Heritage Database:

- Although no other additional items will require maintenance until a permanent memorial is in place, this site has been included on the SPPAAA Heritage Database. This resource database is populated with specific historic details, ownership, maintenance condition, designations, and more pertinent details on each property. SPPAAA uses their database to support SPPAAA program tasks and to monitor and assist the owners with resources to prioritize the care and maintenance of their properties. When eligible, SPPAAA will encourage historic designations or recognitions. In addition, SPPAAA will increase education and awareness of the properties that they monitor, which now includes the Byberry Township African American Burial Ground.

Figure 20: This Photo by Unknown Author is licensed under CC BY-SA

3. Interpretive Media

3.1 Virtual

With only one known burial, there is a question on how to develop a virtual presence specifically for the Byberry Township African American Burial Ground.

- If there are other apps that are a related topic, efforts should be made to ensure this site is included.
- The burial ground can be found on other databases that were previously mentioned.
- If signage is placed at the burial site, QR-codes can be added to them that link to an existing online presence that provides more detailed information about the site, its plants, its history and more.
- When the burial site is incorporated into the state park, we will encourage that there be a separate page that addresses the burial ground on their website.
- As part of this Interpretative planning effort, a Facebook page was established for the burial ground. Until a steward or owner takes responsibility, SPPAAA will provide content and monitor this page. Other social media sites will be developed, when needed.

3.2 Guide leaflet/promotions

- Addition to Benjamin Rush State Park leaflet is the primary need.
- Promotional memorabilia by the owner, state park, SPPAAA or other organizations that are planning programming.
- Incorporation into Visit Philadelphia material and the Philadelphia visitor center.

3.3 Outdoor Exhibits

Displays can be developed for use at events at the burial grounds and locations beyond the state park.

3.4 Visitor Center

Although there is no visitor center at Benjamin Rush State Park, there are pamphlets located on information stands through the park. Effort will be made to include the location and description of the burial site into these pamphlets. When possible, a separate pamphlet can be produced for addition to these information stands.

3.5 Guided tours

- The burial site can be included in any tours of Northeast African American history.
- The burial site can be included in any programs given by Benjamin Rush State Park

3.6 Videos/Documentaries

Produce mini documentaries to tell the story of the burial ground and activities that highlight the site.

4. Timeline

November 2023 – April 2024: Preservation Plan

January 2024 – August 2024: Establish ownership

Spring 2024 – Complete site survey

Spring 2024 – Complete mini documentary of story culminating with the land blessing

March 2024 – Participation in Northeast History Network Festival

April 2024 – Earth Day cleanup

Summer 2024 – Establish above ground temporary bordering

July 2024 – Summer cleanup

October 2024 – Indigenous People Day cleanup

2025 – Discover the life, final resting place and genealogy of Jim Walton

Mid-2025 – Goal for PA DCNR assuming stewardship of the property

Late-2025 – Hold a re-dedication ceremony once DCNR assumes stewardship

2025/26: Commission design and install memorial

5. Budget/Cost estimates

Item	Description	Potential Costs
Genealogy research	Who is Jim Walton	$3,200
Distinct entrance	Brick arch at top of path	$10,000
	Repave the path asphalt	$5,000
	Sign at the burial site	$2,500
Temporary bordering	TBD	$2,000
Wooden benches (2)	Uniquely carved hand crafted	$2,000 - $3,000
Ground penetration radar	Locate Jim Walton and other burials	$50,000
Cleanup	Supplies and mulch for volunteers	$500 each
	Or seek paid contractor	
Permanent memorial	Design TBD	$20,000 - $40,000
Interpretive panel	Story of the burial site	$5,000
Traveling exhibit	Story of the burial site: panels, handouts, promotional items	$2,500

6. Appendices

Appendix A – Byberry Township African American Burial Ground Consultant Report & Interpretive Plan Outline, Hannah Wallace, November 2023

Appendix B - Byberry Township African American Burial Ground, Management & Maintenance, April 10, 2023, Kayla Kehres | Forester, Department of Conservation & Natural Resources, Bureau of Forestry | William Penn Forest District

Appendix C - A Sacred Space, (Acknowledgement Poem For Byberry Township African American Burial Ground) By Christopher K.P. Brown

References:

1. Menkevich, Joseph J. “Nomination of Historic Building, Structure, Site or Object, Philadelphia Register of Historic Places, Philadelphia Historic Commission, June 2015.
2. A History of the Townships of Byberry and Moreland in Philadelphia, PA., From their Earliest Settlement by the Whites to the Present Time (1867) by Joseph C. Martindale, M.D. Pg 62
3. A History of the Townships of Byberry and Moreland in Philadelphia, PA., From their Earliest Settlement by the Whites to the Present Time (1867) by Joseph C. Martindale, M.D.Pg 61
4. The particulars of each person's estate, as appears by the township and ward assessors' returns as follows / by Jacob Umstat, Barnaby Barnes, Andrew Bankson, John Roberts [?], Joseph Stamper, and Paul Engle Jun[ior], County Assessors. Philadelphia, City of Philadelphia, 1767. Penn Libraries; University of Pennsylvania Rare Book & Manuscript Library
5. Martindale, M.D., Joseph C. A History of the Townships of Byberry and Moreland. Philadelphia, Sherman & CO., 1867. PG. 61 Google Books
6. Martindale, M.D., Joseph C. A History of the Townships of Byberry and Moreland. Philadelphia, Sherman & CO., 1867. PG. 62. Google Books
7. Menkevich, Joseph J. “Nomination of Historic Building, Structure, Site or Object, Philadelphia Register of Historic Places, Philadelphia Historic Commission, June 2015
8. John C. Clark Co. 1980 Deed for the Byberry Township African American Burial Ground (1st page). 1980. Byberry Friends Library.
9. Phase II Historical Research and Archeological Testing, Louis Berger & Associates, Inc., September 16, 1993
10. Byberry Monthly Meeting of the Religious Society of Friends. Monthly Meeting Minutes. 1973-1981, Philadelphia. Swarthmore Archives.
11. Byberry Monthly Meeting of the Religious Society of Friends. Monthly Meeting Minutes. 1973-1981, Philadelphia. Swarthmore Archives. Pg. 92 & 98
12. Philadelphia Department of Records: Deed Book Series FTW, Vol. 16, Pgs. 24 to 26. 01 January 1872, John P. Townsend to Watson C. Martindale (Trustees)
13. An American Family History – Daniel Walton - https://www.anamericanfamilyhistory.com/Walton%20Family/WaltonDaniel1660.html

APPENDIX A

Byberry Township African American Burial Ground Consultant Report & Interpretive Plan Outline

November, 2023

Prepared by Hannah Wallace
Consultant to The Society to Preserve Philadelphia African American Assets (SPPAAA)
& The Preservation Alliance for Greater Philadelphia (PAGP)

Table of Contents

"Interpretive planning is a goal-driven process that determines appropriate means to achieve desired visitor experiences and provide opportunities for audiences to form their own intellectual and emotional connections with meanings/significance inherent in the resources while protecting and preserving those resources."

- *Comprehensive Interpretive Planning, National Park Service*

The following prompt was provided to the consultant by The National Trust for Historic Preservation and the Preservation Alliance for Greater Philadelphia to serve as the basis for this interpretive plan outline:

> ***"We will have in hand a holistic, actionable plan to effectively understand, interpret and memorialize this neglected burial ground and honor the persons of color interred there; a plan which takes into consideration the perspectives and priorities of multiple stakeholders."*** *- National Trust for Historic Preservation Henry A. Jordan Preservation Excellence Fund*
>
> ***Final Report contents should further include...***
> *1) Summary of the community engagement sessions*
> *2) Description of relationship building with community stakeholders*
> *3) Description of site clean-ups*
> *4) Summary of media coverage*
> *6) Recommendations*
> (*list provided by the Preservation Alliance For Greater Philadelphia.)

A. Site Significance

A photo of Byberry Township African American Burial Ground taken on Oct. 29th, 2023.

On January 17th, 1780, Byberry Quaker Meeting purchased about 330 square feet of farmland from their neighbor to the northeast, Thomas Townsend.[1] This land was then consecrated with the sole purpose **to remain a final resting place for free and formerly enslaved Africans who lived in Byberry**. The site's original name was *The Burying Place For All Free Negroes or People of Color within Byberry*. Today, it is now named *The Byberry Township African American Burial Ground*.

The only known burial record for this site was for a formerly enslaved man named Mr. Jim Walton[2]. Mr. Jim Walton was enslaved by Mr. Daniel Walton (of the 2nd generation of Byberry Waltons). Mr. Jim Walton lived in Byberry when the land was still a dense forest. His primary work was at a saw mill processing timber[3]. While not much is known about Mr. Jim Walton, it is known that he was enslaved to Daniel Walton in 1767[4] (and possibly earlier) and that he was freed sometime shortly after the passing of his former enslaver. Jim was buried in the year 1780[5]–the same year that Pennsylvania passed the Act of Gradual Abolition. His burial was the first and only known burial at the Byberry Township African American Burial Ground.

To learn more about the origins of slavery in Byberry, it is recommended that researchers visit the book *A History of the Townships of Byberry and Moreland in Philadelphia, PA., From their Earliest Settlement by the Whites to the Present Time* (1867)

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[1]Menkevich, Joseph J. "NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT PHILADELPHIA REGISTER OF HISTORIC PLACES PHILADELPHIA HISTORICAL COMMISSION." June 2015.

[2] MARTINDALE, M.D.,, Joseph C. *A HISTORY OF THE TOWNSHIPS OF BYBERRY AND MORELAND*. Philadelphia, SHERMAN & CO., 1867. P. 62. *Google Books*

[3] MARTINDALE, M.D.,, Joseph C. *A HISTORY OF THE TOWNSHIPS OF BYBERRY AND MORELAND*. Philadelphia, SHERMAN & CO., 1867. PG. 61 *Google Books*

[4] *The particulars of each person's estate, as appears by the township and ward assessors' returns as follows / by Jacob Umstat, Barnaby Barnes, Andrew Bankson, John Roberts [?], Joseph Stamper, and Paul Engle Jun[ior], County Assessors.* Philadelphia, City of Philadelphia, 1767. *Penn Libraries*; University of Pennsylvania Rare Book & Manuscript Library

[5] MARTINDALE, M.D.,, Joseph C. *A HISTORY OF THE TOWNSHIPS OF BYBERRY AND MORELAND*. Philadelphia, SHERMAN & CO., 1867. P. 62. *Google Books*

by Joseph C. Martindale, M.D.. The topic of slavery is mentioned throughout the entire book, but specifically refers to the role of slavery in Byberry between pages 49 - 63.

After 200 years of owning the burial ground, Byberry Quaker Meeting sold the land to The City of Philadelphia in 1980.[6] After a careful review of the meeting minutes of Byberry Quaker Meeting between 1973-1981 (accessible via Swarthmore's archive)[7], the consultant found no written evidence as to *why* Byberry Quaker Meeting decided to sell the burial ground to The City of Philadelphia in 1979. The meeting did record the transfer of funds ($3,000) for the sale of the burial ground on two occasions[8]:

1. December 30th, 1979 - "Edwin Bonner reported that the status of the money situation with the city of Philadelphia for the old burial ground is still the same due to an approaching change in administration."
2. June 29th, 1980 - "Edwin Bonner reported that $261.00 had been received from the Fiduciary Corp. This is one half year's interest on our funds invested with them. The check for $3,000.00 was received by the Trustees from the City of Philadelphia for the sale of the old graveyard property for people of color."

The deed transfer was never recorded by the city, thus leading to a break in stewardship for 43 years. During this time, the site succumbed to littering, dumping and the overgrowth of all plant life in the area.

A photo of the trail that leads to
The Byberry Township African American Burial Ground

The burial ground is located at the edge of Benjamin Rush State Park and can be accessed via a path leading directly from the park to the site. There is no signage to direct visitors to the burial ground, so it can only be found by those who know the way.

Thanks to the voluntary research and advocacy work of Joseph Menkevich, the Byberry Township African American Burial Ground was added to the Philadelphia Register of Historic Places in 2015.[9]

The work of memorializing this sacred site resumed in 2022 through this project by the Society to Preserve Philadelphia African American Assets (SPPAAA) and The b

[6] John C. Clark Co. *1980 Deed for the Byberry Township African American Burial Ground (1st page)*. 1980. Byberry Friends Library.
[7] Byberry Monthly Meeting of the Religious Society of Friends. *Monthly Meeting Minutes*. 1973-1981, Philadelphia. *Swarthmore Archives*.
[8] Byberry Monthly Meeting of the Religious Society of Friends. *Monthly Meeting Minutes*. 1973-1981, Philadelphia. *Swarthmore Archives*. Pg. 92 & 98
[9] Menkevich, Joseph J. "NOMINATION OF HISTORIC BUILDING, STRUCTURE, SITE, OR OBJECT PHILADELPHIA REGISTER OF HISTORIC PLACES PHILADELPHIA HISTORICAL COMMISSION." June 2015.

7485126Preservation Alliance for Greater Philadelphia (PAGP). This work was funded by the Henry A. Jordan Preservation Excellence grant from The National Trust for Historic Preservation. The pages that follow will present the progress made, relationships formed, and next steps to bring this project closer to its ultimate goals; finding a permanent steward for the land, determining whether there were any additional burials on the site and creating a memorial to honor the free and formerly enslaved Africans interred at the Byberry Township African American Burial Ground.

B. Community Engagements

1. **February 1st, 2023 | Northeast Philadelphia History Network (NEPHN) presentation at Pennypack Baptist Church**
   - ➢ This was the first public discussion on the Byberry Township African American Burial Ground. A powerpoint presentation was shared in person and via Zoom to about 80 attendees.

2. **February 16th, 2023 | A Night With Africology at Temple University's Center for Institutional Diversity, Equity, Advocacy & Leadership (IDEAL)**
   - ➢ The consultant was invited back to her alma mater to serve on a panel of alumni that demonstrated the many possibilities of what a degree in Africology & African American Studies can lead to beyond graduation. This further served as an opportunity to share the history and significance of the Byberry Township African American Burial Ground. This program was attended by about 30 undergraduate/graduate students.

3. **February 22nd, 2023 | Virtual Presentation - Introduction to the Byberry Township African American Burial Ground**
   - ➢ This one hour public presentation on Zoom introduced the history of the Burial Ground to about 30 attendees.

4. **April 22nd, 2023 | Earth Day Cleanup**
   - ➢ This cleanup was planned as a part of the 2023 PA Hallowed Ground Statewide African American Cemetery Cleanup. About 35 volunteers from various organizations (identified in section 3) joined in the first effort to clean and trim overgrowth at this sacred site.

Participants of the Earth Day Cleanup of
The Byberry Township African American Burial Ground

5. **June 15th, 2023 | PAGP Board Presentation**
   - ➢ The consultant led a presentation to the board of the Preservation Alliance for Greater Philadelphia demonstrating 6 months of progress on this project.

6. **August 3rd, 2023 | Museum of the American Revolution Living History Youth Summer Institute**
   - ➢ The consultant and Byberry Meeting Trustee President Mary Ellen McNish met with 10 highschool/college interns from the Museum of the American Revolution to discuss the history of Quakerism in Philadelphia. The Living History Youth Summer Institute is an intensive program for young adults interested in interpreting the lives of people of African ancestry in the Revolutionary era.

7. **August 9th, 2023 | Byberry Meeting visit with Councilmen Mike Driscoll & Brian O'Neill**
   - ➢ This visit at Byberry by the two councilmen was a great opportunity to put the ongoing projects of Byberry Meeting's restoration of Byberry Hall (the abolitionist hall built by Robert & Harriet Purvis) & The Byberry Township African American Burial Ground on the radars of both councilmen. They both offered to write letters of support for any matters regarding these projects for future funding opportunities.

(L-R) Kate Cowing, Janet Conway, Mary Ellen McNish, Parker Snow, Councilman Driscoll & Councilman O'Neill

8. **October 3rd, 2023 | Preservation Alliance For Greater Philadelphia Fall Speaker Series Presentation**
   - ➢ This one hour & 30 minute virtual presentation was led by the consultant with special remarks by Byberry Meeting Trustee President, Mary Ellen McNish. This event had about 90 attendees. To listen to the recorded lecture, visit https://vimeo.com/873450442/b4f156f782.

9. **October 9th, SPPAAA Cleaning & Trimming of the Byberry Township African American Burial Ground**
   - ➢ This was the second cleaning and trimming of the burial ground in preparation for the forthcoming memorial ceremony. 3 members of SPPAAA and the consultant participated to clear overgrowth in front of the temporary signage and remove litter from the site.

Members of SPPAAA meet to cleanup & trim
The Byberry Township African American Burial Ground
(L - R) Jacqueline Wiggins, Victoria Best & Deborah Gary

10. **October 28th, 2023 | 340th Anniversary of Byberry Meeting**
   - ➢ This event served as both an anniversary celebration for members of Byberry Meeting as well as an introduction of Quakerism for about 50 attendees. Special remarks were given by local elected officials and historians. The consultant reported on the status of the Byberry Township African American Burial Ground and the need for further acknowledgement of the legacy of slavery in the history of Byberry Quaker Meeting.

Photo of volunteers from the Oct. 29th
cleaning & trimming

11. **October 29th, 2023 | Cleaning & Trimming of the Byberry Township African American Burial Ground**
   - ➢ This was the third cleaning and trimming of the burial ground in preparation for the forthcoming memorial ceremony. 15 volunteers participated and cleared the overgrowth and litter in under one hour.

12. **November 12th, 2023 | Memorial Ceremony for the Byberry Township African American Burial Ground**
   - ➢ This was the first acknowledgement, honor and blessing of the free & formerly enslaved African Americans interred at the Byberry Township African American

Presenters from the first memorial ceremony for
The Byberry Township African American Burial Ground Memorial
Ceremony (L - R) Dr. Ifetayo Flannery, Hannah Wallace, Paul Steinke,
Deborah Gary & Christopher K.P. Brown

Burial Ground. Attendees heard the soulful sounds of 2023 Pew Fellow & percussionist Karen Smith, the ancestral wisdoms of Temple University Professor of Africology, Dr. Ifetayo Flannery, a poetic selection written and read by Christopher K.P. Brown, as well as special remarks by the consultant, SPPAAA President Deborah Gary and PAGP President Paul Steinke.

Percussion ensemble led by 2023 Pew Fellow, Karen Smith.

C. Stakeholder Relationship Building

The following community stakeholders have been crucial to the progress of this project. Below, you will find their organizational name, a description of their participation in this project and the contact information to keep in touch.

1. **Byberry Quaker Meeting**
    a. This Quaker Meeting served as the founders of the Byberry Township African American Burial Ground. Jim Walton, the only recorded person interred at the burial ground, was enslaved to Daniel Walton, an attendee of Byberry Meeting. The Waltons were the founding family of Byberry Meeting and there are still Waltons who attend and serve on the board of Byberry Meeting to this day. Byberry Meeting served as stewards to the burial ground for 200 years until selling it to The City of Philadelphia in 1980. Since the deed was never recorded, the meeting can still technically be considered the permanent stewards, but they are currently not interested in resuming stewardship since their membership is too low to give proper attention to the land. The Meeting still would like to be an active participant in the project to memorialize the burial ground as they know that their story is inextricably tied to the origins of the Byberry Township African American Burial Ground. At the conclusion of this project, information on the history and location of the Byberry Township African American Burial Ground was added to the Byberry Meeting Website.
    - Mary Ellen McNish - Trustee President; maryellenmcnish815@gmail.com
    - David Nepley- Clerk; davesuzanna@verizon.net

2. **Department of Conservation and Natural Resources (including Benjamin Rush State Park)**
    a. The location of the burial ground is adjacent to the Benjamin Rush State Park. This has made the notion of consolidation of the burial ground into the

state park a viable option. (more on this in section D.) DCNR has been receptive to this idea, but cannot move forward until the legal limbo of stewardship is addressed. DCNR has also been helpful in providing insight on how to maintain the burial ground through a written management and maintenance document (attached to this report) provided by DCNR forester Kayla Kehres. Forester Kehres also offered hands-on support and supervision of volunteers during the first cleanup of the burial ground.

- ➢ John Norbeck - Deputy Secretary for Parks and Forestry; jnorbeck@pa.gov
- ➢ Kaitlyn Gundersen-Thorpe - Park Manager Department of Conservation and Natural; kgundersen@pa.gov
- ➢ Kayla Kehres - Forester; kkehres@pa.gov

3. **Friends of Northeast Philadelphia History**
    a. This organization has primarily interacted with our project through their subgroup: The Northeast Philadelphia History Network (NEPHN). The primary group name was listed in bold above as that is their formal nonprofit name. This organization was the first to offer a platform to present on our memorialization project. The members of NEPHN are astute historians on all centuries of history in Northeast Philadelphia. They know of other unrecognized African American Burial Grounds in the area as well. Members of this organization have attended multiple talks and cleanups hosted by the consultant and have provided insight for further research.
    - ➢ Jack McCarthy - Board President; jacksnotes88@verizon.net
    - ➢ Fred Moore - Treasurer; fredmoore1@verizon.net

4. **The Office of Senator Jim Dillon (5th District)**
    a. The Office of Senator Jimmy Dillon has shown committed support to see that this site be memorialized in the near future. The contact listed below came out for a visit and has kept in touch to offer further support for future engagements.
    - ➢ Matt Darragh - Communications Director; Matt.Darragh@pasenate.com


(L-R) Jacqueline Wiggins, Matt Darragh & Hannah Wallace

5. **Councilman Brian O'Neill (R) & Councilwoman Martina White (R)**
    a. These are the council representatives of District 10 (wherein lies the Byberry Township African American Burial Ground). They have both visited Byberry Meeting (but not the burial ground–yet) and have expressed support for memorializing the site.
    - ➢ Councilman Brian O'Neill - Brian.Oneill@phila.gov
    - ➢ State Representative Martina White - mwhite@pahousegop.com

6. **Councilman Mike Driscoll (D)**
    a. Councilman Mike Driscoll is the council representative of District 6. While he is not the representative for the township of Byberry, he has expressed support for memorializing the site and has a close relationship with the trustees of Byberry Meeting.
    ➢ Thomas P. Forkin Esq. - Chief of Staff; tom.forkin@phila.gov (for Councilman Mike Driscoll)

7. **The Museum of The American Revolution**
    a. The Museum of the American Revolution found particular interest in our work as it aligned so well with their exhibition Black Founders: The Forten Family in Philadelphia. While the exhibition will end later this month, Mike Idriss (the contact listed below) works to give voice to African Americans who lived during the American Revolution year-round at the museum. MOAR is an important thought partner that seeks to activate the burial ground through future tours and visits by their Living History Youth Summer Institute Students as well as with their museum staff and members.
    ➢ Michael Idriss - Manager of the African American Interpretive Program; midriss@amrevmuseum.org

8. **Temple University**
    a. **Department of Africology & African American Studies**
        i. The Department of Africology and African American studies offered a platform to the consultant to present on the findings of this project to their undergraduate and graduate students. Further, Dr. Ifetayo Flannery (listed below) served as a presenter at the Nov. 12th Memorial Ceremony to offer libation and share words of wisdom to honor the ancestors buried at this sacred site.
    ➢ Dr. Ifetayo Obuya Flannery - Professor; ifetayo.flannery@temple.edu
    b. **Klein College of Media & Communication**
        i. An undergraduate student from the School of Journalism chose to cover the story of this project as their class capstone. Alissa Clausell (listed below) attended multiple visits to the site and composed a news story (listed in section E.) that offered a fresh look at the efforts of SPPAAA & PAGP to memorialize the Byberry Township African American Burial Ground.
    ➢ Alissa Clausell - Undergraduate Student; alissa.clausell@temple.edu

9. **Philadelphia Archaeological Forum (PAF)**
    a. PAF visited the burial ground on March 6th, 2023 to offer insight on the landscape of the burial ground and to identify what natural features of the site could be original to the time of its founding and what features are from more recent years. PAF further offered recommendations for how to further survey the land to see what the site looked like in the late 18th century-early 19th century and where burials may have taken place. (More on this in section D.)

(L-R) Dr. Patrice Jeppson, Jed Levin, Jacqueline Wiggins & Hannah Wallace)

- ➢ Doug Mooney -President; douglas.mooney@aecom.com
- ➢ Dr. Patrice Jeppson - Member; pljeppson@gmail.com
- ➢ Jed Levin - Member; jedlevin1@gmail.com

10. **The Black Docents Collective**
    a. The Black Docents Collective has been closely following the progress of this memorialization process by having their members attend virtual discussions as well as the first cleanup of the burial ground. This would be an ideal organization to tap into when it is time to activate the memorial through tours and other related educational programming.
    - ➢ Richard White - President; blackdocents@gmail.com

11. **National Society Daughters of the American Revolution Independence Hall Chapter**
    a. The NSDAR has been closely following the progress of this memorialization process by having their members attend virtual discussions as well as multiple cleanups of the burial ground.
    - ➢ Ruth DeCou - Co-chair, Conservation Committee, rdecou@icloud.com

12. **Friends of Poquessing Watershed**
    a. The Friends of Poquessing have been closely following the progress of this memorialization process by having their members attend virtual discussions as well as multiple cleanups of the burial ground. This organization has their members regularly clean multiple sites along the Poquessing Creek and could be tapped into to incorporate the Byberry Township African American Burial Ground into their future cleanups.
    - ➢ Donna Remick- President; dremick@friendsofpoquessing.org

13. Preservation Pennsylvania & Pennsylvania Hallowed Grounds

a. In June 2023, a direct assistance grant was secured through Preservation PA & PA Hallowed Ground to move this project into its next phase. This was the Pennsylvania African American Cemetery Project Grant, funded by the African American Cultural Heritage Action Fund of The National Trust for Historic Preservation. This grant will support the preservation, repair, and maintenance of The Byberry Township African American Burial Ground.

- Charlotte Stone - Project Coordinator; cemeteries@preservationpa.org
- Bertha Jackmon - Board Member; berthajackmon@gmail.com

D. Recommendations Moving Forward

Looking ahead, these next steps will move this project forward towards the ultimate goals of finding a permanent steward for the land, determining whether there were any additional burials on the site and creating a memorial to honor the free and formerly enslaved Africans interred at the Byberry Township African American Burial Ground:

On the stewardship of the land...

Step 1. APPROVED DECISION - Consolidate the Byberry Township African American Burial Ground into the Benjamin Rush State Park. As of November, 2023, the DCNR (Pennsylvania Department of Conservation and Natural Resources) agreed to move forward with full incorporation of the Byberry Township African American Burial Ground into the Benjamin Rush State Park Property. This decision was made with the support of Byberry Quaker Meeting (site founder), SPPAAA, PAGP, and fellow community stakeholders.

Step. 2. Reach out to Byberry Meeting to see if they can get back in touch with Howland, Hess, Guinan, Torpey, Cassidy, O'Connell & Birnbaum, LLP. This was the law firm that managed the deed transfer of the Byberry Township African American Burial Ground with the City of Philadelphia. The deed was supposed to be transferred and recorded in 1980, but somehow, this did not happen. Seeing as how Byberry Meeting was their client, it should be Byberry Meeting that follows up on this request. This may lead to the recovery of the full deed.

Step 3. Reach out to Joshua Blay at the City Archives in search of the 1980 Deed. Joshua Blay is the Museum Registrar & Collections Manager at the City Archives. —This lead was given to the consultant towards the end of her project. After getting in touch with Friends Historical Library in search of the deed to the burial ground, she was told that no such deed was found at the Friends Historical Library, but may be located at the City Archives.

Step 4. Revisit the idea of Byberry Quaker Meeting reclaiming ownership over the Byberry Township African American Burial Ground. Currently, Byberry Meeting is in a predicament of having low

membership (less than 10 regular members), with its only members being of the elder population. This makes the notion of reclaiming the African American Burial Ground particularly daunting, as there is already a strain placed on the Meeting to maintain their own Meeting House as well as their School House, Byberry Hall, on-site burial grounds and horse stables. It is the belief of the consultant that if the Meeting grows in Friends, there could be further consideration of reclaiming the Byberry Township African American Burial Ground as a permanent steward.

On the maintenance & memorialization of the burial ground...

I. Site Maintenance

The following recommendations were provided by DCNR Forester, Kayla Kehres (this document can also be found as a separate attachment to this report.):

Overview

"Byberry Township African American Burial Ground is located on the outskirts of Benjamin Rush State Park at the intersection of Burlington Ave and Townsend Road (non-functioning roads). Currently, little is known about the site and number of burials as well as the where the deed of the property is. Plot maps show the area to be approximately 300 sq ft.

Site Description

The site is a small triangle shaped area approximately 300 sq ft and is bordered by a powerline and what appear to be organic material deposits creating a berm. The interior of the plot has numerous 20-30 ft tree species, honeysuckle shrub understory, Japanese knotweed around the perimeter, and invasive vining species. Downed woody debris is also scattered throughout. The area is slightly elevated above the surrounding terrain and has a fence located on the east side, running southwest to northeast.

Site Recommendations

First and foremost, this site is historical and shall be treated with low impact, cautionary prescriptions due to unknown underground conditions. Tree removal will be limited if not avoided completely as to not disturb the ground and structures beneath. Invasive shrubs can be mechanical cut and stump treated to clear the site as impact of removal will be low. Vining species can be cut, stump treated and left to dry in order to be more easily removed later. Foliar chemical spraying to control invasive plant species will be avoided and instead will be done using stump cut and hack and squirt methods, species depending. Attached to this report are Penn State Extension invasive species control guides to be used to create a routine maintenance plan to be scheduled throughout the year when best management practices align.

Volunteer clean-up days have been scheduled with the primary focus of trash removal, vine cutting, treating and clearing, and overall downed woody material clean-up. Future clean-up days can cover what was missed. Using materials that are located on site, a small stone wall or stacked stone sign can be created to further enhance the area and bring positive attention to the site."

II. Surveying the Land

The following recommendations were provided by Philadelphia Archaeological Forum (this document can also be found as a separate attachment to this report.):

"On behalf of the *Philadelphia Archaeological Forum*, PAF members Jed Levin and Patrice L. Jeppson made a site visit March 6th, 2023, to the Byberry Township African American Burial Ground in Northeast Philadelphia…

The cemetery today has no visible headstones or grave markers and the ground surface is heavily overgrown. After walking an informal survey throughout the location, PAF suggested several possible *non*-invasive research studies that could possibly lead to new information about the burial ground. These suggestions included checking historical aerial photographic archives, Infra-red photography taken via drone, archaeological assisted metal detecting, ground penetrating radar, and proton magnetometer studies - all of which have a potential to possibly reveal something about the general size and location of subsurface features in the area without involving excavation or other below ground-surface disturbances.

Infra-red photography reveals temperature differences which, in an archaeological context, can be indicative of past soil disturbances. This kind of investigation, done by drone, satellite, and even raised cherry picker bucket, might reveal subsurface ground intrusions such as burial shafts as well as compacted earth and or buried stone or brick walkways/paths. In this case, it could possibly suggest where individual burial grave shafts were dug, and in which cardinal direction the graves were laid out.

Archaeological assisted metal detecting could perhaps indicate the spatial layout of burials interred at the cemetery, and possibly help to better understand the total number of burials that took place while the cemetery was in operation. This would be possible if the detecting devices were able to pick up the signature of *metal* hardware that was part of either coffin construction or coffin decoration (e,g,, nails, hinges) and or burial shroud or clothing fittings (buckles, buttons, safety pins, straight brass pins, etc.).

Similarly, but beyond metal traces, ground penetrating radar and proton magnetometer studies hold a potential to possibly reveal the general size and location of subsurface features like grave shafts, possible buried grave markers, the foundations of any once-present boundary walls, and the layout of any pathways that may have been built intentionally or which were created informally as a result of visitation.

Following the onsite visit, PAF took a quick preliminary look confirming there are black and white, color, and Infrared historical images of the property. These references were forwarded to the parties met with. This imagery included fly over photographs housed in the Pennsylvania Spatial Data Access (*PASDA*), the Commonwealth's official public access open geospatial data portal and the PennPilot Historical Aerial Photo Library, 1938 - 1980, an online library of digital historical aerial photography for the Commonwealth of Pennsylvania sponsored by the Pennsylvania Geological Survey. The photographs in question were produced for the Delaware Valley Regional Planning Commission, the PA Emergency Management Agency, the US Geological Survey High Altitude Photography program and National Aerial Photography program, the US Department of Agriculture Farm Service Agency, and the City of Philadelphia.

PAF's suggestions for noninvasive research avenues included projects requiring various levels

of technical involvement and a range of costs. PAF explained the potential hindrances to such studies (e.g., sensor readings impacted by rocky soil) and discussed with those present the range of resources and experience required for such studies that are available locally and regionally.

PAF remains interested in the plans for preserving and interpreting the Byberry Township African American Burial Ground. PAF is pleased to offer assistance as needed and able to these parties."

--Patrice L. Jeppson, April 1st, 2023

III. Wayfinding

An immediate step in the right direction to memorialize this site, would be for temporary wayfinding signage to be placed within Benjamin Rush State Park to direct visitors to The Byberry Township African American Burial Ground. SPPAAA has already taken the first step in providing wayfinding by placing a temporary sign at the site itself. To further improve wayfinding, a second sign could be placed at the beginning of the path with an arrow pointing towards the burial ground. Further signage throughout the park would need to be approved by DCNR.

The consultant crouching next to the first sign ever to identify The Byberry Township African American Burial Ground. Courtesy of The Society To Preserve Philadelphia African American Assets (SPPAAA)

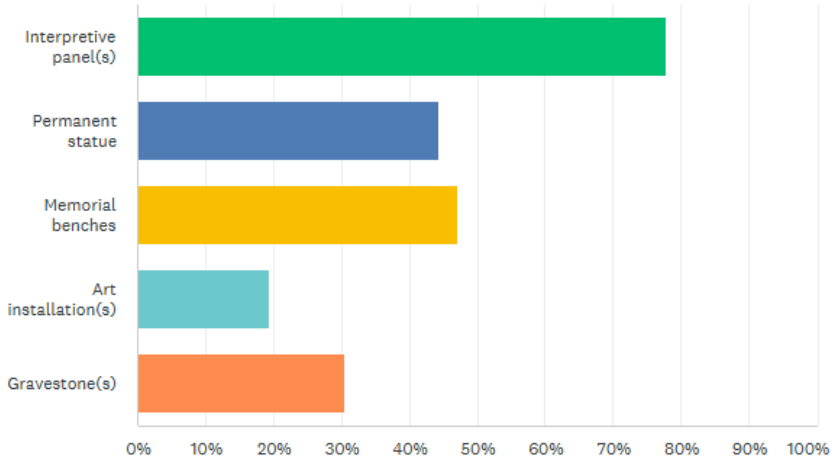
IV. Public Survey Responses

Between January 26th to April 24th, 2023, a survey was conducted to gather insight on participants' thoughts and recommendations towards the Byberry Township African American Burial. For the purposes of this report, only the recommendations portion of the survey have been shared below.

***Please note: The consultant used Survey Monkey to conduct this survey, which has a limitation of collecting only 40 responses (in its free version). It is recommended that if further surveys are conducted, a free service with no limitations be used, such as Google Forms.*

What type of memorial installation(s) would you like to see at the Byberry Township African American Burial Ground?

Answered: 36 Skipped: 4



ANSWER CHOICES	RESPONSES	
Interpretive panel(s)	77.78%	28
Permanent statue	44.44%	16
Memorial benches	47.22%	17
Art installation(s)	19.44%	7
Gravestone(s)	30.56%	11
Total Respondents: 36		

Comments (12)

"Something similar to the marker at mt Vernon's slave cemetery"

4/16/2023 06:42 AM

The Slave Memorial at Mount Vernon

"Some kind of permanent monument/that names as many folks as can be identified."

4/4/2023 10:18 PM

"I would like to see benches, historical markers which explain the history of the site and provide context and information about those buried there. I would also like to see some type of statue or piece of art which honors their memory."

2/15/2023 11:11 AM

"Enclosed the Burial Grounds With A 4-6 ft. Wrought Iron Fencing (Various Designs Integrated Within. This Would Be An Expensive Art Project)"

"Permanent written and pictorial displays of the graveyard history and people buried there."

3/5/2023 11:29 PM

The survey results conclude that the top three permanent memorial installations that are desired by participants were:
1. Interpretive Panels, 2. Permanent Statue(s), and 3. Memorial Benches.

It is recommended that all three of these features be utilized in the creation of a permanent memorial so that the site is accessible, educational & memorable to its visitors as they reflect on the legacy of those interred within these hallowed grounds.

VI. Interpretive Panel Drafts

Below is the second draft of two interpretive panels put forth by the consultant. Further editions are encouraged to capture a more comprehensive scope on the legacy of slavery and abolition in Byberry as well as the life of Mr. Jim Walton and other burials that may have taken place at this site.

1.

THE BYBERRY TOWNSHIP AFRICAN AMERICAN BURIAL GROUND
EST. 1780

Originally titled *The Burying Place For All Free Negroes or People of Color within Byberry*, this burial ground was founded in 1780 by the friends at Byberry Quaker Meeting to serve as a final resting place for free and formerly enslaved Africans who lived within Byberry.

This memorial was constructed to honor the courageous men and women who took their freedom; whether by self-purchase, manumission, or absconding from enslavement and lived out the rest of their lives in Byberry, Pennsylvania.

While the exact number of burials at this site is unknown, there is record of one burial for a formerly enslaved man named Mr. Jim Walton. Mr. Walton was enslaved to the Walton family, the founding family of Byberry Quaker Meeting.

2.

Slavery in Quaker Communities

The institution of slavery was a highly contested practice in Quaker communities. Some Quakers were fervent abolitionists while others were unyielding slaveholders. William Penn, the founder of Pennsylvania, was himself a slave owner. In 1688, the first written protest against slavery in the Americas was published by four Pennsylvania Quakers from Germantown Meeting. By the late 18th century, any slaveholding Quakers were to be disowned by their Meeting.

E. Media Coverage & Social Media

The following news stories have been published over the course of two years to raise awareness on the history and status of the Byberry Township African American Burial Ground:

Jan. 2013 - A bit of history lies buried in Benjamin Rush State Park - Northeast Times Star (by John Loftus)

Feb. 2013 - African American Burial Ground at Benjamin Rush State Park - Frankford Gazette (by Joseph Menkevich)

Feb. 2022 - Black History Month: Local Researcher Hopes Historic Marker Gets Erected At Forgotten African American Cemetery - CBS Philadelphia

March 2023 - A centuries-old Black burial ground in Northeast Philadelphia was nearly forgotten. Preservationists want to honor those buried there. - Philadelphia Inquirer (by Kevin Riordan)

June 2023 -(Video Coverage) The Preservationist Efforts To Restore a Forgotten African American Burial Ground by Alissa Clausell (a Temple University Student)

In March of 2023, the consultant created a Facebook page titled The Byberry Township African American Burial Ground. This page has been used to promote engagement and educate the public on the burial ground. Currently, the page has 28 followers. Upon completion of this project, the consultant transferred ownership to this page to PAGP & SPPAAA.

A logo for the site was created by SPPAAA and now serves as the profile picture for the burial ground facebook page. This logo features an adinkra symbol[10] under a conical-shaped image of the burial ground. The chosen adinkra symbol is called Nkyinkyim[11] (pronounced "n-cheen-cheem") which means "life's road is twisted." This adinkra symbol fittingly communicates the long and troubled legacy of slavery and abolition in Byberry as well as the neglect that this burial ground endured for hundreds of years since its founding in 1780.

[10] According to adinkrasymbols.org, "Adinkra are visual symbols with historical and philosophical significance originally printed on cloth which royals wore to important ceremonies. Originating from the Gyaman people of Ghana and la Côte d'Ivoire, the symbols have assumed global importance and are now found in logos, clothes, furniture, sculpture, earthenware pots, and many others."
[11] "Nkyinkyim." *Adinkra Symbols & Meanings*, https://www.adinkrasymbols.org/symbols/nkyinkyim/. Accessed 26 November 2023.

While there still much work to be done to permanently memorialize and interpret The Byberry Township African American Burial Ground, significant progress has been made over the past year through the efforts of all who contributed to this preservation project. May this living document serve as a basis for the next phase of work to come.

Appendix B

Byberry Township African American Burial Ground

Management and Maintenance

4/10/2023

Kayla Kehres | Forester
Department of Conservation & Natural Resources
Bureau of Forestry | William Penn Forest District
845 Park Rd. | Elverson, PA 19520

Office: (610)582-9663 | Cell: (610)858-0038
Fax:(610)582-9692
www.dcnr.state.pa.us | www.iConservePA.org

Overview

Byberry Township African American Burial Ground is located on the outskirts of Benjamin Rush State Park at the intersection of Burlington Ave and Townsend Road (non-functioning roads). Currently, little is known about the site and number of burials as well as the where the deed of the property is. Plot maps show the area to be approximately 300sqft.

Site Description

The site is a small triangle shaped area approximately 300sqft and is bordered by a powerline and what appear to be organic material deposits creating a berm. The interior of the plot has numerous 20-30ft tree species, honeysuckle shrub understory, Japanese knotweed around the perimeter, and invasive vining species. Downed woody debris is also scattered throughout. The area is slightly elevated above the surrounding terrain and has a fence located on the east side, running southwest to northeast.

Site Recommendations

First and foremost, this site is historical and shall be treated with low impact, cautionary prescriptions due to unknown underground conditions. Tree removal will be limited if not avoided completely as to not disturb the ground and structures beneath. Invasive shrubs can be mechanical cut and stump treated to clear the site as impact of removal will be low. Vining species can be cut, stump treated and left to dry in order to be more easily removed later. Foliar chemical spraying to control invasive plant species will be avoided and instead will be done using stump cut and hack and squirt methods, species depending. Attached to this report are Penn State Extension invasive species control guides to be used to create a routine maintenance plan to be schedule throughout the year when best management practices align.

Volunteer clean-up days have been scheduled with the primary focus of trash removal, vine cutting, treating and clearing, and overall downed woody material clean-up. Future clean-up days can cover what was missed. Using materials that are located on site, a small stone wall or stacked stone sign can be created to further enhance the area and bring positive attention to the site. Upon completion of first clean-up day, the site can be reevaluated further to plan future maintenance days.

Attached:

Shrub Honeysuckle Invasive Fact sheet

Japanese Stiltgrass Invasive Fact Sheet

Multiflora Rose Invasive Fact Sheet

Oriental Bittersweet Invasive Fact Sheet

Japanese Honeysuckle Vine Control

Japanese Knotweed Invasive Fact Sheet

Video Guides for Treatments

Oriental Bittersweet

PennState Extension

INVASIVE PLANT FACT SHEET

Shrub Honeysuckles

(*LONICERA* SPP.)

Photo credit: Dave Jackson

Background

Invasive shrub honeysuckles consist of several species in the genus *Lonicera* (*L. maackii*, *L. morrowii*, *L. tatarica*, *L.× bella*, *L. standishii*) introduced from Europe and East Asia in the 1800s. These species can hybridize, though none are unique enough in identification or treatment to be isolated from the complex. Though the iconic scent and blossoms appeal to generalist insects, such as the European honey bee, the nutritional value of invasive shrub honeysuckle fruit is lower than that of native plants. In some wildlife species, the consumption of this "junk food" has been documented to be detrimental to their health and life cycle.

Description

Size: The arching stems can grow to between 6 feet and 20 feet in height.

Flowers: Emerging throughout spring, depending on local climate and species, the fragrant flowers have four petals and grow in sets of two pairs from the leaf axils. Flower color varies, but flowers usually start out white and turn yellow or pinkish as they age.

Fruit: Replacing the flowers starting in midsummer, the shiny, round berries can be orange, red, or pinkish. Like the flowers, they appear along the stem in groups of four and are ¼ inch across.

Leaves: Simple, oppositely arranged leaves are 2–3 inches long with smooth, or entire, margins.

Stems: The grayish-brown bark is distinctly striated, or vertically shredded in appearance, which is especially noticeable on large stems. Stems of all species in this complex have a hollow center (pith).

Look-alikes

Fly honeysuckle (*Lonicera canadensis*) and other less common native shrub honeysuckles (*Diervilla lonicera*) all have a solid pith rather than the hollow pith seen in the invasive species. Native snowberry (*Symphoricarpos* spp.) has a similarly hollow pith, but its flowers are small, pink, and bell shaped, and the fruit is white. Native viburnums (*Viburnum* spp.) also branch oppositely, but they have toothed or lobed leaf margins and solid piths. The leaves of native dogwoods (*Cornus* spp.) have smooth margins and can look similar to honeysuckles, especially *L. maackii*, but dogwoods have solid piths and their stem/growth forms tend to be distinct from the invasive honeysuckles.

Dispersal

Honeysuckles are spread through the dispersal of their abundant fruit. The berries are available to wildlife from midsummer through winter, and are readily eaten by birds and small mammals.

A. Four-petaled flowers emerge in two pairs from the leaf axils (*L.* × *bella*).
B. Stem showing hollow center, or pith.
C. Opposite leaf arrangement and unripe fruit (*L. maackii*).
D. Ripe fruit, or berries, appear in groups of four (*L. morrowii*).
E. Stems showing vertically striated, "shredded" bark.

Photos by Dave Jackson and Kimberly Bohn

Management Calendar

The management calendar for shrub honeysuckles is quite flexible because the foliage emerges early and falls late. Basal bark and cut stump treatments provide a year-round window of opportunity.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Leaf Out												
Flowering and Seed Ripening												
Foliar Herbicide Application												
Basal Bark and Cut Stump Treatments												

Herbicide Treatment and Timing

A colorant should be added to all herbicide mixtures to improve tracking, help avoid skips, and prevent duplicate treatments. Trade names are used here to give specific information. Penn State Extension does not endorse or guarantee any product and does not recommend one product instead of another that might be similar. Other formulations with identical efficacy may be available.

Treatment	Timing	Herbicide	Product Rate	Comments
Foliar	From full leaf expansion to onset of fall color	Ranger Pro or Accord XRT II (glyphosate) plus Garlon 3A or Vastlan (triclopyr)	4 quarts/acre or 3 quarts/acre plus 2 quarts/acre or 1.5 quarts/acre with water	A combination of glyphosate plus triclopyr at 3 pounds plus 1.5 pounds per acre, respectively, is effective against a broad spectrum of woody species. Additionally, this mixture reduces risk to nontargets because it has practically no soil activity. The products listed have different active ingredient concentrations and thus require different application rates. No additional surfactant is needed with Ranger Pro or Accord XRT II; they come premixed. If using a different glyphosate product, be sure to check the product label to see if a surfactant (e.g., CWC 90) is needed.
Basal Bark (effective on stems that are 2 inches and smaller)	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 with basal oil	Oil-based herbicides penetrate the plant's bark and travel systemically during periods of active growth. Basal bark applications wet the entire circumference of the lower 12 to 15 inches of the stem, from the ground line up. Aim for full coverage on stems without creating excessive runoff. Stem treatments using triclopyr have variable activity on honeysuckle and may not control larger-diameter shrubs.
Cut Stump	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 with basal oil	Cut stump treatments with oil-based triclopyr ester herbicides are applied to the cut surface as well as the sides of the stump and can be applied anytime after the stems are cut.
		Ranger Pro or Accord XRT II (glyphosate) or Garlon 3A or Vastlan (triclopyr)	50%, 1:1 with water	Unlike the oil-based herbicides, water-based treatments are only applied to the cut surface and must be made immediately after the stems are cut.

Site

Intolerant of shade, shrub honeysuckles are not typically found in mature forest interiors. They prefer areas with full to partial sun, like forest openings and edges, roadsides, abandoned agricultural fields, and other disturbed habitats where sunlight penetrates the canopy, such as after a timber harvest. Some species (*L. morrowii* and *L.* × *bella*) also tolerate seasonal wetness and are capable of invading bogs and fens.

Control

Shrub honeysuckles are prolific and large infestations can be difficult to control. In controlling shrub honeysuckle, as with other invasives, prioritize work on sites to "save the best," focusing first on sites with abundant native vegetation and a low number of invasive plants, rather than starting on sites that are completely overrun. Think in terms of maximizing "acres

protected" when working to optimize your productivity and the resulting ecological benefit of invasive control work. These species leaf out early and drop their foliage late compared to most native woody species, making identification relatively simple and creating a longer operational window for treatment.

Small plants can be easily pulled by hand. Larger stems can be removed with lever-type wrenching tools or a hoe. Mowing effectively eliminates the canopy to improve access, though selectively mowing individual stems is not feasible in most situations. Smaller stems are easily cut with loppers or pruning saws. Rotary or flail cutters (i.e., "brush hogs") and chainsaws work well for cutting larger stems. These mechanical controls are not standalone treatments since plants readily resprout from stumps. To be effective, mowing must be followed with an herbicide application to either cut stumps or to regrowth.

Treating regrowth with a foliar application in the fall (or the next growing season) is likely easier than treating stumps following mowing because the targets are easier to find and selectively treating sprouts that are below waist high with a backpack sprayer is a relatively quick and manageable process.

In areas where honeysuckles are the only invasive plant species targeted, glyphosate alone, applied as a foliar treatment, is effective. Water-based formulations of triclopyr should be added to improve effectiveness where other invasive plant species are present. Triclopyr alone, applied as a foliar treatment, will not be effective against shrub honeysuckles.

An effective foliar treatment for honeysuckles and other invasive plants, is a solution of glyphosate and triclopyr applied at 3 pound plus 1.5 pounds per acre, respectively. Calibrate your spray application to achieve the proper dosage, even for "spot" foliar applications. This mix provides a broader control spectrum than either ingredient alone, is nonselective, and poses no risk to nontargets via root absorption of herbicide. Foliar treatments can be applied anytime during the growing season, from full leaf expansion to the onset of fall color, typically June through most of October.

To ensure 3 pounds per acre of glyphosate acid is applied, examine the fine print on the label to confirm the glyphosate acid per gallon, not the active ingredient percentage or pounds per gallon of the salt. They are different. For example, if using the dimethylamine formulation of glyphosate, the active ingredient in the form of the salt is 27 percent greater than the acid equivalent (5.07 pounds of the active ingredient, glyphosate, in the form of dimethylamine salt, and 4 pounds of the acid, glyphosate, per gallon).

Stem treatments are effective against invasive shrub honeysuckles and can be applied throughout the year, providing scheduling flexibility. Treatment options include basal bark and stump treatments, which can be done anytime the weather permits, avoiding times when snow prevents spraying to the ground line.

Basal bark treatments use a concentrated solution of the ester formulation of the herbicide triclopyr mixed in basal oil applied to the entire circumference of the lower 12–15 inches of the stem. Honeysuckles are somewhat tolerant to triclopyr alone. Basal bark treatments are only reliable on relatively small stems, 2 inches in diameter or less. Larger stems should be cut and stump or foliar treated.

If immediate removal of top growth is desired, the preferred approach is to cut the stems close to the soil line and treat the stump. Oil-based (1:4 solution) preparations of triclopyr ester can be applied anytime after cutting, while water-based (1:1 solution) treatments using glyphosate or water-based formulations of triclopyr should be applied immediately after the stems are cut.

Value to Wildlife

Shrub honeysuckles are a well-known feature in our landscape, especially the sweet fragrance of their flowers. While they appear to be attractive to pollinators, they largely appeal to generalists such as the European honey bee (*Apis mellifera*). Many native bee species are specialist pollinators of specific genera of native plants and do not make use of honeysuckle blossoms.

Invasive shrub honeysuckle fruit could be compared to "junk food" for migratory songbirds since it is low in the proteins and fats required for successful flights. Additionally, invasive shrub honeysuckles have been shown to impact songbird nesting success; the shrub's structure provides less shelter for nests, making them more visible and accessible to predators. Although they are not totally without ecological value, the monoculture shrub honeysuckles create and the cascading losses through many trophic levels (plants, insects, birds) should be considered alongside any perceived use by wildlife.

Prepared by Skylure Templeton, Art Gover, Dave Jackson, and Sarah Wurzbacher. Reviewed by Emily Rojik, Norris Muth, Amy Jewitt, and Andrew Rohrbaugh.

extension.psu.edu

Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

Code EE0342 2/22pod

Japanese Honeysuckle Control

Japanese honeysuckle (*Lonicera japonica*) is a perennial semi-evergreen vine native to Japan. First introduced in 1806 as an ornamental ground cover, it slowly escaped cultivation and became widely established by the early 1900s. It is found in numerous areas across Missouri.

Japanese honeysuckle spreads along the ground, forming dense mats. It climbs shrubs and trees and often dominates tree canopies. Fragrant white flowers bloom from May through June and develop into purplish-black fruits. Birds eat the fruits and distribute the seeds into fields and other areas. New vines also develop from underground rhizomes, and vegetative runners can sprout where the nodes (stem and leaf junctions) contact the soil.

You might enjoy its fragrance, but don't kid yourself about this invasive, exotic vine — Japanese honeysuckle is an aggressive colonizer that shades out native plants and harms natural communities.
MDC staff

Effect on Natural Communities

This aggressive vine seriously alters or destroys the understory and herbaceous layers of the communities it invades, including prairies, barrens, glades, flatwoods, savannas, floodplains, and upland forests. It may become established in forested natural areas when openings are created from treefalls or when natural features allow a greater light intensity in the understory. Japanese honeysuckle also may alter understory bird populations in forest communities.

Learn more about Japanese Honeysuckle

CONTROL RECOMMENDATIONS

Control Practices in Areas of Heavy and Light Infestation

Efforts to control Japanese honeysuckle infestations have included the following methods: mowing, grazing, prescribed burning and herbicides. While grazing and mowing reduce the spread of vegetative stems, prescribed burns or a combination of prescribed burns and herbicide spraying appears to be the best way to eradicate this vine.

Prescribed Burning

In fire-adapted communities, spring prescribed burns greatly reduced Japanese honeysuckle coverage and crown volume. Repeated fires reduced honeysuckle by as much as 50 percent over a single burn.

A previously burned population of honeysuckle will recover after several years if fire is excluded during this time. By reducing honeysuckle coverage with fire, refined herbicide treatments may be applied, if considered necessary, using less chemical.

Herbicide Treatment

Because Japanese honeysuckle is semi-evergreen, it will continue to photosynthesize after surrounding deciduous vegetation is dormant. This condition allows managers to detect the amount of infestation, and allows for treatment of the infestation with herbicides without damage to the dormant vegetation.

Glyphosate

Glyphosate herbicide (tradename Roundup) is the recommended treatment for this honeysuckle. A 1.5- to 2-percent solution (2 to 2.6 ounces of Roundup/gallon water) applied as a spray to the foliage will effectively eradicate Japanese honeysuckle. The herbicide should be applied after surrounding vegetation has become dormant in autumn but before a hard freeze (25 degrees F).

Roundup should be applied carefully by hand sprayer, and spray coverage should be uniform and complete. Do not spray so heavily that the herbicide drips off the target species. Retreatment may be necessary for plants that are missed because of dense growth.

Although glyphosate is effective when used during the growing season, use at this time is not recommended in natural communities because of the potential harm to non-target plants. Foliar application of herbicides will be less effective prior to early summer (July 4) because early season shoot elongation will limit the transfer of chemical to the root system. Glyphosate is non-selective, so care should be taken to avoid contacting non-target species. Non-target plants will be important in recolonizing the site after Japanese honeysuckle is controlled.

Crossbow

Crossbow, a formulation of triclopyr and 2,4-D, is also a very effective herbicide that controls Japanese honeysuckle. Crossbow should be mixed according to label instructions for foliar application and applied as a foliar spray. It may be applied at dormant periods, like glyphosate, and precautions given above for glyphosate should be followed when using Crossbow.

Either herbicide should be applied while backing away from the treated area to avoid walking through the wet herbicide. Garlon 3A and Garlon 4 (triclopyr) are also effective in foliar applications. By law, herbicides may only be applied according to label instructions and by licensed herbicide applicators or operators when working on public properties.

Cutting Vines

Mechanical cutting of aerial vines, followed by cut-surface herbicide treatment can be effective and minimizes the risk of spray drift. Undiluted Garlon 4 or a 20-percent solution of Roundup should be applied to cut stems immediately following cutting. (Note: some products containing glyphosate or another herbicide may be pre-diluted, so be sure to read product labels to understand herbicide concentration levels).

Maintenance Control

In fire-adapted communities, periodic spring burning should control this species.

Failed or Ineffective Practices

ADDITIONAL RESOURCES

[Japanese Honeysuckle Invasive Species Fact Sheet]
396.00 KB

IN THIS SECTION

Autumn Olive Control

Bush Honeysuckle Control

Callery Pear Control

Canada Thistle Control

Chinese Yam Control

Common Buckthorn Control

Common Reed Control

Common and Cut-Leaved Teasel Control

Crown Vetch Control

Didymo Control

Garlic Mustard Control

Heavenly Bamboo Control

Hydrilla Control

Japanese Honeysuckle Control

Japanese Hop Control

Japanese Knotweed Control

Japanese Stiltgrass Control

Johnson Grass Control

Kudzu Control

Leafy Spurge Control

Multiflora Rose Control

Musk Thistle Control

Old World Bluestem Control

Purple Loosestrife Control

Reed Canary Grass Control

Sericea Lespedeza Control

Spotted Knapweed Control

Tall Fescue Control

White and Yellow Sweet Clover Control

Wintercreeper Control

MISSION & VISION

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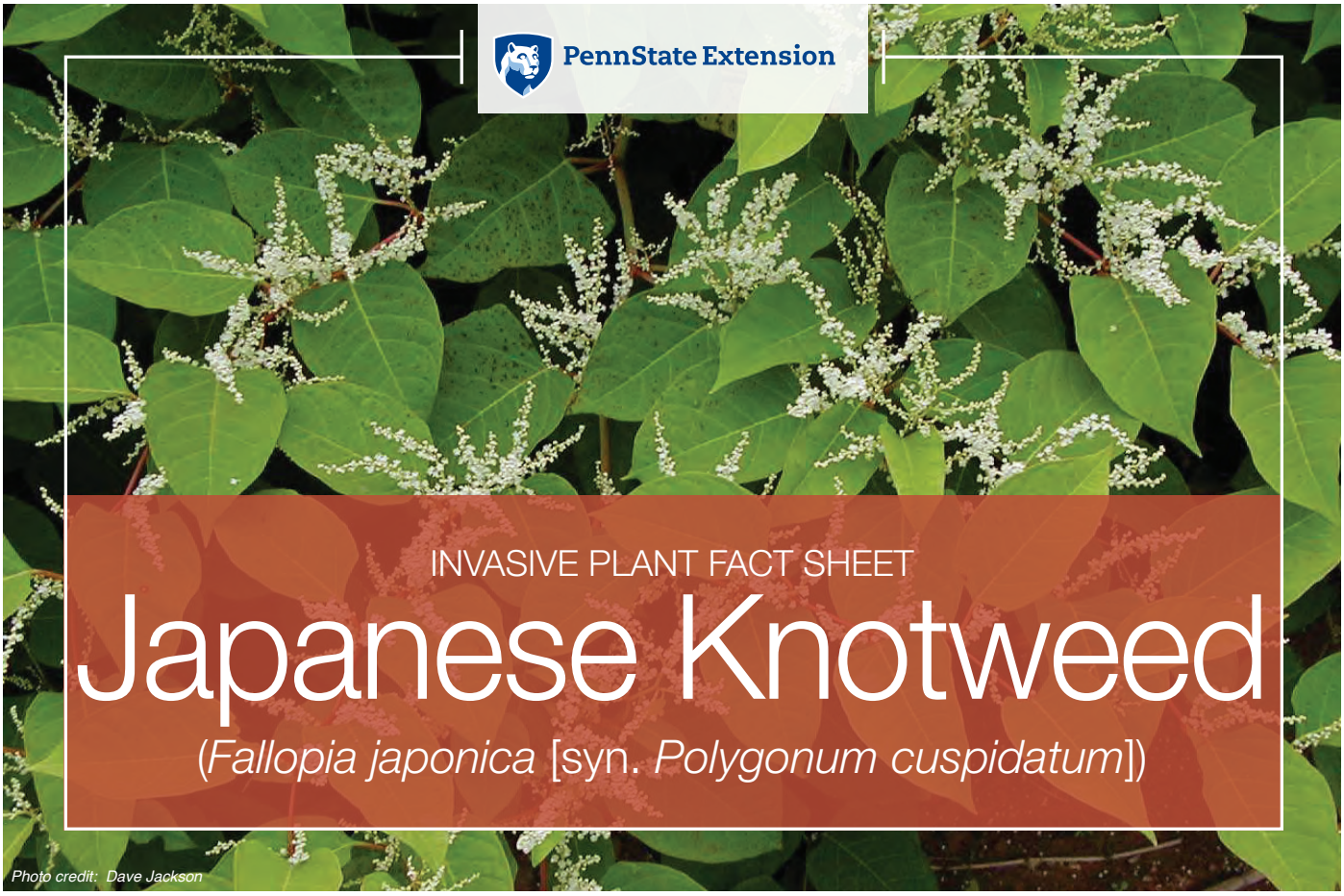

Background

Japanese knotweed (*Fallopia japonica* syn. *Polygonum cuspidatum*), an herbaceous perennial member of the buckwheat family, was introduced from East Asia in the late 1800s as an ornamental and to stabilize streambanks. Knotweed is a highly successful invader of wetlands, stream corridors, forest edges, and drainage ditches across the country. Its close relative, giant knotweed (*Fallopia sachalinensis*), is very similar in appearance and ecology, and the two species form the hybrid bohemian knotweed (*Fallopia* × *bohemica*).

Description

Size: Growing up to 11 feet tall, knotweed can spread horizontally via an extensive network of underground rhizomes, along which many shoots will sprout.

Stems: Superficially resembling bamboo, its jointed, hollow stem has many red or purple nodes where the leaves are attached. The stems are otherwise smooth, bright green, and often covered with darker spots or streaks. Portions of the stem bearing leaves appear to zigzag from node to node and form dense thickets.

Leaves: Many alternately arranged, spade- or heart-shaped leaves emerge from nodes along the stem, though lower leaves are often shed as the plant grows. Japanese knotweed leaves can be up to 6 inches long and have a squared leaf base. Giant or hybrid knotweed leaves will grow much larger, up to 1 foot long, and have a rounded leaf base.

Flowers: In late summer, white or pale green flower clusters sprout from the nodes. The fingerlike clusters are 3 to 4 inches long and consist of several dozen five-petaled, aromatic flowers.

New shoots: Emerging in early spring, the young growth is especially bright red or purple and tipped with many furled leaves that are distinctly triangular.

Look-alikes

Knotweed is often confused with bamboo (subfamily Bambusoideae), another invasive plant. Unlike knotweed, bamboo has slender, papery leaves that persist year-round. In cross-section, bamboo stems are also jointed, but much woodier, while living knotweed stems are herbaceous and will be visibly wet upon cutting. Another nonnative but not aggressively invasive species, broad-leaved dock (*Rumex obtusifolius*), could also be confused with young knotweed shoots, but broad-leaved dock consists of a rosette of many basal leaves emerging from a central taproot, differentiating it from Japanese knotweed's many single, rapidly elongating stems.

A. Flowers
B. Cut stem showing hollow interior between nodes
C. Giant knotweed leaf shape with curved base
D. Japanese knotweed leaf shape showing squared base and zigzag stem growth
E. Stem showing nodes
F. Young knotweed sprout
G. Monoculture forming on streamside

Photos by Dave Jackson

Dispersal

The key to Japanese knotweed's success is its ability to spread vegetatively through its root system. While some populations also reproduce via seed, colonies of knotweed are usually formed from an interconnected, underground system of horizontal roots called "rhizomes." These rhizomes are prone to splitting when disturbed and each fragment is capable of forming a fully functional clone of the parent plant. Fragments can be dispersed along waterways during flooding events or by the movement of soil containing root fragments. Additionally, if stems are cut, both the still-rooted stem and the trimmed portion are capable of regrowing into new plants if in contact with moist soil. Due to these traits, knotweed stands are extremely persistent even after multiple removal attempts.

Management Calendar

The management calendar for knotweed emphasizes late season applications of the herbicide glyphosate to maximize injury to the rhizomes and waiting at least eight weeks after cutting to apply herbicide.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Growth Initiation												
Flowering and Seed Ripening												
Preherbicide Cutting												
Postcutting Herbicide												
Biannual Foliar Herbicide on Uncut Plants												

Treatment and Timing

Prescriptions for controlling knotweed stress proper timing of operations to maximize injury to rhizomes. Improper timing will result in treatments that provide "topkill" (shoot injury) but little net effect. Product names reflect the current Pennsylvania state herbicide contract; additional brands with the same active ingredients are available.

Treatment	Timing	Herbicide	Product Rate	Comments
Preherbicide cutting	June	N/A	N/A	Cutting in June results in shortened regrowth (2 to 5 feet) and elimination of persistent stems from the previous season. This is a particular advantage in riparian settings, where full-size knotweed will hang over the water, making it impossible to treat without contacting the water with herbicide solution.
Foliar	At least eight weeks after cutting as a follow-up treatment or after late spring frosts for a treatment plan without cutting	Aquaneat or Glyphomate 41 (glyphosate)	3 quarts/acre or 4.3 quarts/acre	Use any of these glyphosate formulations to treat knotweed foliage, waiting eight weeks after cutting or a late frost to treat. The product rates differ because the glyphosate concentration differs between products. Applications of Aquaneat will require an additional surfactant (e.g., CWC 90). No additional surfactant is needed with Glyphomate 41. If you work at the early end of the operational window, you can make a touch-up application later in the season before a killing frost. Use this treatment for both initial control and follow-up maintenance applications. For high-volume (spray-to-wet) applications, mix on a 100 gallon-per-acre basis (e.g., Aquaneat would be 96 ounces per 100 gallons, or 0.75 percent by volume). For all treatments, be sure to calibrate your sprayer.

Site

This plant thrives on most sites that are at least seasonally wet. However, it can tolerate a wide variety of growing conditions, including acidic mine spoils, saline soils adjacent to roads, and fertile riverbanks. Though somewhat intolerant of shade, it can persist along forest edges or in the shade of bridges and road structures. The dense, low canopy formed by a thicket of tangled stems and large leaves creates a monoculture, excluding nearly all other vegetation. In comparison to native streamside vegetation, Japanese knotweed provides poor erosion control, and its presence gradually degrades aquatic habitat and water quality.

Control

The primary objective in controlling Japanese knotweed is eliminating the rhizome system. Rhizomes are creeping underground stems that give rise to new shoots and roots. As long as you are willing to invest the effort and follow a few key timing guidelines, it can be successfully controlled.

There are two phases of knotweed management: initial control and maintenance. The control phase for knotweed takes at least two seasons and consists of either two applications of herbicide or a cutting with a follow up of herbicide. Late season application of herbicide in the control phase is especially effective because this is when the foliage is sending sugars produced through photosynthesis to the roots and rhizomes; systemic herbicides move through the plant with those sugars. After initial control efforts have nearly eliminated the knotweed, you will need to periodically monitor the site and treat any new growth to prevent reinfestation.

Cutting alone is not an effective suppression approach. However, cutting prior to an herbicide application can be very helpful. Cut in June and wait at least eight weeks after cutting to treat the resprouting plants with herbicide; knotweed

regrowth will be much shorter than if it had not been cut, and the rhizomes will be forced to redirect their energy reserves toward resprouting instead of expanding their underground network. Typically, knotweed regrows to 2 to 5 feet tall during the eight-week window after cutting, but this waiting period is critical—if you apply herbicide too soon after cutting, the herbicide will not be effectively translocated to the rhizomes. Cutting is also useful when knotweed is growing near water because it is easier to treat the shorter regrowth without inadvertently spraying herbicides into the water during follow-up treatments. Treating intact knotweed towering over your head can be difficult, but cutting may be even more work. As long as you are able to effectively spray all the foliage, cutting is not critical. Wait at least eight weeks after cutting before applying herbicide.

We recommend glyphosate, a nonselective herbicide available as aquatic-labeled products for use in or near water. Glyphosate is effective, has low toxicity to nontarget organisms, has no soil activity, and is relatively inexpensive. The herbicide imazapyr (e.g., Polaris, Habitat) is also effective against knotweed, but it has considerable soil activity and can injure nearby trees through root uptake. Broadleaf herbicides such as triclopyr or 2,4-D provide significant foliar injury but have limited effect on the rhizome system. Mixing glyphosate with other herbicides makes sense if knotweed is not your only target during spray operations. Combinations with triclopyr or imazapyr provide a broader species spectrum and do not reduce activity against knotweed.

Human Use

All species of knotweed found in the United States produce edible young shoots in spring. Knotweed honey is a popular monoculture honey, as its fragrant, nectar-rich blossoms are a favorite of our nonnative honey bee (*Apis mellifera*). In its native Asia, knotweed has many applications in traditional herbal medicine. While these human uses are often raised in argument against controlling Japanese and other knotweeds, none outweigh the consequences of unchecked knotweed infestation. Knotweed infestations result in decreased biodiversity in both plant and animal communities, degraded water quality, and damage to human infrastructure such as road and bridge foundations. These widespread and highly negative effects should be considered alongside any argument for its overall value.

Prepared by Skylure Templeton, Art Gover, Dave Jackson, and Sarah Wurzbacher. Reviewed by Norris Muth, Amy Jewitt, and Andrew Rohrbaugh.

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Penn State College of Agricultural Sciences research and extension programs are funded in part by Pennsylvania counties, the Commonwealth of Pennsylvania, and the U.S. Department of Agriculture.

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Background

Japanese stiltgrass (*Microstegium vimineum*) is a widespread invader of woodlands. It was first reported in 1919, introduced as packing material for imported porcelain from China. Initially documented in Tennessee, it is now found across most of the eastern United States and as far west as Texas. Japanese stiltgrass is an annual grass that germinates in the spring and dies back each fall. A prolific seeder with a sprawling growth habit, it is often found growing along trails and roads, quickly spreading to the forest understory. The tiny seeds are carried on hikers' shoes, cars, ATVs, and logging and road maintenance equipment. Once introduced, it is extremely difficult to remove from a site.

Description

Size: Stems form a dense, tangled mat usually 1 to 3 feet in height, sometimes up to 6 feet.

Leaves: Elongate and lance shaped, each leaf blade is between 1 and 3 inches in length. A silvery, slightly off-center stripe runs the length of each leaf.

Flowers/fruit: A three-branched flower spike emerges in late summer, maturing to carry the small seeds. The spikes are 1 to 2 inches in length.

Stems: The stems are thin, delicate, and wiry with many interconnected via a horizontal runner stem, from which the roots emerge. Each stem is supported by small, stiltlike prop roots, giving the species its name. The stems remain over winter, forming a dense, matted layer, or thatch, over the soil.

Look-Alikes

The native whitegrass (*Leersia virginica*) is very similar in growth habit and site preferences but has two distinct differences from Japanese stiltgrass. Its flower spike is much larger, up to 10 inches long, and its stem has patches of dense white hair around each leaf base. Another trait of Japanese stiltgrass that helps to differentiate it from the majority of native grasses is its smooth leaves; most native grass leaves have a rough texture running lengthwise along the blade.

Dispersal

Japanese stiltgrass spreads exclusively by seed. Each plant can produce up to 1,000 seeds annually. Like most other annual invasive plants, Japanese stiltgrass seed is small and highly mobile, usually arriving in new areas accidentally on contaminated surfaces, such as vehicles. The seeds float and are easily dispersed in roadside ditches, streams, or wetlands by the movement of water. The seeds can also be transported on contaminated soil clinging to heavy equipment, especially along roadsides or in logging operations. Additionally, the seeds can remain viable in the soil for up to five years, germinating when suitable conditions occur.

A. Leaves showing slightly off-center silver stripe down leaf blade.
B. Stilt roots.
C. Three-branched flower spike carrying seeds.
D. Interconnected root growth habit.
E. Severely invaded forest understory.
F. Dry, matted stems during winter covering invaded area.

Photos by Dave Jackson

Site

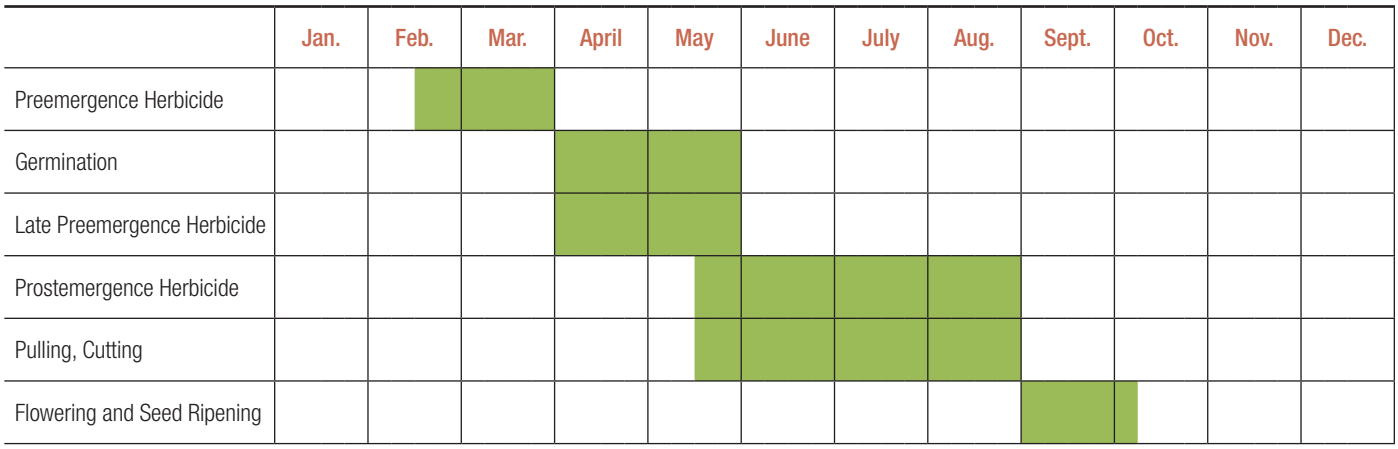
Japanese stiltgrass can grow in most habitats with moist soil, including mature woods, recently harvested sites, floodplains, wetlands, abandoned fields, and roadsides. In woodlands, it is common near roads or trails on which the seed is introduced and spread.

Control

Small infestations of stiltgrass are easily pulled, as the roots are very shallow. Cutting plants off at ground level using a string trimmer is also effective because it removes all stem tissue, making stiltgrass unable regrow. Mowing is not as effective as string trimming; stiltgrass will regrow from remaining stem nodes. When applying mechanical removal techniques for

Management Calendar

The objective of stiltgrass management is to prevent seed set and limit competition with other plants by controlling it early in the season.



Treatment and Timing

Prescriptions for managing Japanese stiltgrass focus on preventing seed set and limiting the period of competition with desirable species. Stiltgrass is susceptible to a number of herbicides. Small infestations can be hand-pulled or cut at ground level. Trade names are provided to give specific information. Penn State Extension does not endorse or guarantee any product or recommend one product over another that might be similar. When products with the recommended active ingredients are available on Pennsylvania state contract, those trade names are provided below. Other formulations with identical efficacy may be available.

Treatment	Timing	Herbicide	Product Rate	Comments
Preemergence	Late winter/early spring	ProClipse* (prodiamine) or Pendulum AquaCap* (pendimethalin)	16 to 32 ounces/acre or 64 to 128 ounces/acre	Selective preemergence applications of prodiamine or pendimethalin prevent stiltgrass establishment and have little effect on plants that are already present. These herbicides move very slowly into the soil, and if used alone need to be applied 2 to 3 weeks prior to germination. This approach is also effective against mile-a-minute (*Persicaria perfoliata*).
Late Preemergence	April through early May	Preemergence herbicide plus Plateau* (imazapic) or Oust XP (sulfometuron)	Preemergence herbicide plus 1 ounce/acre or 0.25 to 0.5 ounce/acre	Adding a very low rate of imazapic or sulfometuron to a preemergence mix allows you to apply closer to or even after stiltgrass germination with minimal injury to desirable vegetation. Both these herbicides are soil active and have postemergence activity. Small emerged seedlings will be controlled and there will be a short window of residual activity to allow the preemergence herbicide to move into the soil to prevent subsequent germination. Caution: imazapic and sulfometuron are safe to woody plants but will injure some desirable herbaceous species.
Pre- and Postemergence	Early March through May	Plateau* (imazapic) or Oust XP (sulfometuron)	8 to 12 ounces/acre or 1 to 4 ounces/acre	Imazapic and sulfometuron have pre- and postemergence activity against stiltgrass. Preemergence applications will cause less damage to nontarget species than postemergence applications. Sulfometuron has significant activity on a broad spectrum of herbaceous species and is best used where forest regeneration is the objective. Imazapic can be used in specific herbaceous plantings, as some native warm-season grasses and forbs are tolerant.
Postemergence	Mid-May through August	Aquaneat (glyphosate) or Finale* (glufosinate) or Assure II* (quizalofop)	8 to 96 ounces/acre or 64 ounces/acre or 4 ounces/acre	There comes a point in the season when it is more valuable to use an herbicide that is not soil active to reduce impact on nontarget plants. Glyphosate and glufosinate are nonselective herbicides with no soil activity. Glufosinate only injures the parts of the plant it contacts, while glyphosate is systemic and will kill the entire plant. Quizalofop only affects grasses, but the rate used for stiltgrass is low enough that desirable grasses such as whitegrass (*Leersia virginica*), deertongue (*Dichanthelium clandestinum*), and nimblewill (*Muhlenbergia schreberi*) are only temporarily affected.

*Product contains a non-crop-site label and is not approved for application on forested sites. Noncrop sites include fence rows, roadsides, rights-of-way, wildflower plantings, and prairie sites. Be sure to check the product label to ensure the site to which you are applying is listed.

Japanese stiltgrass, timing is critical. Current recommendations are to delay mechanical operations until June to avoid a second flush of germination, and complete them before seed head emergence in late August.

Preemergence herbicides prevent seeds from germinating; several are effective against stiltgrass. Prodiamine or the similar active ingredient pendimethalin can be used for selective preemergence suppression. These herbicides only affect germinating seedlings and do not injure established vegetation. To be effective, preemergence herbicides should be applied at least two to three weeks prior to expected germination. They must already be present in the soil at the time of germination to be effective. Application timing is a challenge, as germination is based on soil temperature, which varies from year to year. A general guideline is to apply these preemergence herbicides by mid-March (or late February in an early spring).

To make preemergence applications more flexible, add a low rate of imazapic or sulfometuron to the mixture. These herbicides will control emerged and germinating seedlings long enough to allow the less-soluble preemergence herbicides time to move into the germination zone. This combination retains much of the selectivity of preemergence herbicides alone, but lets you apply closer to or even after germination. Additionally, these combinations are also effective against mile-a-minute vine (*Persicaria perfoliata*), which commonly occurs on the same sites with stiltgrass.

Imazapic and sulfometuron have both pre- and postemergence activity against stiltgrass. These products control grasses and herbaceous broadleaf vegetation. Sulfometuron poses little risk to hardwood and conifer seedlings and can be applied directly over the top of existing woody vegetation, except during periods of active new growth in the spring. Many native warm-season grasses, wildflowers, legumes, and trees are tolerant of imazapic.

Postemergence herbicides—chemicals that control the plant after germination—are also effective against stiltgrass. These include glyphosate, glufosinate, and quizalofop. Glyphosate is nonselective, systemic, and will injure all treated vegetation. However, glyphosate can be applied at very low rates that will limit injury to nontarget species.

Glufosinate is also nonselective but has less movement through the plant's vascular system, so damage to treated plants will typically be limited to where the spray contacted the plant. Stiltgrass will be controlled, but most perennial plants will regrow following treatment.

The herbicide quizalofop is grass selective and does not affect broadleaf plants. Stiltgrass is affected by quizalofop at low rates, so you can control stiltgrass but leave most native grasses largely intact. Several grass-only herbicides, including clethodim, fluazifop, sethoxydim, and fenoxaprop, would provide similar effects as quizalofop. It is important to note that postemergence herbicide treatments using glyphosate, glufosinate, or quizalofop do not affect seed that is stored in the soil.

Where stiltgrass is well established, efforts should be directed toward temporary suppression to create a window of opportunity to establish meadow plantings, early successional habitat, or forest regeneration. Your objective in this scenario is to release native plants and allow them to become vigorous enough to successfully compete with the stiltgrass and tolerate its presence after suppression treatments have stopped. This can only occur where deer impact on native vegetation is low. Numerous studies have demonstrated increased stiltgrass infestation under high-deer-impact scenarios where deer continue to heavily browse out native vegetation. An otherwise ecologically functional plant community with stiltgrass present may be the best we can expect in most areas where significant deer impact cannot be alleviated.

Prepared by Skylure Templeton, Art Gover, Dave Jackson, and Sarah Wurzbacher. Reviewed by Norris Muth, Amy Jewitt, and Andrew Rohrbaugh.

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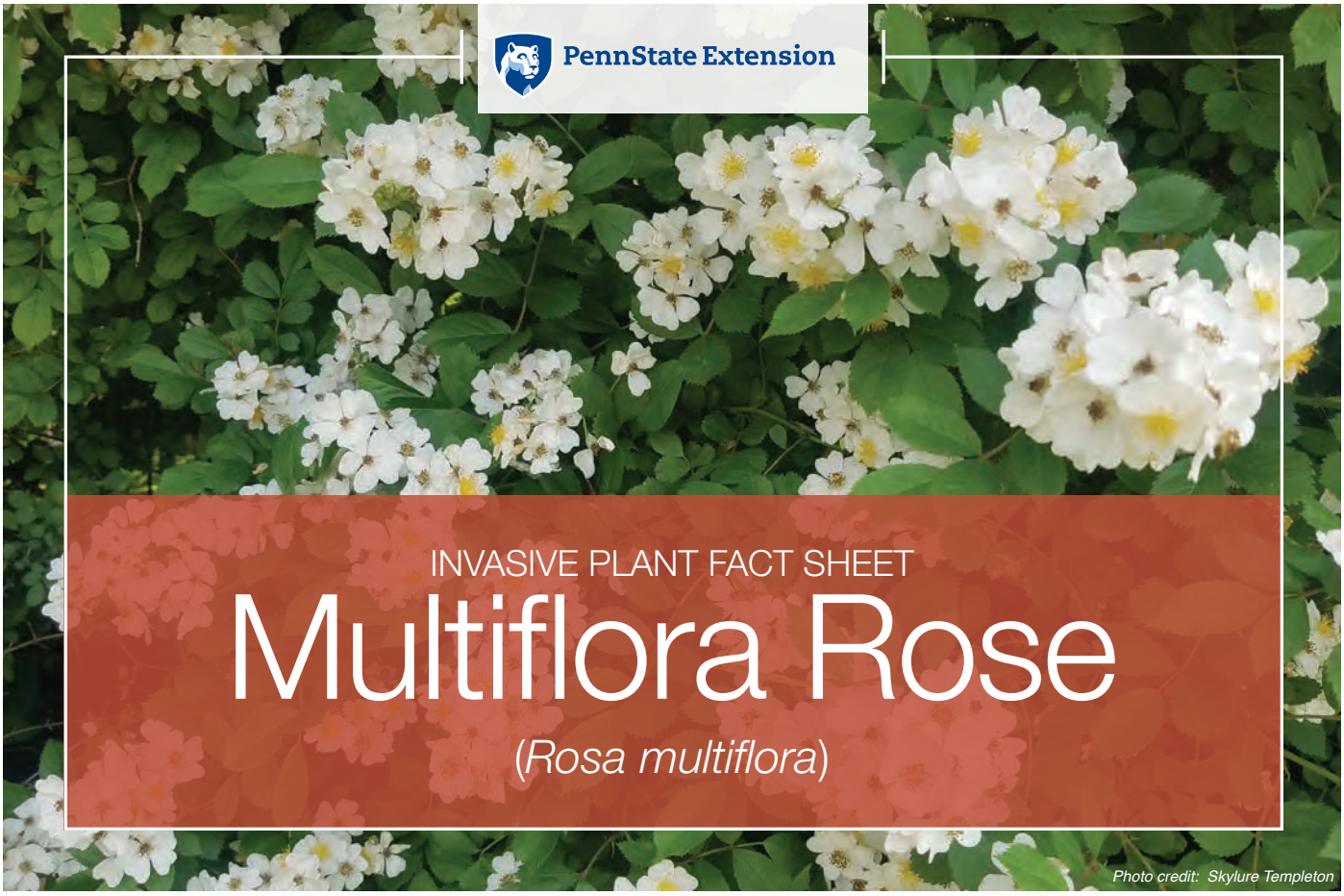


Background

Multiflora rose (*Rosa multiflora*) was originally introduced into the United States from east Asia in 1866 as rootstock for ornamental roses. It was also planted as a living fence, for erosion control, and to provide food and cover for wildlife. It is listed as a "Class B" noxious weed by the State of Pennsylvania, a designation that restricts sale and acknowledges a widespread infestation. Like other shrubs with attractive flowers, multiflora rose persists in our landscape partly due to citizen unwillingness to remove plants perceived to have aesthetic value or value to pollinators and other wildlife. However, the dense, monocultural thickets created by multiflora rose degrade natural enivronments and reduce native plant and wildlife diversity.

Description

Size: While each individual stem, or cane, can grow up to 15 feet in length, they usually arc toward the ground and take root, a process called "layering," creating dense thickets 6–10 feet tall. After establishment, individuals are capable of increasing their size by 1–2 feet a week during midsummer.

Leaves: Pinnately compound leaves have between five and nine leaflets and a uniquely fringed base, or stipule, where it connects to the stem. At 1–2 inches long, each leaflet is football shaped and noticeably toothed, or serrated, along the edges. Usually green, but new growth and the stipules can be spotted with pink or red.

Flowers: From May to June, many clusters of showy, fragrant blossoms emerge along the canes. Flowers have five petals, are white or pale pink, and have bright yellow pollen.

Stems: The canes are vibrant olive green year-round, making them easy to distinguish from native roses, raspberries, and blackberries. Each cane is round and bears the characteristic rose prickles, or thorns.

Fruit: Rose fruits, called hips, replace the flowers in midsummer and persist through winter, often into the next growing season. They are small, shiny, and initially a showy red but darken over time.

Look-alikes

While very similar in appearance to other roses, both native and exotic, multiflora rose is unique in having fringed stipules at the base of the leaf. Native black raspberry (*Rubus occidentalis*) and Allegheny blackberry (*Rubus allegheniensis*) have thorns, similar growth habits, and a tendency to form thickets, but they usually have red or purplish canes rather than the consistent olive green of multiflora rose. Another invasive cane-forming shrub that could be mistaken for rose is wineberry (*Rubus phoenicolasius*), but its canes are thickly covered in pink hairs rather than prickles.

A. Flowers and flower buds
B. Flower buds and last year's hips
C. Leaf showing fringed stipule
D. Hedge growing at forest edge
E. Cane infected with rose rosette disease

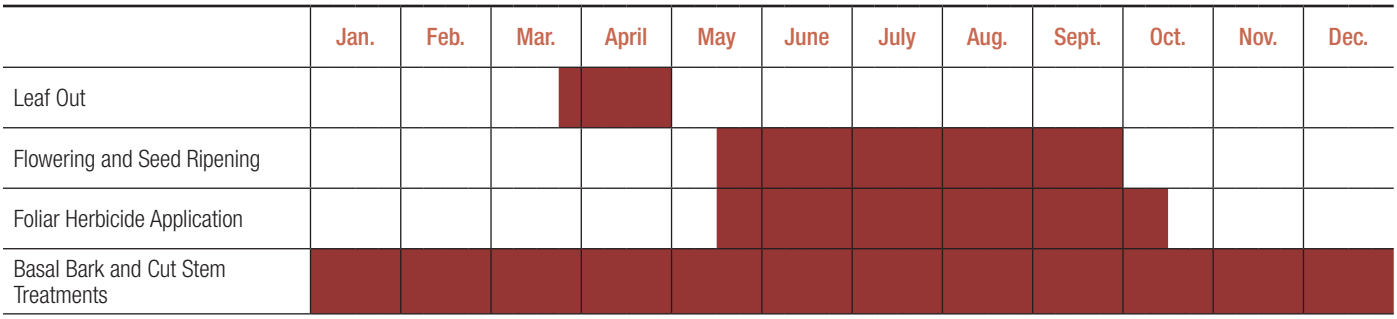
Photos by Skylure Templeton and Dave Jackson

Dispersal

Multiflora rose spreads through seed, root sprouting, and layering. Layering occurs when a cane comes in contact with the soil, produces roots, and becomes functionally independent from the parent plant. The hips are available to birds almost continuously, as last year's fruits are commonly found alongside this year's flowers. Once deposited in a new location via bird droppings, the seeds can persist and remain viable in the soil for up to 20 years, germinating when competing vegetation is disturbed. Though the first year or two of growth is usually quite slow, there is often an explosion of growth following this brief period of establishment, and the plant will reproduce aggressively as well as expand via layering.

Management Calendar

The management calendar for multiflora rose is quite flexible because the foliage emerges early and falls late. Stem treatments to intact and cut stems provide a year-round window of opportunity.



Treatment and Timing

Multiflora rose is easy to find year-round due to its vibrant green stems. Basal bark and cut stem treatments can be made anytime the weather permits. Product names reflect the current Pennsylvania state herbicide contract; additional brands with the same active ingredients are available.

Treatment	Timing	Herbicide	Product Rate	Comments
Foliar	Mid-May to onset of fall color	Aquaneat (glyphosate) plus Garlon 3A or Vastlan (triclopyr amine)	3 quarts/acre plus 2 quarts/acre or 1.5 quarts/acre	A combination of glyphosate plus triclopyr is effective against a broad spectrum of woody species. Additionally, this mixture reduces risk to nontargets because it has practically no soil activity and the herbicide products are safe for aquatic applications. Garlon 3A and Vastlan are both triclopyr amine formulations but have different active ingredient concentrations. A surfactant (e.g., Alligare 90) needs to be added. If using a different glyphosate product, be sure to check the product label to see if a surfactant is needed; some come premixed.
Basal Bark	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 in basal oil	Oil-based herbicides penetrate the plant's bark and travel systemically through the plant. Basal bark applications wet the entire circumference of the lower 12 to 18 inches of the stem. Aim for full coverage on stems without creating excessive runoff.
Cut Stem	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 in basal oil	Cut stem treatments with oil-based triclopyr ester herbicides are applied to the cut surface as well as the bark of the stem and can be applied up to one month after the stems are cut. An oil-soluble dye should be added to improve tracking, avoid skips, and duplicate treatment.
		Aquaneat (glyphosate) or Garlon 3A or Vastlan (triclopyr amine)	50%, 1:1 mix with water	Unlike the oil-based herbicides, water-based treatments are only applied to the cut surface and must be made immediately after the stems are cut. A water-soluble colorant should be added to improve tracking, avoid skips, and duplicate treatment.

Site

This shrub thrives on poor growing sites. It prefers full sun to moderate shade and is often found in abandoned fields, hedgerows, forest edges, and roadsides. It can also survive in the shade of a mature forest. While it tolerates most sites regardless of light, moisture, salinity, or pH, it is not tolerant of extreme cold and will die below -28°F. Its leaves are also rarely consumed by native invertebrates and the leaf litter it creates can shift the chemical composition of the decomposing leaf litter, further enhancing this shrub's dominance, particularly in riparian areas.

Control

Multiflora rose is very difficult to completely eradicate both individually and on a landscape-wide scale. They are prolific seeders and also aggressively expand through layering. Their seed bank can continue to produce new plants for up to 20

years, and fragments of the root system left behind can sprout. Like prescriptions to address other invasive plant invasions, plan to "save the best." In other words, plan to work from the least to the most invaded areas, or in areas where there is desirable native vegetation. This will maximize uninvaded acres, which is not only of higher ecological value but also creates a much greater sense of accomplishment. Because its seeds are dispersed by birds, new invasions can and will occur, but spot removal of isolated individuals, before they multiply, is a part of any invasive plant maintenance program.

The efficacy of and methods for mechanically controlling multiflora rose depend on the intensity of invasion and age of the population. Small populations of young plants are not difficult to pull, taking care to use protection against the thorns. Be sure to pull the entire root system to prevent resprouting. Similarly, using a brush mower to cut larger infestations will temporarily set back the population and stress the plants, but it will not eliminate them and resprouting will result.

Using goats as a treatment will have similar results as a brush mower, leveling all nontree vegetation in the target area. The use of goats can be very expensive, and all costs (renting the animals, installing and removing fences) should be considered. All mechanical methods need to be either followed up with herbicide applications or repeated throughout the season as new growth emerges for multiple years until the stored energy within the root system is exhausted and the thicket dies. Even after the adult plants die, the seed bank will still need to be addressed, necessitating a long-term management plan.

Biocontrol agents do exist for multiflora rose, but they are generally difficult to apply in a targeted fashion and will often affect related nontarget vegetation of the same genera or family. Rose rosette disease, also called witches-broom, is a mite-vectored viral infection of the growing tips that results in stunted, nonfunctional growth that is often a vibrant red color. While the virus will eventually result in death of the plant, it can take years, making this method unreliable as a form of consistent treatment. The disease also infects other native and exotic species of the rose family, including other roses, cherries, plums, apples, and pears. While two nonnative and naturalized insects, the rose stem girdler beetle (*Agrilus cuprescens*) and the rose seed chalcid wasp (*Megastigmus aculeatus*), do kill individual plants, their populations are not robust enough to produce a widespread population reduction. As such, the presence of these controls is more of a positive but chance event than a true treatment.

Herbicides are commonly used to control multiflora rose, especially in large infestations. Initially mowing or otherwise cutting large infestations is a good preparation step before herbicide applications; it stresses the plants, results in less overall plant area to treat, and makes the thicket much easier to navigate for a foliar application. After mowing, wait for knee-level regrowth before treating with herbicide. Formulations containing glyphosate, triclopyr, and metsulfuron methyl are all effective against rose and available under many brand names. While foliar sprays can be done anytime during the growing season, all of these chemicals will also harm nontarget herbaceous plants and trees if applied to their leaves, so care should be taken to avoid overspray.

Cut stem and basal bark treatments can be implemented throughout the year, giving you scheduling flexibility. Water-based solutions of glyphosate or triclopyr at a 1:1 ratio should be applied immediately after cutting the stems while the cut is still fresh and the plant's vascular system is still active. Oil-based products (e.g., triclopyr ester) can be applied anytime after cutting as long as you can find the cut stems, or as a basal bark treatment where the stems can be accessed. The herbicide solution is applied directly to the cut surface or stem using a low-pressure hand-held sprayer, though a backpack sprayer is preferred for large infestations. Conducting stem treatments during the dormant season will lessen the chances of killing nontarget vegetation.

Prepared by Skylure Templeton, Art Gover, Dave Jackson, and Sarah Wurzbacher. Reviewed by Norris Muth, Amy Jewitt, and Andrew Rohrbaugh.

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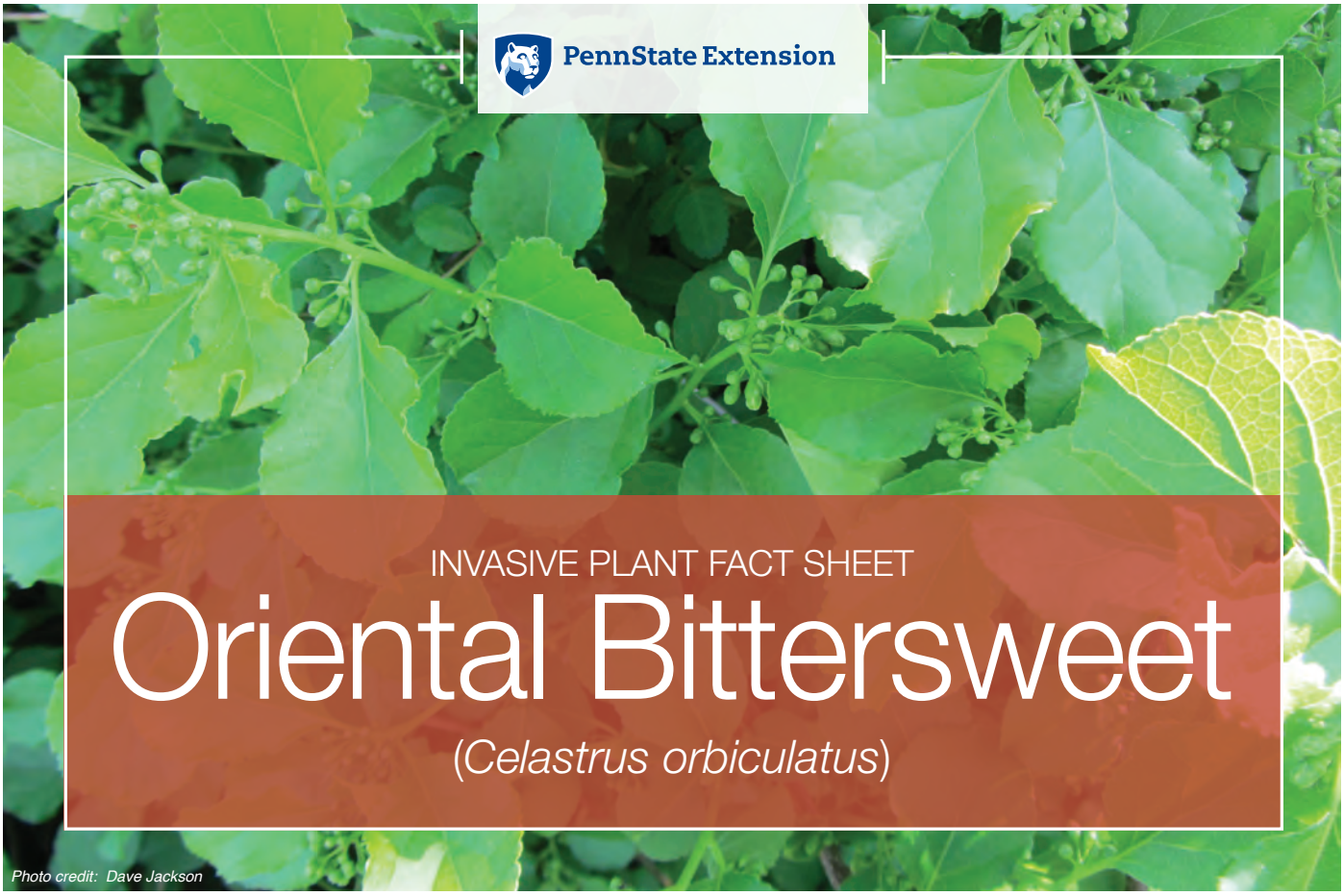

PennState Extension

INVASIVE PLANT FACT SHEET

Oriental Bittersweet

(*Celastrus orbiculatus*)

Photo credit: Dave Jackson

Background

Oriental bittersweet (*Celastrus orbiculatus*) was introduced to the United States in the 1860s from east Asia. This woody, deciduous, perennial vine has since naturalized and become an extremely aggressive and damaging invader of natural areas. Oriental bittersweet chokes out desirable native plants by smothering them with its dense foliage and strangling stems and trunks. In some areas, it forms nearly continuous blankets along entire stretches of woodlands. Despite its aggressive nature and capacity to replace native plant communities, it is still sold and planted as an ornamental.

Description

Size: Single vines can reach 60 feet in length, though it will only grow as high as the vegetation it is climbing. As a perennial vine, it puts on yearly growth and can reach diameters of over 10 inches.

Leaves: Distinctly round with toothed edges, the leaves are alternately arranged along the stem and between 3 and 4 inches in length. In late summer the leaves turn vivid yellow, usually before native plants gain their fall color, making this vine easy to spot from a distance.

Flowers: Oriental bittersweet is dioecious; pollen and fruit are borne on separate male and female plants. In late spring, the female yellow-green flowers, each less than ½ inch long, grow from the leaf axils all along the stem in clusters of two or three. The male flowers are not distinct.

Fruit: Yellow-skinned fruit first appear on female plants in late summer. In fall the yellow skin splits to reveal a bright red center. The fruit is retained on the stem through winter. The conspicuous combination of yellow and red make Oriental bittersweet simple to identify even after leaf drop.

Stem: Young growth is bright green; larger stems have red-brown bark that has a cracked, fish-netted texture. The smooth stems do not have tendrils, barbs, or aerial rootlets since Oriental bittersweet climbs by twining or winding itself around host plants.

Look-alikes

American bittersweet (*Celastrus scandens*) is a similar but far less common native species that is listed as rare or vulnerable in several states. American bittersweet leaves are more football shaped than rounded. Their flowers and fruit also emerge only from the ends of the stems, rather than at each leaf axil, as with Oriental bittersweet. The fruit of American bittersweet also has a bright red covering instead of yellow. While the two species do hybridize where they co-occur, American bittersweet is rare enough that the likelihood of an individual being the nonnative invasive species is high.

A. Sprout showing leaves and axial flower buds.
B. Vine showing bark texture.
C. Vine girdling host tree.
D. Leaves and twining stems.
E. Interconnected root sprouts.
F. Fruit and fall coloration.

Photos by Dave Jackson

Dispersal

Oriental bittersweet reproduces by seed and vegetatively by sprouting from an extensive root system. Its conspicuous fruit is spread primarily by birds and persists from late summer through winter. A significant vector of this vine is its continued use as a component of decorative wreaths—its seeds remain viable even after drying and can germinate once the wreath is discarded. Once an individual is established, it spreads by sending up sprouts from its roots. Following cutting, Oriental bittersweet resprouts vigorously from cut stems and roots.

Site

While Oriental bittersweet prefers full sun, it tolerates dense shade while young. Sprouts growing in shade seek out full sun

Management Calendar

The management calendar for Oriental bittersweet emphasizes injuring the root system with late season foliar herbicide applications. This may need to follow a cutting of the existing vines to force new, low-growing regrowth. Treating stumps at the time of cutting is an option but may not be practical.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Bud Break												
Flowering and Seed Ripening												
Foliar Herbicide Application												
Window Cutting												
Basal Bark, Cut Stump, and Hack-and-Squirt Treatments												

Treatment and Timing

Prescriptions for controlling invasive Oriental bittersweet emphasize cutting the aerial growth to facilitate late season foliar herbicide treatments to injure the root system. Hack-and-squirt, basal bark, and stump treatments can be made anytime the weather permits. Product names reflect the current Pennsylvania state herbicide contract; additional brands with the same active ingredients are available.

Treatment	Timing	Herbicide	Product Rate	Comments
Foliar	July 1 to onset of fall color	Rodeo (glyphosate) plus Garlon 3A or Vastlan (triclopyr)	3 quarts/acre plus 2 quarts/acre or 1.5 quarts/acre	Apply this treatment to isolated low-growing vines or regrowth following cutting once enough foliage is present to ensure sufficient herbicide translocation to roots. Waiting at least 8 weeks after initial cutting is typically sufficient. Rapidly growing shoots should be treated before they start twining around desirable trees and shrubs. A surfactant (e.g., CWC 90) needs to be added. If using a different glyphosate product, be sure to check the product label to see if a surfactant is needed; some come premixed.
Basal Bark	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 in basal oil	Oil-based herbicides penetrate the vine's bark and travel systemically through the plant. Basal bark applications wet the entire circumference of the lower 12 to 18 inches of the stem. Aim for full coverage on stems without creating runoff. This is an efficient treatment for treating a few large-diameter vines (less than 6 inches). Basal bark applications should not be made in settings where spray solution will contact stems of desirable plants. Triclopyr has the potential to cause injury through root pickup, so avoid treating in areas where large numbers of vines exist in the root zone of desirable trees.
Cut Stump	Year-round	Pathfinder II or Garlon 4 Ultra (triclopyr ester)	Ready-to-use or 20%, 1:4 in basal oil	Cut stump treatments with oil-soluble triclopyr ester herbicides are applied to the cut surface and the sides of the stump and can be applied anytime after the stems are cut. An oil-soluble dye should be added to improve tracking and avoid skips and duplicate treatments.
		Aquaneat (glyphosate) or Garlon 3A or Vastlan (triclopyr)	50%, 1:1 mix with water	Unlike the oil-based herbicides, water-based treatments are only applied to the freshly cut surface and must be made immediately after the stems are cut. A water-soluble colorant should be added to improve tracking and avoid skips and duplicate treatments.
Hack and Squirt	Year-round	Aquaneat (glyphosate) or Garlon 3A or Vastlan (triclopyr)	50%, 1:1 mix with water	Glyphosate or water-based formulations of triclopyr are effective for hack-and-squirt treatments. It is essential to space the cuts, leaving intact bark between them. If the stem is completely girdled, the herbicide cannot translocate to roots. A simple guideline for the number of hacks is one per inch of diameter, with a minimum of two. Spray herbicide mixture into hacks immediately using a squirt bottle, filling the cuts. This treatment is best suited for low stem numbers and stems at least 1 inch in diameter.

by climbing nearby vegetation and forming a blanket over the forest canopy. It thrives especially well in moist areas and areas with exposed mineral soil, such as disturbed sites, but it grows in many soil conditions, including sand dunes and bogs.

Control

Though attacking the root system is the only way to kill the vine, freeing surrounding trees and other vegetation from the weight of the aerial stems by cutting them at ground level is typically the first step in controlling the vine. When mature, one root system may support dozens of stems, many of which may be very small or wrapped around desirable trees, making them impractical to treat with herbicides. Often, the most feasible approach is to cut the existing stems, forcing the roots and stumps to send up new shoots, and then treat the regrowth with foliar-applied herbicides.

On well-developed vines, most of the leaf area is in the upper canopy of the host tree, out of reach for foliar herbicide applications. Cutting the vines kills the aerial portion and forces the roots to generate new growth. Cutting can be done anytime of year. The "window-cut" method is recommended, where each vine is cut in two places, at the ground and again at eye level. This ensures all vines are located and cut and clears the site at ground level to facilitate follow-up spraying. Do not pull the cut vines from trees; this can further damage host plants and pose safety risks. The dead vines will shed their leaves, dry, and decompose over time, so the weight will no longer be an issue.

Cutting alone is only effective at controlling the vines when resprouts are repeatedly cut until the root system is exhausted. This will take multiple cuttings annually over several growing seasons. Mowing has been shown to encourage root sprouting and may not control the plant even when repeated periodically. Missing even one cutting during this regimen is likely to give the vine a chance to recover and reestablish.

The most practical method to injure the root system of Oriental bittersweet is to treat the regrowth following cutting with a foliar herbicide application. Resprouts provide a smaller and more practical target for follow-up herbicide applications. Ideally, this should be done after the regrowth has had at least eight weeks to sprout. If treated too soon, the new foliage will still be growing aggressively and the herbicide will not move into the root system. All herbicide treatments to vines should be made late in the growing season, no earlier than July 1, to enhance translocation to roots.

Treating stumps after cutting will reduce the amount of regrowth but not eliminate all root sprouts in most instances. Often, the best option is to simply cut all the vines and wait to foliar spray the regrowth. The challenge will be treating the new vines before they get a chance to intermingle with foliage of desirable plants. When spraying foliage, use a mixture of glyphosate and water-based formulations of triclopyr with a surfactant added. This mixture will not only control vine regrowth but can also be used to treat other invasive plants encountered during the operation.

Directly treating all vines on a well-developed infestation with stem treatments (e.g., hack and squirt or basal bark) is challenging and often impractical if the vines are tightly wrapped around desirable trees, as accidental application to the host tree is possible. Basal bark treatments are effective on stems under 6 inches in diameter. When making basal bark applications, use an oil-soluble triclopyr ester product and avoid getting spray solution on the bark of desirable trees and shrubs. Applying large amounts of concentrated triclopyr ester solutions to vines near the base of desirable trees poses a potential risk of injury if picked up through their roots and should also be avoided.

Stems at least 1 inch in diameter and larger that aren't tightly twined around desirable trees can be treated using the hack-and-squirt method. This method is a highly targeted approach that uses a minimal amount of herbicide. A hatchet is used to make downward-angled cuts in the stem at a convenient height. Using a handheld sprayer, apply the water-based herbicide solution, saturating the cuts but avoiding runoff. To facilitate translocation to roots, space the cuts no more than 1 inch apart and do not girdle the stem.

Established root systems can be parent to many stems that can blanket trees with their rapid growth. Gaps created by broken limbs or downed trees open the canopy, releasing sunlight to the forest floor and providing favorable habitat for Oriental bittersweet to thrive. As described in prescriptions to address other invasive plant invasions, the best approach to combat this habit is to "save the best." In other words, plan to work from the least to the most invaded areas or in areas where there is desirable native vegetation. This will maximize uninvaded acreage, which is not only of higher ecological value but also creates a much greater sense of accomplishment. Because Oriental bittersweet seeds are dispersed by birds, new invasions can and will occur. Spot removal of isolated individuals must be a part of any long-term invasive plant control program.

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APPENDIX C

A SACRED SPACE

(Acknowledgement Poem For Byberry Township African American Burial Ground)
By Christopher K.P. Brown

For our ancestors
For the ancestors
For Jim
For those once enslaved
For those who lived free

Black
Colored
Negro
African American
African
We recognize not only the body and the blood
But the spirits
We ask for those positive spirits to guide us
To reveal to us what you want us to know about your lives
We move with the hope and possibility to better to tell your stories
To reconnect to what was once lost

Sunday, November 12, 2023
We gather to remember
We gather to reconnect
We gather to reconcile
We gather to renew
Moving with intention
Moving with appreciation
Moving with respect
Moving with love and positivity

We acknowledge this space
We acknowledge those who rest here
We stand present in this space
We share this space as acknowledgment
To those who rest here for over 200 years
As ancestors we acknowledge you
We yearn for a better understanding of your lives
We yearn to know more of your personal stories
We wish to say your names
And who lays here

Who were their parents
Who were their children
What were your favorite songs
What events stand out most in your lives
What stories did you like to tell
What languages did you speak
Where did your grandparents call home
What did you believe in
What did you believe?
We come with a curiosity
We stand present with curiosity
That begins with acknowledgement of your lives
Your people once enslaved here on Lenape land

We acknowledge those who come before us
We acknowledge the culture and wisdom that comes before us
The sun shines upon you even today
November 12, 2023
This Sunday afternoon
We acknowledge You
And we acknowledge this space as a sacred space.