



**Environmental
Protection
Agency**

Fernald Natural Resource Trustees 2024 Annual Report to the Public



Blanchards Cricket Frog observed during Annual NRT Walkdown



Division of Environmental Response and Revitalization
Federal Facilities Section

June 2025

Executive Summary

The Paddys Run Conservation Project (PRCP) provides funding to purchase development rights through agriculture and conservation easements from willing landowners to protect the Paddys Run watershed and the Great Miami Buried Valley Aquifer. The easements keep land in private hands while protecting working farms and the environment.

In 2024, the Fernald Natural Resource Trustees (Trustees) had more than 4,800 acres protected with easements from willing landowners. The Trustees continue working with existing easement holders and the community on conservation opportunities.

In 2023, the trustees agreed that the U.S. Department of Energy (DOE) completed ecological restoration at the Fernald Preserve in accordance with the requirements identified in the [Consent Decree Resolving Ohio's Natural Resource Damage Claim Against DOE](#), State of Ohio v. United States Department of Energy, et al. 2008 court decision and "Natural Resource Restoration Plan" (NRRP). DOE will continue to manage the site's restored areas and natural resources in accordance with the *Fernald Preserve, Ohio, Site Natural Resource Management Plan*, which is included in Volume 1 of the 2024 *Comprehensive Legacy Management and Institutional Controls Plan*.

Background

From 1951 until 1989, production of high-purity uranium metal products as the first step in America's nuclear weapons took place in a small rural area 18 miles northwest of Cincinnati. The DOE uranium foundry and machining site has changed names over the years to reflect its evolving mission. These names include the Feed Materials Production Center, Fernald Environmental Management Project, Fernald Closure Project, and in 2007 the site became the Fernald Preserve. Numerous contaminants were released during production, affecting local air, soil, surface water, and groundwater. The site's environmental remediation and ecological restoration were completed in 2006, costing \$4.4 billion. This cleanup was one of the largest environmental cleanup operations ever undertaken in our nation's history. Ohio included a \$206 million claim for natural resource damages (NRD) in its 1986 lawsuit against DOE because the state's natural resources were injured during the production years at Fernald. In 1988, Ohio and DOE agreed to put this claim on hold until the site's record of decisions was signed. In 1993, DOE initiated discussions with the Trustees to determine the feasibility of integrating the Trustees' concerns with future remedial design and restoration activities. In 1998, DOE initiated restoration activities at the site based on the Trustees' Draft Natural Resource Restoration Plan.

In 2008, the State of Ohio and DOE settled the NRD claim at Fernald and documented it in a consent decree. In addition to the \$14 million DOE had already spent restoring the site, the consent decree required: (1) implementation of the Natural Resource Restoration Plan; (2) payment of \$13,750,000 to Ohio by the United States, on behalf of DOE, for various habitat enhancements and land protection on or near Fernald to protect and improve water quality in Paddys Run and the Great Miami Aquifer; (3) execution of environmental covenants for the entirety of the site, recorded with Hamilton and Butler counties; and (4) payment of past and future costs to the State of Ohio. This consent decree, together with the 1988 consent decree as previously amended, constitutes a final judgment between Ohio and DOE in this case. The consent decree also required finalizing Fernald's Natural Resource Restoration Plan. Pursuant to Section 1.5 of the Natural Resource Restoration Plan, the Trustees must issue an Annual Report to show funds and expenditures, project status, and maps of project locations. This document fulfills that directive.

Ohio EPA is the designated Natural Resource Trustee for the State of Ohio. The other Trustees for Fernald are DOE and the Department of the Interior, represented by the U.S. Fish and Wildlife Service. The Trustees act as guardians for the public natural resources impacted by the years of production at Fernald.

Projects

The Trustees have protected areas located near and at Fernald through conservation and restoration. All restoration activities are targeted to improve water quality and enhance habitat. The Trustees have focused on land protection and restoration projects to improve the Fernald area watersheds. Natural Resource Trustee funded projects at Fernald that have been completed to date are the Paddys Run Tributary, Triangle Area, Former Silos Area, Paddys Run West, and the North Woodlot Enhancement Area. The PRCP continues to protect streams and land outside of the Fernald footprint. Progress was made on the following NRD projects during calendar year 2024:

Paddys Run Conservation Project

The PRCP protects water quality in local streams and groundwater using conservation easements to preserve current land use. The Trustees have partnered with Three Valley Conservation Trust (TVCT) to develop the PRCP. TVCT is a non-profit land conservation group that holds 222 easements totaling nearly 25,000 acres in southwest Ohio. TVCT has the experience and expertise to assist the Trustees with the extensive work required for these real estate transactions. The PRCP officially launched in December 2010. Two application periods were held during the summers of 2011 and 2012. In 2014, Ohio EPA and TVCT announced that applications would be received to expand the focus area until settlement funds are no longer available.

By the close of 2012, more than 900 acres were permanently protected on five properties thanks to a pilot project already in the works. In 2013, an additional 1,310 acres were placed in conservation or agricultural easements on 12 properties. In 2014, ten additional properties, totaling 611 acres were protected. In 2015, five additional properties, totaling 175 acres, were protected. In 2016, seven additional properties, totaling 620 acres, were protected. One local farming family purchased five farms in 2017, and easements for the year totaled 664 acres. In 2018, two large farms and a wooded parcel added 344 acres. In 2019, 2020, and 2021, only one property each year received a conservation easement for an additional 275 acres. In 2021, a 104-acre family farm on Fernald's northern border was awarded a conservation easement. No additional easements have been acquired since. This brings the project total to 4,803 acres protected on 50 properties.

Natural Resource Trustees and TVCT visit properties under consideration. Matching funds from the United States Department of Agriculture (USDA) Farm and Ranch Lands Protection Program (FRPP) and the Clean Ohio Fund have allowed TVCT to leverage additional funds, thus allowing the Fernald settlement to proceed.

Each conservation easement requires considerable documentation, ranging from environmental and habitat assessments to the preparation of Farm and Forest Management Plans. Nearly 20 separate components are needed before a successful easement closing. Additionally, each property with an easement is visited annually to evaluate current conditions documented in Annual Monitoring Reports. The closed easements range from an 18-acre retreat for a young family to a 125-acre farm, which transitioned to a public park in 2017. A map of the project focus area and updated easement properties is provided on Page 6 of this report.

Watershed Planning for Howard Creek – Dry Fork Whitewater River and Paddys Run

Three Valley Conservation Trust (TVCT) developed documents and public awareness of 9-Element Nonpoint Source Implementation Strategy Plans (NPS-IS) for two watersheds located within the PRCP area: Howard Creek-Dry Fork Whitewater River, and Paddys Run watersheds. The project aims to further improve water quality within the Howard Creek–Dry Fork Whitewater River and the Paddys Run watersheds by identifying and evaluating sources of impairment and determining what water quality goals, restoration methods, and conservation practices are needed. Critical areas will be identified in the plans and may include sections of stream where bank erosion is threatening stream quality, potential wetland areas that are too wet to support crop growth but valuable for habitat improvement, excess sedimentation of the creek, invasive species that are overwhelming riparian areas, and more. To ensure the success of the plans, TVCT is partnering with Environmental Solutions AQ and local stakeholders and community members who can help to develop watershed restoration and protection strategies and later implement these strategies.

The Fernald Trustees approved the TVCT's proposal to develop 9-Element Plans in December 2021. In 2022, the 9-Element Plans were developed for the two watersheds and reviewed by Ohio EPA. The Howard Creek-Dry Fork Whitewater River plan was finalized in 2022, and the Paddys Run plan was finalized in 2023. Also in 2023, Trustee Resolution 56 was created (see Page 8) to approve projects eligible to apply for federal and state funding to implement the restoration and management measures within the critical areas. In 2024, NRTs visited a potential project to eliminate a fish passage barrier on Buck Run in the Dry Fork watershed. TVCT is working with partner organizations to evaluate the viability of the project.

Henshaw Corner

This 11-acre corner in Paddys Run watershed was taken out of agricultural production in 2022 and plans were made to restore it to a wetland habitat. A valuable habitat for amphibians and other wetland species was created in a heavily farmed area. Because of its proximity to roads, the Trustees knew it would provide easily accessible opportunities for field trips and outdoor education.

The ecological potential of this area was highlighted during the Trustee funded herpetological study of protected properties conducted from 2018 to 2020. Spring peepers, American toads, Fowler's toads, Blanchard's cricket frog (a species of concern), green frogs, Cope's gray treefrogs, and northern leopard frogs were discovered in this wet corner of a farm field. Finding seven species using the same very small wetland as a breeding site is rare.

Frogs and toads are highly mobile and can migrate considerable distances to breeding sites. On the other hand, salamanders are not as mobile; therefore, none are yet known to use this pond. Small, relic wetlands, like Henshaw Corner, allow these species to continue to exist even though much of the surrounding forested land has been cleared for agriculture and nearby fields have been tilled and drained. Henshaw Corner represents a certain type of wetland known as vernal pools, which are a type of pool that holds water for only a portion of the year, then is dry the remaining time. However, species with short larval periods use these wetlands to complete metamorphosis while they hold water. There are pond breeding salamander species (Jefferson, spotted and marbled) inhabiting the forested patches within a mile of the site. They were likely on this parcel before agriculture.

On April 24, 2023, more than 50 stakeholders gathered for the site's groundbreaking. Stakeholder groups, including Stanley Henshaw and his family, Ohio EPA, DOE, Three Valley Conservation Trust, and the Davey Group, met to



Trustees worked with Davey Resource Group to develop a conceptual plan to convert the farm field to wetlands and improve the saturated corner of the property.



Stakeholders gathered for the groundbreaking of Henshaw Corner.

kick off the project. Stanley Henshaw stated, “At least some wildlife can live near, the way it naturally once did, without human interference.”

Shortly after the groundbreaking, wetland construction began with the development of the vernal pools. The pools were planted with wetland plugs, seeded with pollinator mix, and strawed. By September, many of the wetland plugs and seed mix had grown despite the summer's dry conditions. On October 30, 2023, approximately 1,600 trees and shrubs were delivered to the site and planted over multiple days. TVCT held multiple workdays at Henshaw Corner on June 18, July 20, with Miami University students, and September 13 to address invasive species removal and other activities at Henshaw Corner. Ohio was impacted by a drought in 2024. Several site visits in 2024 revealed successful amphibian breeding and the installation of vegetation growth.

Restoration Progress at Fernald Preserve

Much of the 1,050 acres of the Fernald Preserve property managed by DOE is undeveloped land that provides habitat for various animals and plants. The site's natural resources include wetlands, deciduous and riparian (streamside) woodlands, old fields, grasslands, and aquatic habitats. The Fernald Preserve's mission of long-term stewardship under legacy management (LM) includes establishing, managing, and monitoring ecologically restored areas across the site. Over 900 acres of the site have undergone ecological restoration. In 2023, the Fernald NRTs agreed that DOE has completed ecological restoration of the Fernald Preserve. DOE committed to continue to manage the ecologically restored site as part of their stewardship responsibilities which is documented in the Fernald Preserve, *Natural Resource Management Plan*, which is included in [Volume 1](#) of the Comprehensive Legacy Management and Institutional Controls Plan (LMICP). The site's Environmental Covenant also dictates that the site's usage shall be consistent with the LMICP and the Natural Resource Restoration Plan, which was finalized in June 2008. Results from monitoring and maintenance activities are reported annually in the Fernald Preserve's Site Environmental Report. These documents are available on LM's website at <https://www.energy.gov/lm/fernal-d-preserve-ohio-site>.

Highlights for onsite natural resource management, including ecologically restored area maintenance and ecological monitoring, conducted by DOE at the Fernald Preserve in 2024, include:

- 1) Conducted a prescribed burn of 91 acres of prairies completed by U.S. Forest Service in the spring of 2024.
- 2) Large scale fall foliar herbicide application of 26 acres of Amur honeysuckle.
- 3) Invasive herbaceous species across approximately 390 acres were treated with herbicide.
- 4) Invasive or non-native woody species were managed across approximately 121 acres using various methods (cut and paint with herbicide; basal bark herbicide application; hack and squirt with herbicide; foliar herbicide application)
- 5) 63 acres were mowed for invasive species control.
- 6) Prairie areas were overseeded to increase the number of forbs and improve pollinator habitat.
- 7) Trees were planted in various areas to increase species diversity; to help combat invasive species by planting native trees in areas where invasive honeysuckle was mechanically removed; and to restore a declining non-native pine habitat with native deciduous trees.
- 8) Completed the second year for floristic inventory monitoring in wetland areas. 261 native species of plants were identified.
- 9) Amphibian Index of Biotic Integrity scores ranked Paddys Run Tributary and three other wetlands as superior.
 - a. 224 spotted salamanders and 226 marbled salamanders were observed in addition to 105 other salamanders during the 2024 amphibian monitoring.
 - b. Over 700 individuals from at least eight other amphibian species (frogs and toads) were also observed.
 - c. The wetland south of the boardwalk has breeding marbled salamanders.
- 10) Identification of seven new native plant species at the Fernald Preserve:
 - Shoreline sedge (*Carex hyalinolepis*)
 - Seedbox (*Ludwigia alternifolia*)
 - Wapato (*Sagittaria montevidensis*)
 - Summer grape (*Vitis aestivalis*)
 - Rough BlazingStar (*Liatris aspera*)

- Cranefly Orchid (*Tipularia discolor*)
- Bristly Scorpion Grass (*Myosotis macrosperma*)



Spotted salamanders observed counted and released during the 2024 floristic inventory monitoring at the Fernald Preserve

Trustee Tour

The Trustees completed a site visit at the Fernald Preserve on October 16, 2024. The purpose of the visit was to verify that the site is being managed consistently with the Environmental Covenant and Natural Resource Restoration Plan and observe restoration progress. Additionally, trustees discussed the status of restoration efforts and the path forward for the Trustees. The items listed below can be referenced on the Natural Trustees Walkdown figure as seen on page 7. Representatives from Ohio EPA, U.S. Fish and Wildlife, and DOE had a beautiful day to discuss and observe a few notable restoration projects, including:

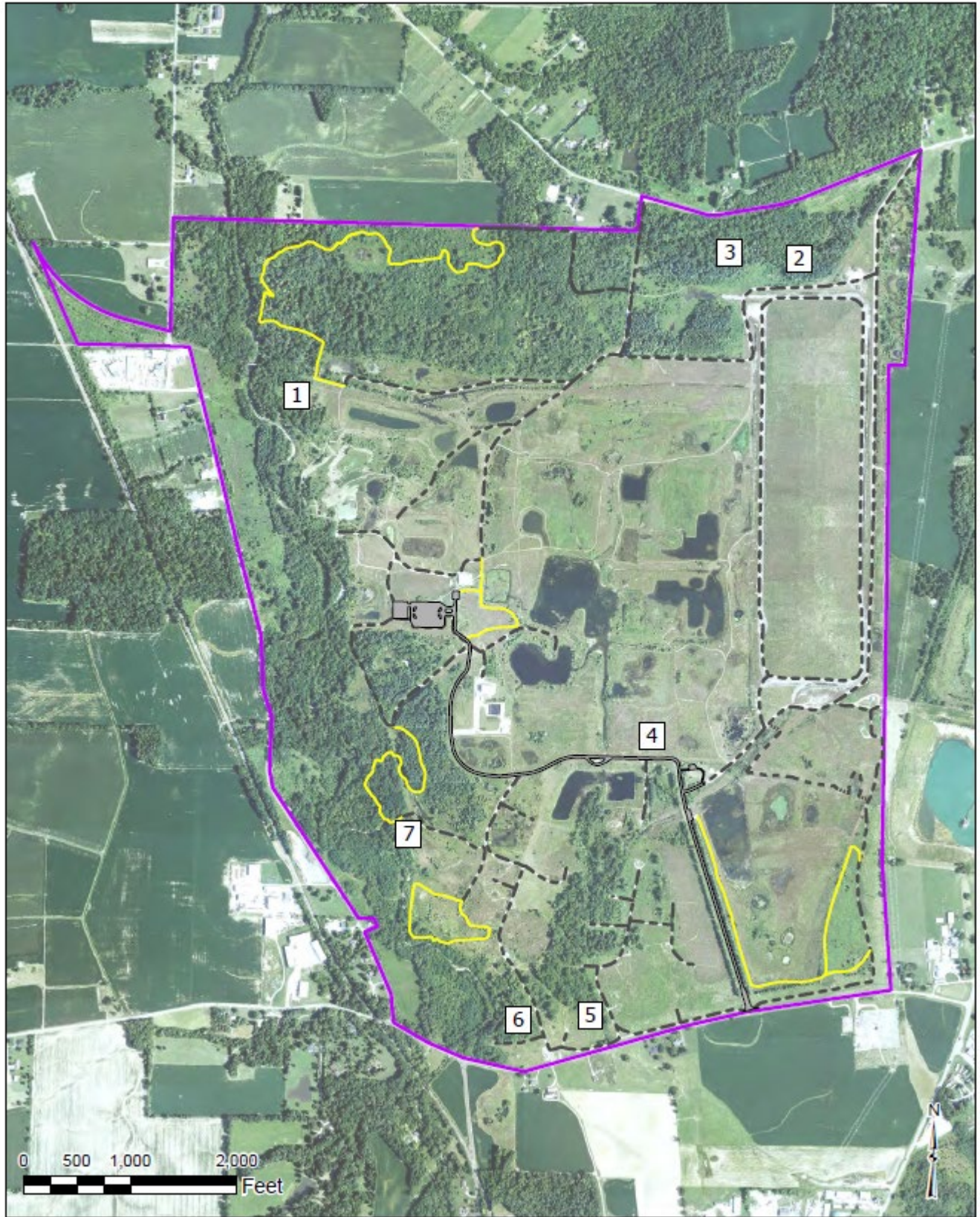
- Trestle Planting area – A restored area planting project to increase species diversity and better connect two forested areas. (1)
- North pine planting area – an area (north of OSDF) where honeysuckle was mechanically cleared in November 2022 and trees and shrubs were planted in 2023 to increase species diversity, help to deter invasive species, and replace the degrading pine plantation with deciduous trees. (2)
- Honeysuckle clearing area just completed (September) in the north pines – extends from the north access road to the shed and is adjacent to the area cleared in 2022. (3)
- Five Oaks (Admin Prairie) – This is an example of an area that was burned in the spring (2024) and followed up with herbicide treatment (subcontractor) to control teasel. (4)
- Tree of heaven colony in storm sewer outfall ditch – a colony of tree of heaven identified during 2023 forest monitoring that has since been treated with herbicide, and the treatment was successful. (5)
- Deer fence removal project near the substation. (6)
- Pond south of the boardwalk – This pond was added to the amphibian monitoring program in 2021 and was monitored again in 2024. A healthy population of marbled salamanders was observed! (7)
- Buck Run Site visit: Contractors and NRT partners observed an area proposed for NRD funding, which is not seen on the figure.



The trustees and staff took advantage of the sunny weather to observe cricket frog population in Paddys Run streambed (l) and a treated tree of heaven colony (r).

The Trustees have greatly enhanced the Fernald NRD process during previous site walkdowns. They plan to continue annual site visits to ensure the site complies with the Natural Resource Restoration Plan and Environmental Covenant.

Fernald Preserve-Natural Resource Trustees Walkdown 2024

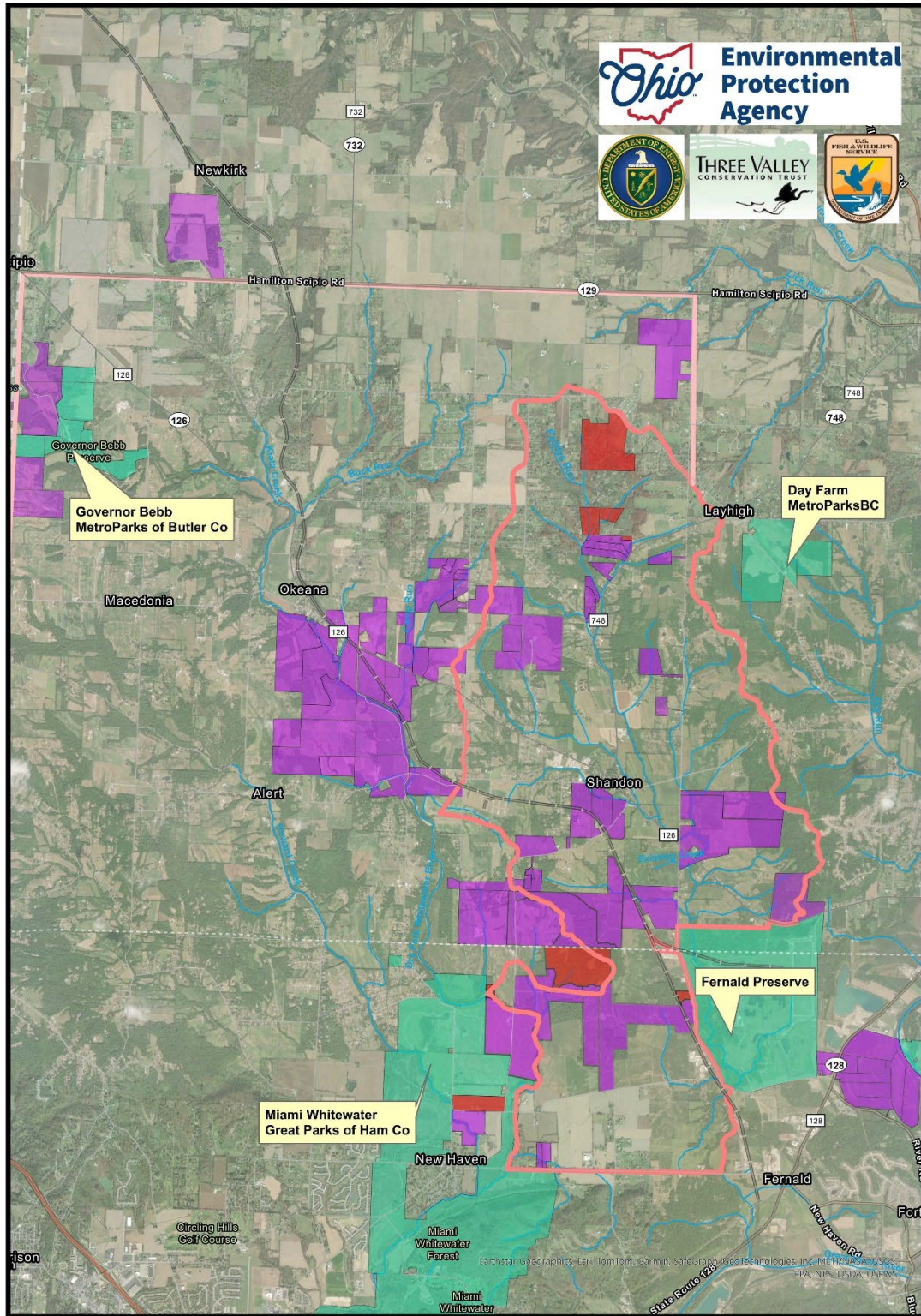


Resolutions

The Trustees passed 56 resolutions, but one was cancelled (49). In 2023, Trustee Council Resolution 56 was approved developing conservation and restoration projects within critical areas identified in the nine-element non-point source implementation strategy (9 Element NPS-IS) plans approved by Ohio EPA in September 2022 (Howard Creek) and March 2023 (Paddys Run). This is a targeted water quality improvement approach where landowners are interested in addressing high runoff and erosion problems by implementing best management practices. Detailed Resolutions can be found in the Trustees section of Ohio EPA's Fernald web page: [Fernald Site | Ohio Environmental Protection Agency](#)

1. Field Evaluation
2. Representative Change and MOU Update
3. Field Walkdowns Punchlist
4. Funds Use Plan
5. Funds Transfer
6. Past Costs
7. Contract with TVCT
8. Representative Change and MOU Update
9. Eligibility Criteria and Application
10. TVCT Contract Renewal
11. Trustee Representative Change
12. Pilot Project Land Appraisal
13. Paddys Run Tributary and Triangle
14. TVCT Approved for Appraisals
15. Approve Two Offers
16. 3VCT Grant Agreement for Property Purchases
17. Approve Four Offers
18. Former Silos Area Enhancement
19. Approve 14 Offers
20. TVCT Approved for Round 2 Appraisals
21. Approve Five Offers
22. Change MOU Representatives
23. Approve Four Offers
24. 3VCT Approved for Round 3 Appraisals
25. Approve Fee Simple Offer
26. Approve Two Offers
27. Approve Fee Simple Offer
28. Change MOU Representative
29. Restoration Projects
30. Expansion of Project Area
31. Approve Four Offers
32. Approve Two Offers
33. Southern Expansion
34. Approve One Offer
35. Approve One Offer
36. Approve Fee Simple Offer
37. Approve Two Offers
38. Approve Fee Simple Purchase
39. Approve Three Offers
40. Change MOU Representative
41. Approve One Offer
42. Approve One Offer
43. Approve Four Offers
44. Approve Two Offers
45. Approve Amphibian and Reptile Survey
46. Approve One Offer
47. Approve One Offer
48. Approve Fee Simple Purchase (project pending)
49. Cancelled
50. Approve One Offer
51. Approve One Offer
52. Change Trustee Representative and MOU
53. Approve funding for 9-Element Plan
54. H2Ohio Henshaw Grant Application
55. Approve Henshaw Corner Wetland Funding
56. Developing Conservation and Restoration Projects

Project Focus Area



Paddys Run Conservation Project



LEGEND/KEY

- PRCP Focus Area
- PRCP Expanded Boundary
- Completed Easements (4,468 acres)
- Park Properties
- Fee Simple Purchases (335 acres)

April 2024
W. D. Tolson

Funding

In addition to the \$14 million DOE spent restoring Fernald, the consent decree required: (1) implementation of the natural resource restoration plan; (2) payment of \$13,750,000 to Ohio by the United States, on behalf of DOE, for various habitat enhancements and land protection on or near Fernald to protect and improve water quality in Paddys Run and the Great Miami Aquifer; (3) execution of environmental covenants for the entire site, recorded with Hamilton and Butler counties; and (4) payment of past and future costs to the State of Ohio.

On behalf of DOE, the Department of the Treasury deposited \$13,750,000 into an escrow account of the U.S. District Court on February 17, 2009. Funds were later transferred to a State of Ohio account. The funds were designated to restore, replace, or acquire the equivalent of injured natural resources at and near the Fernald Preserve and reimburse Ohio's natural resources damage assessment costs. A Funds Use Plan was developed to explain expenditure of funds. In 2022, the trustees gave TVCT a grant to manage the Henshaw Corner restoration project.

In 2024, no NRD funds were spent on easement purchases. TVCT was invoiced for site management activities. The table below summarizes 2024 fiscal activities.

2024 Fiscal Summary	Expenditures	Income	Balance
1/1/2024 - Remaining funds from 2023			\$338,953
Contractual Costs	\$1,025		\$337,928
Easement Purchases & Management			\$337,928
2024 Interest Earned in NRD Account		\$17,891	\$355,819
12/31/2024 - BALANCE			\$355,819

Outreach

Prior to finalizing the settlement of the NRD claims, several public meetings were held to gather community input on how the damages should be settled. In summer 2008, a public meeting and 30-day public comment period were held to learn more about the partial consent decree and to submit formal comments. In summer 2009, a public meeting and 30-day public comment period were held on the Draft Natural Resource Funds Use Plan. In November 2010, a Paddys Run Conservation Project brochure was developed to explain the Trustees' land conservation efforts. The project would target easements within the Paddys Run drainage basin and over the Great Miami Buried Valley Aquifer, upgradient of Fernald. In December 2010, a public meeting was held to introduce the PRCP and its partners, the Trustees and TVCT. In April 2011, a public meeting was held at the Fernald Preserve to tell more than 50 local landowners how to apply for a conservation easement. Round one easement applications were received from interested landowners in August 2011.

In 2012, the Trustees used a letter campaign to notify landowners within the focus area of a second application period. Nine applicants proposed approximately 1000 acres for easement protection during the round two application period. In 2014, Ohio EPA and TVCT announced at a public meeting that the Trustees had signed a resolution to expand the focus area. A letter to 90 landowners in the expansion zone explained their eligibility and the application process. Round three applications continue to be received. Word of mouth, website presence, and TVCT's ties to landowners in southwest Ohio have all helped to continue the small but steady stream of applicants. As one of three Natural Resource Trustees, Ohio EPA continues to provide quarterly updates on the PRCP to the Fernald Community Alliance (FCA) citizens group.

Thanks to leadership, community involvement, and a consistent vision, the Fernald Preserve and the PRCP conservation easements continue to be a regional environmental asset and provide southwest Ohio with thousands of acres of protected natural lands. Learn more about the Fernald Trustee's work by visiting the [PRCP StoryMap](#), or [Ohio EPA's Fernald webpage](#).

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