



Fernald Natural Resource Trustees 2019 Annual Report to the Public



Division of Environmental Response and Revitalization
Federal Facilities Section

June 2019



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 Paddy's Run watershed and the Great Miami Buried Valley Aquifer. The easements keep land in private hands while protecting working farms and the environment.

As we entered 2019, 4528 acres from willing landowners were protected with PRCP easements. One property received an easement in January so by the close of the year, an additional 158.6 acres were permanently protected. By the end of 2019, the Fernald Natural Resource Trustees (Trustees) had 4687 acres protected with easements.

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 U.S. Department of Energy's (DOE) uranium foundry and machinery site has changed names over the years to reflect its changing 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. During production numerous contaminants were released, affecting local air, soil, surface water and ground water. The environmental remediation and ecological restoration of the site was completed in 2006 at a cost of \$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 signing of the site's record of decisions (RODs). 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 natural resource damages 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 in order 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



This intermittent stream on the Jaspers property flowed during spring and after heavy rain events but was dry much of the year. Cave, southern two-lined, and streamside salamanders were found in it. Green frogs, American toads, and Blanchard's cricket frogs also inhabited the stream. Photo courtesy of Jeff Davis.

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 Interior represented by the U.S. Fish and Wildlife Service. The Trustees act as guardians for 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 expect additional land protection will occur as long as funds are available. Natural Resource Trustee funded projects at Fernald that have been completed to date are Paddys Run Tributary, Triangle Area, Former Silos Area, Paddys Run West, and the North Woodlot Enhancement Area. The PRCP is protecting streams and land outside of the Fernald footprint and is on-going. The following NRD projects were worked on during calendar year 2019:

1. Paddys Run Conservation Project – By using conservation easements to preserve current land use, the PRCP is protecting water quality in local streams and ground water. The Trustees have partnered with Three Valley Conservation Trust (TVCT) to develop the PRCP. TVCT is a land conservation group that holds more than 200 easements and protects over 23,000 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. In summers of 2011 and 2012, two application periods were held. These resulted in 23 applications totaling more than 2200 acres in addition to the pilot project. In 2014 Ohio EPA and TVCT announced that applications would be received to expand the focus area until settlement funds are no longer available.

Natural Resource Trustees along with TVCT make site visits to those 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 go further.

By the close of 2012 more than 900 acres were permanently protected on five properties thanks to a pilot project that was already in the works. In 2013, an additional 1310 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



Floodplain forest along Sours Run on the Hafele farm, PRCP's newest addition. Red-backed, southern two-lined, and streamside salamanders, American toads, box turtles, and ring-necked snakes inhabit this forest. Photo courtesy of Jeff Davis.

acres. In 2019 only one property received a conservation easement for an additional 159 acres. This brought the project total to 4687 acres protected on 48 properties by the end of 2019.



The newest addition to the PRCP easements is a 158 wooded property at the convergence of Sauers Run and Dry Fork.

Each conservation easement requires considerable documentation, ranging from environmental and habitat assessments to the preparation of Farm Plans and Forest Management Plans. Nearly twenty separate components are needed prior to a successful easement closing. 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.

2. PRCP Amphibian and Reptile Survey – The Trustees were interested in a baseline characterization of the lands protected under the NRT settlement. Since amphibians and reptiles are considered indicators of ecosystem quality, the Trustees commissioned a local expert

to count these species on PRCP protected properties. Trustee Resolution 45 approved Fernald settlement funds to be used for a herpetological survey of the PRCP properties. The survey began in Spring 2018 and both the first and second year reports can be found on Ohio EPA’s website (see link below). During 2019, forty-three site visits were made to all parcels collectively. Amphibians and reptiles continued to be located and mapped. New populations of the State Endangered cave salamander were discovered and they are now known to be in all three townships studied. One of these locations is a new northern most known population of the species in the State. Interesting findings were drawn regarding watershed affinity of cave and long-tail salamanders. The 2018 and 2019 amphibian and reptile surveys illustrate that an unintended benefit of the land conservation efforts of the PRCP is protection of new populations of a state endangered species. Also notable is the Ohio Threatened Sloan’s Crayfish was found at Fossil Creek, Salamander Run Preserve, and on the Stanley Henshaw property. Drought conditions limited the number of site visits in 2019 and consequently, it was agreed upon by TVCT and Ohio EPA that the project could extend into 2020. The 2018 and 2019 reports are available at:

https://epa.ohio.gov/derr/ACRE/FFS/swdo_ffs/ferald#131004224-paddys-run

Below: Jeff Davis examines the age and sex of a box turtle while conducting the PRCP herpetology study. Right: a summary of species found during the study.



Table 8. Occurrence of thirty species of amphibians and reptiles confirmed during the PRCP survey in each of the three surveyed townships during 2018 and 2019. Shaded boxes represent species reported during 2019 but not 2018. The highest species diversity was confirmed in Morgan Township.

Species	Butler Co. Morgan Twp.		Butler Co. Ross Twp.		Hamilton Co. Crosby Twp.	
	2018	2019	2018	2019	2018	2019
FROGS & TOADS						
Blanchard's Cricket Frog						
Cope's Gray Treefrog	✓	✓	✓	✓	✓	✓
Spring Peeper	✓	✓	✓	✓	✓	✓
American Toad	✓	✓	✓	✓	✓	✓
Fowler's Toad	✓	✓	✓	✓	✓	✓
American Bullfrog	✓	✓	✓	✓	✓	✓
Green Frog	✓	✓	✓	✓	✓	✓
Northern Leopard Frog	✓	✓	✓	✓	✓	✓
SALAMANDERS						
Streamside Salamander	✓	✓	✓	✓	✓	✓
Jefferson Salamander	✓	✓	✓	✓	✓	✓
Spotted Salamander	✓	✓	✓	✓	✓	✓
Marbled Salamander	✓	✓	✓	✓	✓	✓
Southern Two-lined Salamander	✓	✓	✓	✓	✓	✓
Long-tailed Salamander	✓	✓	✓	✓	✓	✓
Cave Salamander	✓	✓	✓	✓	✓	✓
Red-backed Salamander	✓	✓	✓	✓	✓	✓
Slimy Salamander	✓	✓	✓	✓	✓	✓
Northern Ravine Salamander	✓	✓	✓	✓	✓	✓
TURTLES						
Eastern Spiny Softshell	✓	✓	✓	✓	✓	✓
Snapping Turtle	✓	✓	✓	✓	✓	✓
Midland Painted Turtle	✓	✓	✓	✓	✓	✓
Woodland Box Turtle	✓	✓	✓	✓	✓	✓
LIZARDS						
Common Five-lined Skink	✓	✓	✓	✓	✓	✓
SNAKES						
Blue Racer	✓	✓	✓	✓	✓	✓
Northern Ring-necked Snake	✓	✓	✓	✓	✓	✓
Eastern Mole Snake	✓	✓	✓	✓	✓	✓
Northern Watersnake	✓	✓	✓	✓	✓	✓
Gray Ratsnake	✓	✓	✓	✓	✓	✓
Queensnake	✓	✓	✓	✓	✓	✓
Eastern Gartersnake	✓	✓	✓	✓	✓	✓
TOTAL						
TOTAL COMBINED 2018-2019	28	18	15	5	19	14
*The Ross Township Jefferson Salamander was positively identified as a unisexual <i>Ambystoma</i> using DNA analysis techniques.						

3. Building a Legacy - In 2015 a local farm family purchased more than 1000 acres of farm and forest formerly known as West Homes and renamed it to Happy Hills Farm (HHF). In 2016, conservation easements were put on four of the parcels totaling 500 acres. In 2017 four more HHF parcels were placed under permanent easement, adding 542 acres to the undeveloped corridor between Miami Whitewater Forest and Fernald Preserve. The HHF properties border Fernald to the west and these easements, together with the Fernald Preserve, create more than 2000 acres of permanently protected farm and forested land. When added to the 4345 acres of Miami Whitewater Forest, this addition creates more than 6000 acres of contiguous greenspace in southwest Ohio.

Great Parks of Hamilton County purchased one of the HHF wooded parcels in 2017 with money leveraged from the Fernald settlement fund and Clean Ohio. This parcel, known as Hamilton Woods, added 123 acres of known breeding habitat for five species of salamanders to the Great Parks system. TVCT holds the easement and monitors Great Parks' management and habitat restoration. In April 2017, two HHF properties in Butler County (Butler Woods and Teeters Farm) totaling 246 acres were placed under easement. These two parcels border Hamilton Woods to the north, just across the county line. Plans are in the works for MetroParks of Butler County to acquire Butler Woods and Teeters Farm using a different settlement fund. TVCT holds the easement and will continue to monitor the property annually. Great Parks of Hamilton County and MetroParks of Butler County have indicated that the two park organizations will endeavor to work together to manage and protect the resulting total 368-acre cross-boundary site.

4. Also of note in 2019 is Fernald Preserve's receipt of the U.S. EPA Site Reuse Award. On July 11, 2019 U.S. EPA presented the Fernald Preserve community with the second annual "National Federal Facility Excellence in Site Reuse" award for the National Priorities List category. The annual award program was established in 2018 to recognize outstanding efforts to remediate and restore federal sites for reuse, with the hope of teaching best practices for other sites to replicate. Environmental remediation, ecological restoration, and continuing long-term stewardship of the Fernald site have converted the former Cold War production facility to a 1,050-acre undeveloped park with an emphasis on wildlife. The wildlife diversity at Fernald Preserve anchors the growing acreage of conserved land along the Paddys Run watershed.



This former wheel wash area was restored into a wetland during Fernald closure. Now it is a haven for wildlife diversity thanks to reuse and restoration efforts.

RESOLUTIONS

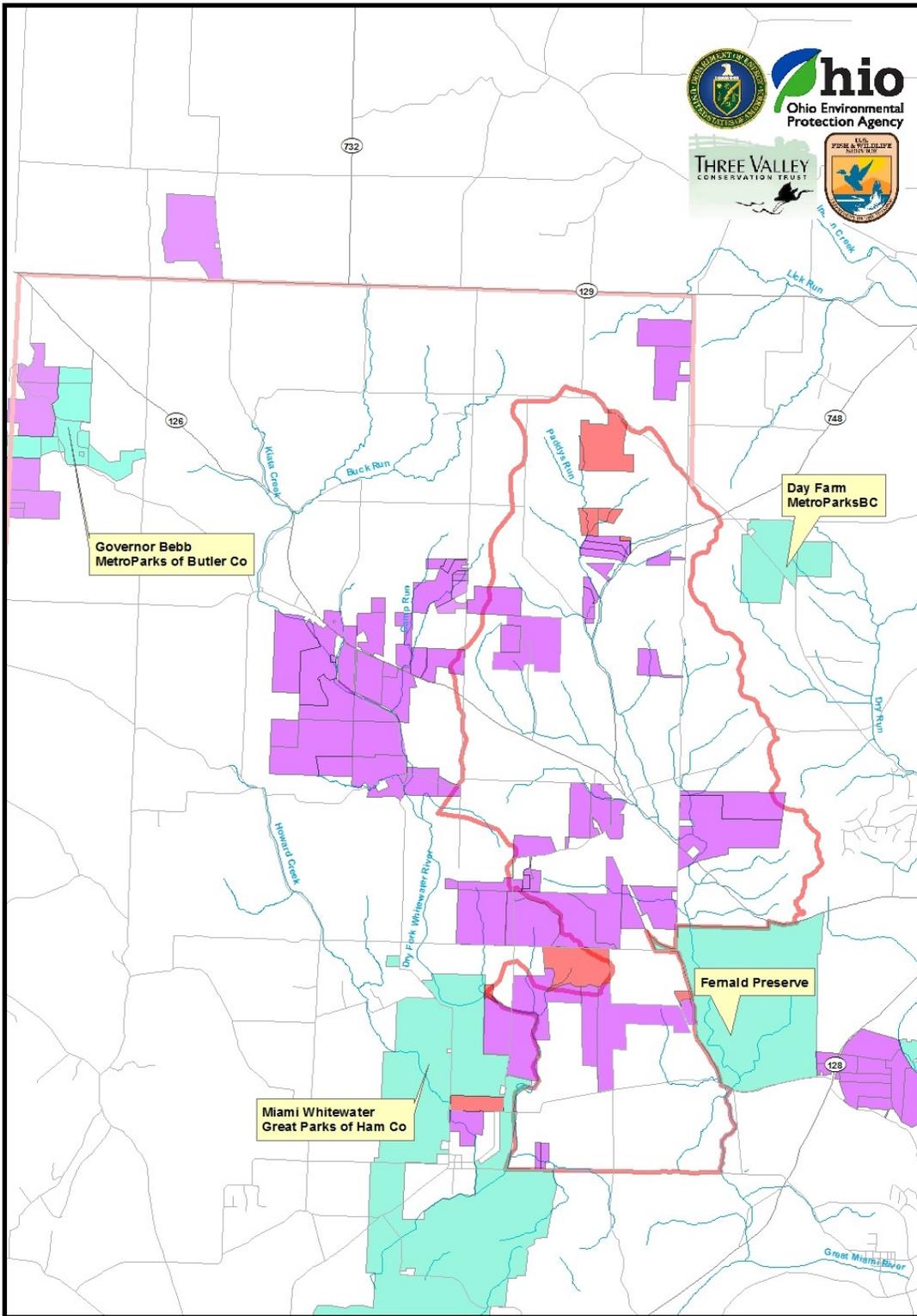
The Trustees have passed 49 resolutions. Trustee Council resolutions 48 and 50 were finalized during calendar year 2019. Resolution 49 was cancelled. Detailed Resolutions can be found in the Trustees section of our web page: epa.ohio.gov/derr/ACRE/FFS/swdo_ffs/ferna1d

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



Resolution 48 provides Trustee spending approval of up to \$318,750 to enhance conservation efforts on 246 acres with documented Cave Salamanders, a state endangered species.

PROJECT FOCUS AREA



Paddys Run Conservation Project



LEGEND/KEY

- PRCP Focus Area
- PRCP Expanded Boundary
- Completed Easements (4350 acres)
- Park Properties
- Fee Simple Purchases (335 acres)

FUNDING

In addition to the \$14 million DOE has already 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 in order 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.

The Department of the Treasury, on behalf of DOE, deposited \$13,750,000 into an escrow account of the US 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 in the vicinity of the Fernald Preserve and to reimburse Ohio's natural resources damages assessment costs. A Funds Use Plan was developed to explain expenditure of funds.

In 2019, considerably less money from NRD funds was spent on easement purchases and contractual fees than in the previous two years. Accordingly, less properties were purchased this year than in previous years. Only one property was purchased in 2019 and no funds were leveraged as in past years from either Clean Ohio or the U.S. Department of Agriculture (USDA) Farm and Ranch Lands Protection Program (FRPP). Contractual costs primarily consisted of payment to TVCT for support provided in restoration work and acquisition of conservation and agricultural easements. TVCT also spent time working with landowners to develop and manage easement applications and address their concerns with regard to participating in the project. Additionally, each property with an easement was visited to evaluate current conditions and generate an Annual Monitoring Report. TVCT experienced several staffing changes in 2019. The table below summarizes 2019 fiscal activities.

2019 Fiscal Summary	Expenditures	Income	Balance
1/1/2019 – Remaining funds from 2018			\$1,104,562
Contractual Costs (TVCT)	(\$40,486)		\$1,064,076
Other			\$1,064,076
Easement Purchases & Mgmt (TVCT)	(\$338,924)		\$725,152
2019 Interest Earned in NRD Account		\$19,436	\$744,588
12/31/2019 - BALANCE			\$744,588

OUTREACH

Prior to finalizing 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 went out to 90 landowners in the expansion zone explaining their eligibility and the application process. Round three applications continue to be received. Word of mouth, web site 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 periodic updates on the PRCP to the Fernald Community Alliance citizens group.

In July 2019 an audience of 75 people watched as the Fernald Preserve and partners received the U.S. EPA's second annual National Federal Facility Excellence in Site Reuse award. Fernald partners in attendance included Ohio EPA, U.S. EPA and DOE, as well as local government officials, DOE contractors, former site workers, and community members. Between 1992 and 2006, the 1,050-acre former uranium processing facility was transformed into an undeveloped park with restored wetlands, prairies and forests. Fernald transitioned from one of the largest environmental cleanup operations in the United States to an ecological preserve that draws more than 12,000 visitors each year and is a haven for nature lovers. Thanks to leadership, community involvement and a consistent vision the Fernald Preserve, along with the PRCP conservation easements, are a regional environmental asset and provide southwest Ohio with thousands of acres of protected natural lands.



Partners gathered in July to celebrate the 2019 Reuse Award. Fernald's metamorphoses from Superfund Cleanup Site to nature preserve was a collaborative effort among the DOE, regulators, community and workforce.

Fernald Natural Resource Trustee Contacts:

Tom Schneider
Ohio Environmental Protection Agency
937-285-6466
thomas.schneider@epa.ohio.gov

Sue Smiley
U.S. Department of Energy
513-648-3333
sue.smiley@lm.doe.gov

Jennifer Finfera
U.S. Fish and Wildlife Service
614-416-8993 ext. 113
jennifer_finfera@fws.gov