

Use Of Natural Resource Damages Settlement Funds For Watershed Protection At The Fernald Preserve, Harrison, Ohio – 15309

Gwendolyn Hooten *, Tom Schneider **, Jennifer Finfera ***, William Hertel ****,
John Homer *****

* US DOE, Office of Legacy Management, Harrison, Ohio

** Ohio EPA, Dayton, Ohio

*** US Fish and Wildlife Service, Columbus, Ohio

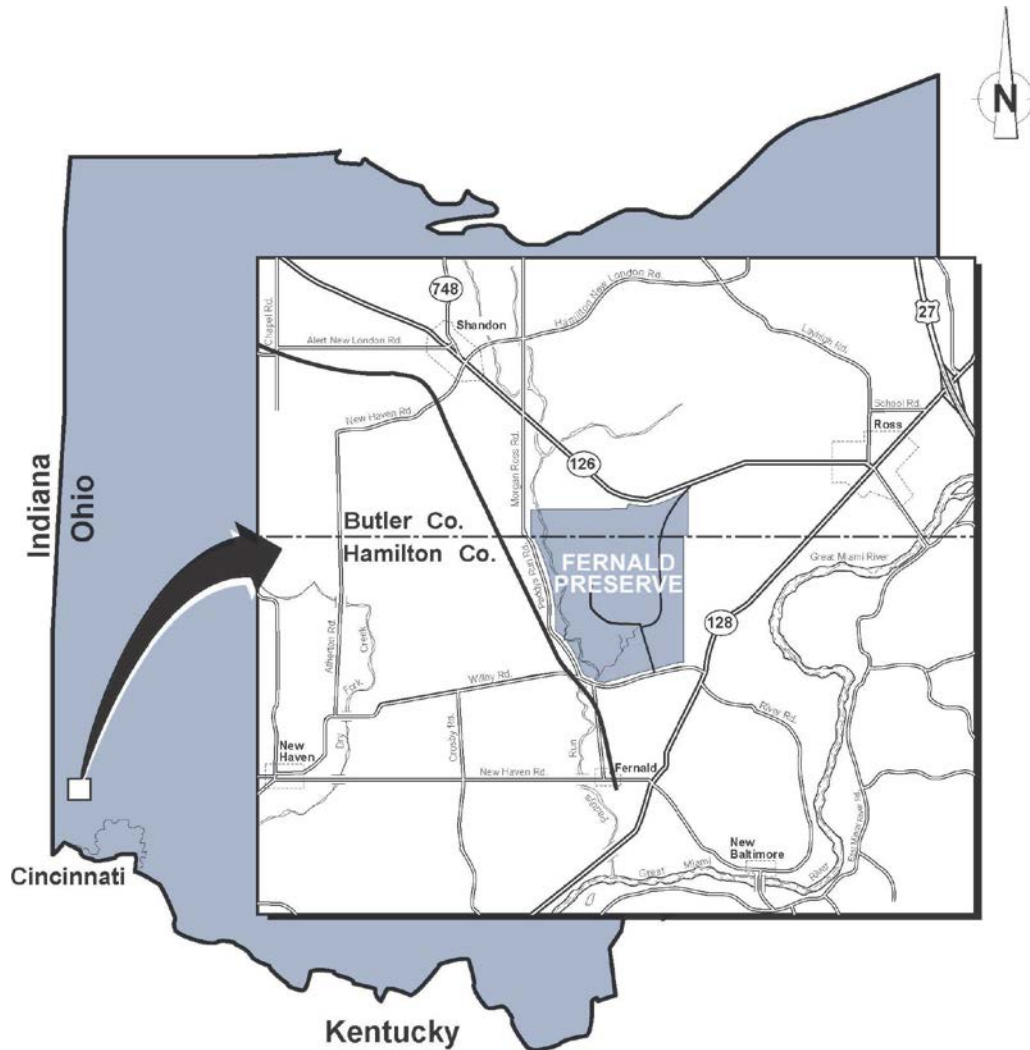
**** The S.M. Stoller Corporation, a wholly owned subsidiary of Huntington Ingalls Industries,
Harrison, Ohio

ABSTRACT

The Fernald, Ohio, Site, also called the Fernald Preserve is a former uranium processing plant that underwent extensive remediation pursuant to CERCLA. The Fernald site is managed by the US DOE Office of Legacy Management. US DOE and the Ohio EPA settled a long-standing CERCLA natural resource damage claim against the site in November 2008. As part of the settlement, US DOE paid \$13.75 million to compensate for natural resource injury. These settlement funds were appointed for restoration, replacement, or acquisition of equivalent natural resources at or near the Fernald Preserve. Following finalization of a Funds Utilization Plan in February 2010, the Fernald Natural Resource Trustees (composed of US DOE, Ohio EPA, and the US Department of the Interior and known collectively as the Trustees) used a portion of the settlement funds to initiate the Paddys Run Conservation Project. This effort is a means to secure development rights and conservation easements within the Paddys Run watershed. Paddys Run is a third-order stream located on the western side of the Fernald Preserve. The Trustees partnered with Three Valley Conservation Trust to obtain assistance with land acquisition and conservation easement management. Since Fall 2012, more than 1,093 hectares (2,700 acres) have been permanently protected via easement or purchase. The Trustees are also partnering with MetroParks of Butler County, Ohio, to establish a nature preserve on acquired land. The Salamander Run Preserve is situated on 51 hectares (125 acres) of forest and former agricultural land approximately 11 kilometers (7 miles) north of the Fernald site. The land was purchased by Three Valley Conservation Trust and is undergoing ecological restoration using settlement funds. Upon completion, the property will be donated to MetroParks of Butler County, Ohio.

INTRODUCTION

The Fernald Preserve is situated on a 425 hectare (ha) (1,050 acres) tract of land, approximately 29 kilometers (km) (18 miles) northwest of Cincinnati, Ohio. The site is located near the unincorporated communities of Ross, Fernald, Shandon, and New Haven in Hamilton and Butler Counties, Ohio (Fig. 1). It is a former uranium-processing facility that was shut down in 1991. Since then, the site has undergone extensive remediation pursuant to CERCLA. Remedial activities and subsequent ecological restoration has converted the site from an industrial production facility to an undeveloped park, encompassing wetlands, prairies, and forest. Upon completion of large-scale soil remediation and waste disposition in the fall of 2006, the site was successfully transitioned to the US DOE Office of Legacy Management.



The Fernald Preserve covers about 1,050 acres (425 hectares).

Fig. 1. Fernald Preserve is located in Hamilton and Butler Counties, Ohio.

Sitewide ecological restoration was driven by several factors, including stakeholder input, regulatory compliance, and the negotiated settlement of a long-standing natural resource damage claim under Section 107 of CERCLA. US DOE and Ohio EPA signed a consent decree in November 2008 that finalized the natural resource damage claim, originally filed in 1986. A portion of the consent decree required US DOE to pay \$13.75 million to compensate for natural resource injury. Settlement funds were appointed for restoring, replacing, or acquiring equivalents of the natural resources at or near the Fernald Preserve. Following finalization of a Funds Utilization Plan in February 2010 [1], the Fernald Natural Resource Trustees (Trustees)—US DOE, Ohio EPA, and the US Department of the Interior (US DOI)—agreed to implement a watershed protection program that encompasses the Fernald Preserve. The Paddys Run Conservation Project (PRCP) involves permanent preservation of undeveloped and agricultural land within the Paddys Run watershed. Paddys Run is a third order stream that flows through the western portion of the Fernald Preserve. Landowners voluntarily preserve land via conservation

easements or sale of property to a land trust organization on behalf of the Natural Resource Trustees.

Methods

Paddys Run is approximately 14.5 km (9 miles) long, with a watershed of approximately 40 square kilometers (16 square miles) (Fig. 2). Current land use within the watershed is primarily agricultural and residential, with some light industry. Future population is forecast to increase by more than 10 percent by 2030 [2]. If left unchecked, the region upstream of the Fernald Preserve could experience increased development, which could result in increased magnitude and duration of stormwater flow as well as new non-point and point-source discharges into Paddys Run [3].

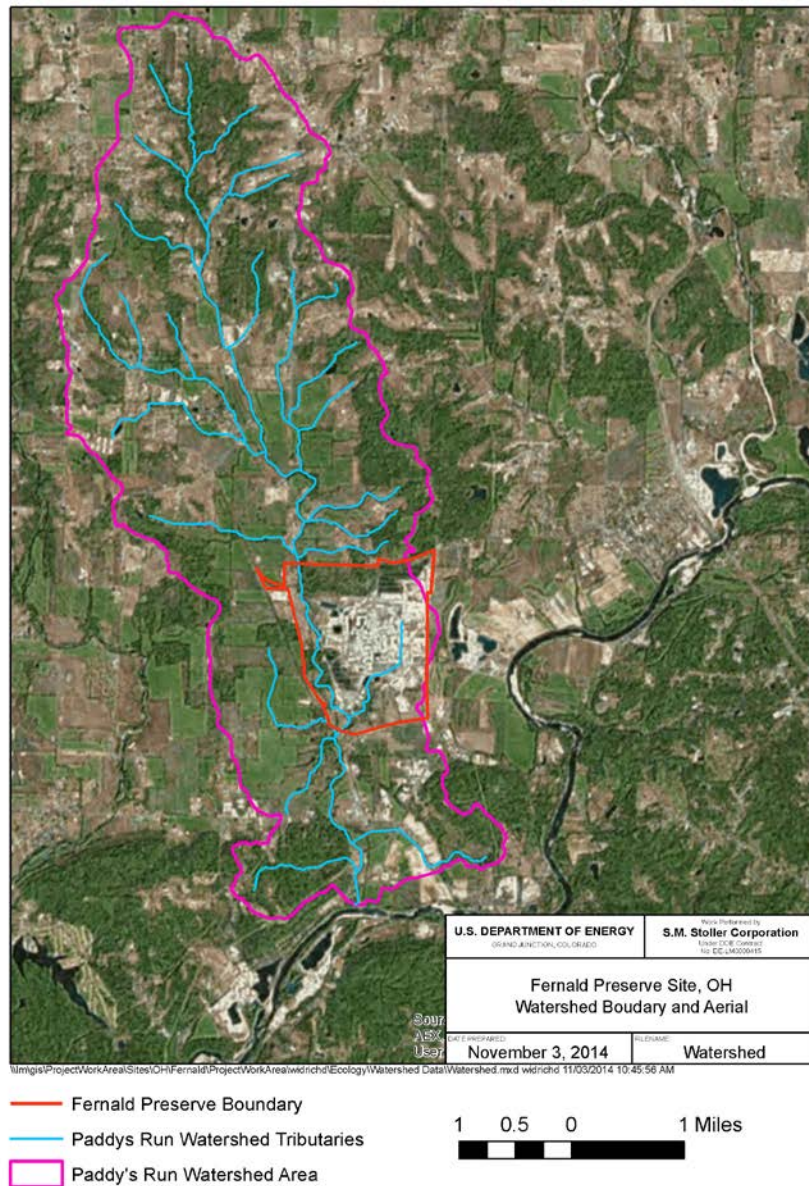


Fig. 2. The Paddys Run watershed encompasses most of the Fernald Preserve.

The majority of the Fernald Preserve is included within the Paddys Run watershed. For much of the on-property reach, Paddys Run has eroded through the glacial overburden and into the underlying Great Miami Aquifer. Consequently, runoff into the stream during production years was a source of groundwater contamination (Fig. 3). The volume and quality of water flowing through Paddys Run and infiltrating into the Great Miami Aquifer has a direct impact on groundwater flowing beneath the Fernald Preserve. By protecting the Paddys Run watershed (and thus the water quality in Paddys Run and the receiving aquifer), the Trustees are meeting their obligation to address injured natural resources through restoration, replacement, or acquisition of equivalent natural resources, as required by CERCLA.

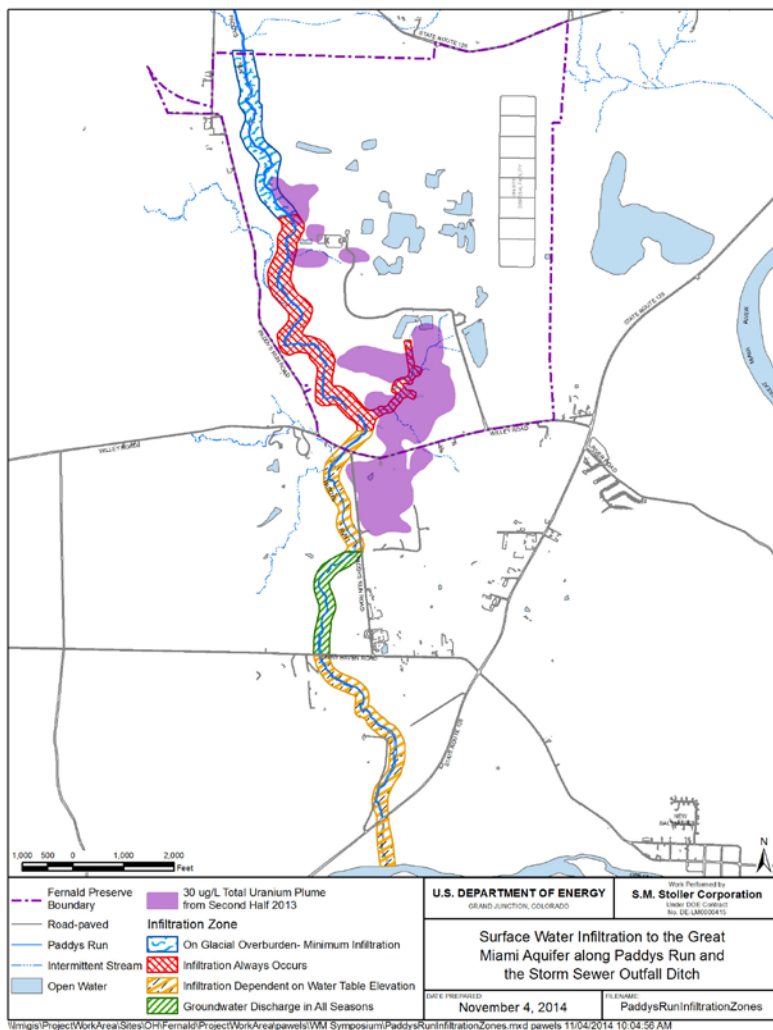


Fig. 3. Surface water infiltration along Paddys Run influences the uranium groundwater plume.

Protection Options

After finalizing the Funds Utilization Plan [1], the Trustees, through Ohio EPA, contracted with a local land trust, Three Valley Conservation Trust (TVCT). TVCT brought experience working with local landowners and state agencies to protect property through the use of conservation and agricultural conservation easements. In addition, TVCT had an on-going partnership with the US Department of Agriculture (USDA). This proved highly useful when expanding the reach of the settlement. TVCT is a 501(c)(3) charitable corporation under 26 U.S. Code of Federal Regulations and an accredited land trust through the Land Trust Alliance. TVCT was hired with two primary objectives: to assist in developing a process for selecting and prioritizing properties for easement acquisition and to find willing landowners within the priority area and acquire conservation easements from them.

Conservation easements, or agricultural conservation easements, are the primary tool used by the Trustees to implement watershed protection under the PRCP. As defined by the Internal Revenue Service [4], “Conservation easements permanently restrict how land or buildings are used. The ‘deed of conservation easement’ describes the conservation purpose(s), the restrictions and the permissible uses of the property. The deed must be recorded in the public record and must contain legally binding restrictions enforceable by the donee organization under state law. The property owner gives up certain rights but retains ownership of the underlying property. The extent and nature of the donee organization’s control depends on the terms of the conservation easement. The organization has an interest in the encumbered property that runs with the land, which means that its restrictions are binding not only on the landowner who grants the easement but also on all future owners of the property.” These easements allow landowners to maintain ownership while allowing the Trustees to prevent additional watershed development on these properties. TVCT is the donee organization for easement enforcement. They ensure that the easement restrictions are followed and report to the Trustees annually on monitoring of each easement property.

Under unique circumstances, the Trustees have used fee-simple property purchase for watershed protection and enhancement. For these properties, outright purchase provided the best or only mechanism for long term protection of the land and associated resources. The Trustees and their associated organizations are not interested in long term ownership of additional properties in the project area. With this in mind, TVCT purchased the properties in whole and is holding them until permanent transfer to a local park district. Temporary ownership by the land trust allows for faster implementation of the purchase and for implementation of any remediation or resource restoration activities the Trustees wish to complete prior to transfer to the park district. Fee-simple acquisition has required additional activities such as a property assessment, asbestos monitoring and abatement, building demolition and debris removal. Prior to transfer to a local park district, a conservation easement will be placed upon the property’s deed to restrict using the property for anything other than its intended natural area design.

The Trustees also maintain resource restoration as another option to compensate for damages. To date, significant restoration has occurred on the Fernald Preserve and additional work continues [5,6]. The fee simple purchased properties of the PRCP provide opportunities for implementing additional resource restoration to maximize the benefit of these properties to the watershed ecosystem. Restoration activities are focused on those efforts that will improve water quality through additional storage, filtration or infiltration. Restoration includes efforts to improve habitat for unique, threatened or endangered species known to have ranges overlapping the project area. Targeted habitat types include wetlands for amphibians, grasslands for birds, and forest for amphibians and bats.

Use of USDA Matching Funds

By design, the Fernald Natural Resource Damage (NRD) funds paid by US DOE were deposited into a state account. This made funds eligible to act as matching grant funds for additional federal funds through different agencies. Using TVCT's expertise in working with the USDA Natural Resource Conservation Service's (NRCS) farmland protection program, the Trustees were able to significantly expand the purchasing power of the available funds. TVCT had an agreement with USDA to implement grants from the former Farm and Ranch Land Protection Program. The agreement enabled TVCT to obtain funding from USDA for 50 percent of the easement value of properties as long as they met program requirements and provided a 17 percent match for the federal funds. Thus the Trustees could purchase agricultural conservation easements on large farms for 17 percent of the easement value, with USDA providing the largest portion of the funding. The Trustees, working through TVCT, were responsible for selecting properties and funding the significant property documentation required for the USDA applicants. USDA reviewed and gave final approval of the applicant farms.

Selection Criteria

The title, "Paddys Run Conservation Project" (PRCP) was selected to give the program a sense of place and meaning as the Trustees moved forward and began interacting with the community. Ohio EPA worked with TVCT to develop criteria for selecting properties to be funded as conservation easements based upon the Trustees' goal to protect the Paddys Run watershed and underlying sole-source aquifer. Selection criteria were centered on a geographical area encompassing the Paddys Run drainage basin upgradient and north of the Fernald Preserve combined with an upgradient portion of the sole-source aquifer west of the Fernald Preserve (Fig. 4). The geographical area was defined as the PRCP Focus Area, with the expectation that funding priority would be given to properties inside that boundary, since they would most directly impact water quality.

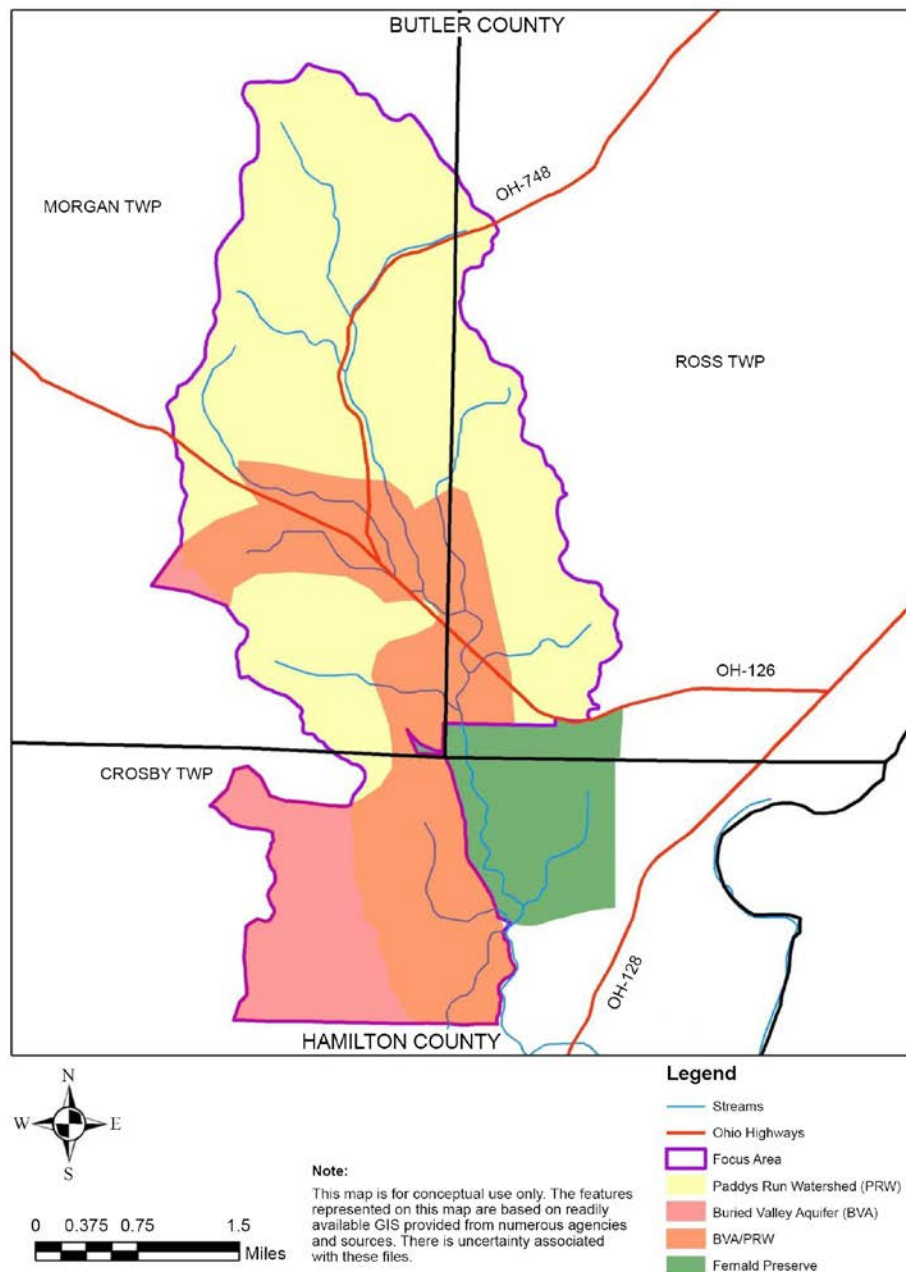


Fig. 4. Priority areas were established as selection criteria for funding of conservation easements.

The highest priority properties (Category A) within the Focus Area are those within the Paddys Run drainage basin that are located over the sole-source aquifer. Second highest priority (Category B) was assigned to those properties encompassing both banks of Paddys Run or one of its perennial tributaries. Category C was assigned to all other properties within the Focus Area. The lowest priority (Category D) was assigned to properties outside the Focus Area. A final priority category that would be protected was assigned to what is being called priority habitat. Priority habitat includes contiguous forest, high quality wetlands and forested riparian corridors. Property priority directly affects the rate paid for easements on a

given property. Category A properties are eligible for funding of 80 percent of the conservation easement value. Category B properties receive 70 percent of easement value. Category C properties receive 60 percent of easement value and Category D properties receive 17 percent of easement value. Priority habitat is eligible for 100 percent of easement value. Conservation easement value is a value determined by an appraiser with special certifications regarding conservation easements. The easement value is determined by appraising the value of the property without an easement in place, and then conducting a second appraisal of the property with an easement and associated restrictions on development in place. The difference between these two appraisal values is the easement value. The Focus Area and property prioritization criteria were finalized by the Trustees within Resolution 9 in March of 2011 [7]. In April and again in December 2011, public meetings were held to inform local landowners of the Trustees willingness to purchase conservation easements in the Focus Area and to explain the associated value of a conservation easement on their land based upon the priority criteria. Several mailings were also sent to landowners within the Focus Area to increase awareness of the Trustees offer.

Interested landowners were encouraged to apply for conservation easement funding following the application requirements outlined in Resolution 9. Landowners were to send a letter of interest and a copy of the property title to Ohio EPA, who, working with TVCT, initiates evaluation of the property for consideration under the PRCP.

Property Evaluations

Property evaluations begin with the receipt of an application from a landowner interested in selling a conservation or agricultural conservation easement on their property. Once the application is received and TVCT notified, evaluation includes locating the property within the project area, evaluating the most likely priority category and conducting a site visit to assess conditions and possible priority habitat. In parallel with these activities, TVCT, through subcontractors, initiates title commitment research and an appraisal of the easement value. Site visits provide information regarding land use, flora and fauna documentation, priority habitats and landowner future plans for the property. These visits and subsequent discussions with the landowner provide important insight to the owner regarding the complexities and requirements of the conservation easement. Upon completion of the site visit and initial data gathering, a site report is generated to document findings. This document is subsequently incorporated into a present-condition report that becomes a part of the easement. Upon receipt, the appraisal and title commitment results are shared with the landowner so they can understand the easement's value and any title issues that may need to be resolved prior to closing on the purchase.

The site visit and subsequent documentation determine whether the property would be eligible for evaluation of funding under the USDA easement programs. This program was formerly known as the Farm and Ranch Land Protection Program, and is currently known as the Agricultural Conservation Easement Program (ACEP). If eligible for USDA funding, TVCT completes the application for inclusion of the property utilizing matching funds from the Fernald Natural Resource Damage (NRD) funds. In addition to the documents previously discussed, a Whole Farm Conservation Plan and Woodland Stewardship Plan are completed for each property included in the USDA programs. The landowner helps complete the two plans to outline future activities on the property. If properties are not approved for inclusion into the USDA program, these documents are used by the Trustees for management of resources on the property.

The Trustees review the property evaluations - including appraisals, site reports and alternate funding sources for each property - then approve the recommended offer amount and easement language developed by Ohio EPA and TVCT. Each property approval is formally documented in a Trustee

Resolution.

The Trustees also oversee resource restoration as another form of compensation for injuries. To date, significant restoration has occurred on the Fernald Preserve and additional work continues [5,6]. The fee simple purchased properties of the PRCP provide opportunities for implementing additional resource restoration to maximize the benefit of these properties to the watershed ecosystem. Restoration activities are focused on those efforts that will improve water quality through additional storage, filtration or infiltration. Restoration includes efforts to improve habitat for unique, threatened or endangered species known to have ranges overlapping the project area. Targeted habitat types include wetlands for amphibians, grasslands for birds, and forest for amphibians and bats.

Real Estate Actions

Upon completion of the evaluation and formal approval of the easement acquisition by the Trustees, the offer to purchase—including price, final Conservation Easement, Present Condition Report, Whole Farm Conservation Plan, and Woodland Stewardship Plan—is provided to the landowner for review. The title company is then directed to schedule a closing date with the property owner. Prior to the closing, Ohio EPA transfers funds from the NRD Fund, and TVCT completes the easement purchase. At closing, the landowners are offered a review of the easement to ensure they understand the legal requirements. The purchase of the easement is completed with signatures on the easement, Present Condition Report, and an affidavit of condition for sale. The landowner receives the agreed upon funding and TVCT becomes the holder of the final conservation easement on the land. The easement is then journalized as part of the deed in the appropriate county records office.

After the conservation easement or agricultural conservation easement is journalized in the deed, certain activities on the property are restricted. Primarily subdividing the property, construction of additional residences or use of the property for commercial activities other than farming is prohibited. The easement also restricts mineral extraction, limits recreational use of all-terrain vehicles and ensures existing natural areas stay natural. TVCT is the primary holder of the easement and thus the organization primarily responsible for enforcing the terms of the easement. The Trustees, through the State of Ohio and USDA, on easements they fund, have secondary enforcement authority under the easement.

At closing, landowners are provided signage with their chosen name for the property that can be publicly displayed designating the property as being protected by TVCT. The easement gives TVCT the right to erect additional signage as may be needed to ensure compliance with the easement terms.

Monitoring

TVCT is responsible for monitoring the easement properties in perpetuity. As part of the funding provided by the Trustees, an endowment is established to provide for long term monitoring and legal support to TVCT to enforce easement terms. TVCT conducts annual inspections of easement properties to ensure the terms of the easement are being followed. The inspection includes photo-documentation at points that are established in the Present Condition Report. Additionally, consultation with the property owner occurs to discuss landowner activities and ensure that easement requirements are understood. A copy of the annual report for each property is provided to Ohio EPA for review.

Results

From the first closing in November 2012 through October 2014, 26 easements have been finalized, some involving multiple parcels and totaling more than 1074 ha (2,650 acres). The properties have ranged from

170 ha (400 acre) farms to 3 ha (9 acre) rural residential homesteads. Two additional properties totaling 68 ha (169 acres) have been acquired through fee simple purchases with plans to transfer them to a local park district. A significant portion of the easement properties have been located outside the PRCP Focus Area and have been acquired with the funding assistance of the USDA ACEP. These properties outside the Focus Area are located in adjacent watersheds supporting streams that also flow over and discharge into the sole-source aquifer, thus providing a nexus to the damaged groundwater resource. Figure 5 shows all property acquisitions through October 2014.

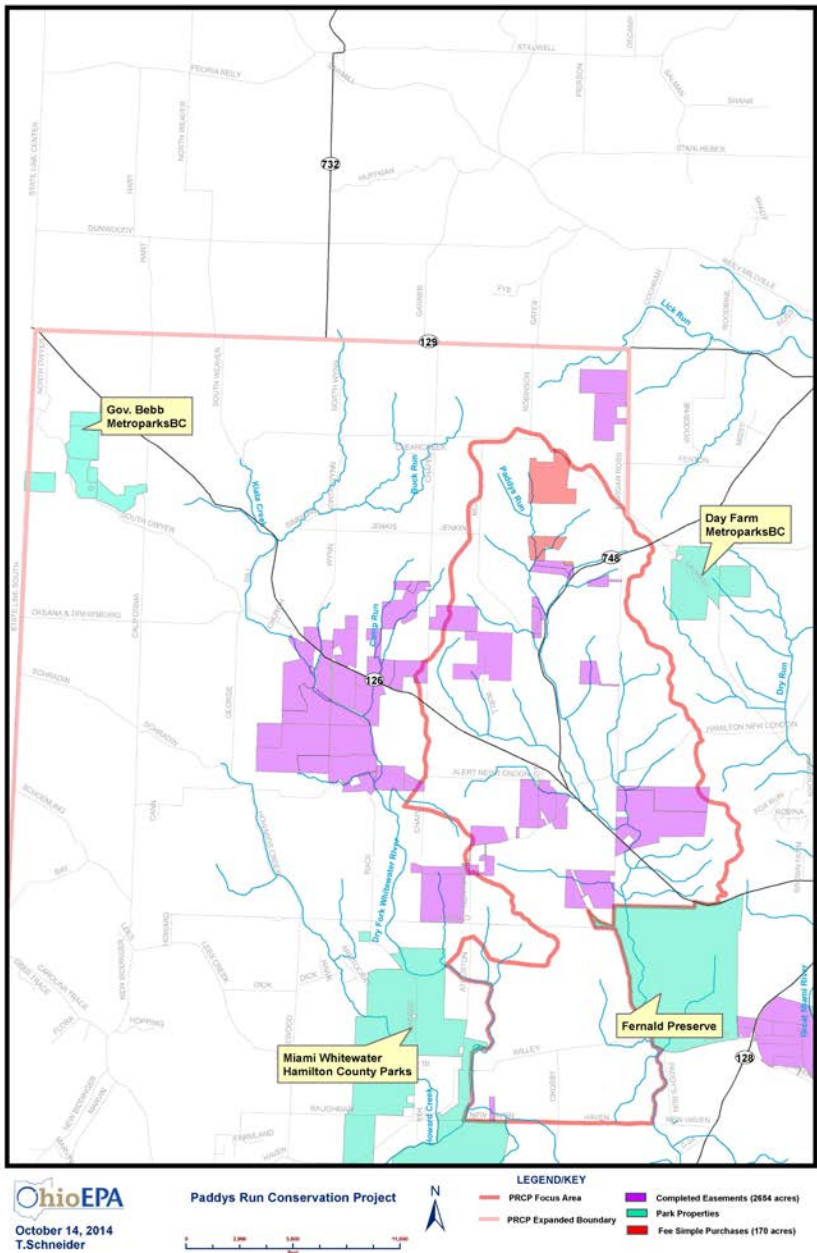


Fig. 5. A number of properties have been acquired as part of the Paddys Run Conservation Project.

WM2015 Conference, March 15 – 19, 2015, Phoenix, Arizona, USA

These protected properties include prime farmland that would otherwise be subject to subdivision and residential and commercial construction, headwater streams that provide habitat for the state threatened Sloan's crayfish (*Orconectes sloanii*), and riparian corridors and woodlands that provide habitat for the federally endangered Indiana bat (*Myotis sodalis*). The wetlands, forests and meadows protected under the easements provide water storage, filtration and infiltration that improve water quality in Paddys Run and the underlying sole source aquifer.

Despite repeated efforts to reach out to the community via media, mailings and meetings, most contact and introduction to the program are believed to be the result of conversations between neighbors. Landowners that joined the easement program early had participated in other easement programs and reached out to those not yet involved. The largest properties are associated with long-time farm families in the region who anticipate future generations of family farmers on the same land.

Through October 2014, approximately \$3.9 million was paid to property owners from the Fernald NRD fund. Through the partnership with TVCT, another \$4.8 million was leveraged from the USDA ACEP for easement purchases. The \$8.7 million paid to local landowners has been reinvested in the community in many ways. Some landowners have used the funds to reduce mortgages, while others have improved farm operations and still others have purchased additional properties and applied for easements on those. More than 75 percent of the funded properties have been located within Morgan Township in Butler County, Ohio. The local township has been very supportive of the effort by offering meeting spaces, facilitating conversations with landowners, and aiding in the remediation and restoration of the new park properties.

In addition to the funds paid directly to the landowners for easement purchases and fee simple titles, significant costs have been realized in supporting these acquisitions. More than \$500,000 has been spent on support contract services to TVCT, appraisals, surveying, woodland stewardship plan writing, and property assessments. All of these activities are necessary to ensure the establishment of clear title, fair value and to ensure long term success of the easement. Of note, some of these funds have been expended to pursue properties that ultimately did not enter the easement program for one reason or another (e.g., banks, family issues, price). The Trustees and TVCT were aware of this risk when the program was established. However, the Trustees agreed that the potential failure of some easements and loss of funds would be outweighed by the increased participation with a no obligation, no-cost process for the landowners. Lastly, more than \$600,000 has been paid into TVCT's monitoring and legal endowment to fund long term easement monitoring and enforcement.

As discussed above, two properties were purchased in fee simple with the intent to transfer those properties to the local park district, Metro Parks of Butler County. One property, now known as Salamander Run Preserve due to its resident population of Streamside salamanders (*Ambystoma barbouri*), is 50 ha (125 acres) and located at the upper limit of the Paddys Run watershed. The second property totals 17 ha (44 acres) and is located a short distance down stream of Salamander Run Preserve. It is known as Fossil Creek Preserve. In addition to the purchase price, significant investment is being made in Salamander Run Preserve for remediation and restoration. Nearly \$400,000 will be spent removing existing structures and debris and conducting restoration, which includes wetland creation, conversion of agricultural fields to native grasslands, removal of invasive species and reforestation. Remediation, restoration and transfer of the property are being coordinated with MetroParks of Butler County through a Real Estate Donation Agreement signed by TVCT and the parks. Another unique aspect of this project area is the effort to allow Morgan Township to obtain a lease on a small portion of the property with road frontage to build a new fire station. It is expected that the fire station and structures to support park activities will be symbiotic and enhance the benefit to the community. Fossil Creek Preserve

is more isolated and expected to be visited only for research or by permit, thus restoration will primarily focus on invasive species and habitat improvements.

CONCLUSIONS

The PRCP has far exceeded initial expectations of being able to protect 400-800 ha (1,000-2,000 acres) of land within the Paddys Run watershed with the available funds. The Trustees have used slightly more than one half the available settlement funds and have exceeded the overall project expectations. The success of this program can be attributed to several factors and the support of many individuals and organizations.

One key factor for success was partnering with a local land trust that not only had ties to the community and the trust of local landowners, but also had connections with other agencies and organizations trying to achieve similar goals. The partnership with TVCT facilitated leveraging additional funds through USDA's ACEP. To date, PRCP has leveraged \$1.20 from USDA for every \$1.00 of NRD funds used for purchases. The partnership between the two programs has increased the number of easement properties more substantially than either program could have been able to achieve alone.

TVCT's long-standing relationship with local landowners was essential to getting the project started. A pilot project property was initiated with a local farm family who had previously completed easements with TVCT through other state and federal programs. Working with an experienced landowner was critical to streamlining activities and not overwhelming the landowner with a complex government process. Any process involving multiple federal agencies, state agencies, and a non-profit organization is going to be complicated. Fortunately, the landowner had been interested in additional easements for a number of years but was awaiting a program that would fund them. The farm family was highly regarded in the community and became the de facto champion of the project in the area. The success of this easement and those of a couple other early adopters allowed word of mouth to become the primary means for drawing new applicants into the program. Significant effort was expended by the Trustees and TVCT for a variety of outreach formats to the community. However, in the end, neighbor-to-neighbor dialogue reduced fear of the unknown and motivated many new enrollees.

Individual family dynamics and relative trust or fear of government were two significant factors in determining whether landowners decided to participate in the program. Fear of government involvement appeared to play a significant role for some families who chose not to participate in the program. Family dynamics played a role throughout the process for many properties. From the initial decision to participate, to estate planning and long term family goals, to previously unknown liens against property titles due to one member's tax issues, social issues were often encountered by the project team as an easement worked its way through the process.

When closing on a property, each easement went through at least 20 components or steps along the road to completion. A spreadsheet was used to track easements through their respective steps in the process. After the initial pilot project began, there were always multiple properties that were at different stages within the process. It was not uncommon for some issue to require that a project reverse course and recomplete a step in the process. Keeping track of all the projects and ensuring progress across multiple fronts challenged the entire team. While tracking projects, team members also had to complete actions consistent with federal and state budget cycles, expenditure approval processes and changes in programs or policies. For example, the most recent changes to the Farm Bill and USDA's new easement program will likely result in a much lower rate of USDA funds being available to support the project than there has been historically.

In closing, the project has been successful in exceeding its goals to protect the Paddys Run watershed and underlying sole-source aquifer. This success is directly attributable to the many organizations and individuals (Ohio EPA, US DOE, US DOI, TVCT, USDA) who contributed to the project. The project continues to be an example of how success can be realized when public and private partners work together to achieve a common goal.

REFERENCES

1. Ohio EPA, US DOE Fernald Preserve, and US FWS (Ohio Environmental Protection Agency, US Department of Energy, US Fish and Wildlife Service), [2010. *Natural Resource Funds Use Plan for the U.S. Department of Energy Fernald Site*](#), Report for the Ohio EPA, February.
2. Ohio Office of Policy, Research and Strategic Planning, 2013. *Ohio County Profiles: Hamilton County*, http://development.ohio.gov/reports/reports_countytrends_map.htm, accessed November 2014.
3. Poff, N. L., Allan, J. D., Bain, M. B., Karr, J. R., Prestegard, K. L., Richter, B. D., Sparks, R. E., and Stromberg, J. C., 1997. "The Natural Flow Regime," *American Institute of Biological Sciences*, 47: 769–784.
4. IRS (Internal Revenue Service), 2012. "Definition of Conservation Easement," *Conservation Easement Audit Techniques Guide*, http://www.irs.gov/Businesses/Small-Businesses-&Self-Employed/Conservation-Easement-Audit-Techniques-Guide#_Toc116, accessed November 2014.
5. US DOE Fernald Area Office (US Department of Energy), 2008. *Fernald Preserve Natural Resource Restoration Plan*, 212E-PL-0003, Fernald Area Office, Cincinnati, Ohio, July.
6. Powell, J., Schneider, T., Hertel, B., and Homer, J., 2012. *Natural Resources Damages Settlement Projects at the Fernald Preserve*, Paper for the Waste Management Conference 2012 of WM Symposia, Inc., February 26–March 1.
7. Ohio EPA (Ohio Environmental Protection Agency), 2011. "Resolution 9", *Fernald Preserve Natural Resource Trustees*, Report for the Ohio EPA, March.