

**Natural Resource Funds Use Plan**  
**for the**  
**U.S. Department of Energy Fernald Site**

**February 2010**

*Prepared by:*

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## **INTRODUCTION**

The U.S. Department of Energy (DOE) Fernald Preserve is situated on a 1,050-acre tract of land, approximately 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. It is a former uranium-processing facility that was shut down in 1991. Since then, the site has undergone extensive remediation pursuant to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Remedial activities and subsequent ecological restoration have converted the site from an industrial production facility to an undeveloped park, encompassing wetlands, prairies, and forest (Figure 1). When the large-scale soil remediation and waste disposition was completed in the fall of 2006, management of the site was transitioned to the DOE Office of Legacy Management (LM). The site, which was formerly known as the Fernald Closure Project, was then renamed the Fernald Preserve.

DOE and the Ohio Environmental Protection Agency (OEPA) signed a Consent Decree (CD) in 2008 that settles a long-standing natural resource damage claim under Section 107 of CERCLA. As a result, DOE and OEPA finalized the Fernald Natural Resource Restoration Plan (NRRP) in 2008. The CD required the United States, on behalf of DOE, to pay \$13,750,000 to Ohio to restore, replace or acquire the equivalent of injured natural resources at and in the vicinity of the Fernald Preserve in a manner consistent with the Restoration Plan, and to reimburse Ohio's Natural Resource Damage Assessment Costs. These funds were deposited into a restoration account, which shall be administered by the DOE, OEPA and the U.S. Department of Interior (DOI), collectively the Fernald Natural Resource Trustees (NRTs). The NRRP specifies that the NRTs will jointly develop a plan for the use of the funds in the restoration account. The NRRP also outlines the approach for ecological restoration of the Fernald Preserve. Restoration of the Fernald Preserve will transition the majority of the site from post-remediation conditions to the selected final land use, an undeveloped park with an emphasis on wildlife habitat.

## **PURPOSE AND OBJECTIVES**

This plan was developed by the NRTs as required by the CD and NRRP. The CD states that the "Trustees shall expend the funds in the Escrow Account to implement the plan developed pursuant to Section 1.5 of the Restoration Plan." The NRRP states in section 1.5 that "Within 120 days after this payment, the NRTs will jointly develop a plan for the use of the funds in the restoration account. This plan will address the selection and implementation of projects to be paid for from the restoration account, the acquisition, ownership, and maintenance of any land purchased using the funds from the restoration account, and annual reports on the use of the restoration account and on the progress of the selected fund projects." The NRTs agree that funds from this restoration account may be used for habitat enhancements on site at the Preserve. The NRTs agree that funds from this restoration account may be used to acquire additional land or interests in land,

to make ecological improvements to that land to enhance habitats and protect water quality in Paddys Run and the Great Miami Aquifer in the vicinity of the Preserve. Figure 2 generally outlines areas the trustees believe meet the requirement of being within the vicinity of Fernald and protecting appropriate water resources. These resources will be held and protected in perpetuity to enhance water quality (surface and ground water) for future generations. This Restoration Account Funds Use Plan addresses these requirements of the NRRP and CD.

## **ROLE OF THE TRUSTEES**

The NRTs for the Fernald Preserve are OEPA, DOE, and DOI. The NRTs are responsible for overseeing and ensuring the implementation of the NRRP, to restore, replace or acquire the equivalent natural resources injured by releases of hazardous substances at and from the Fernald Site. In July 2001 the NRTs agreed to coordinate their efforts through a Trustee Council, which consists of a representative from each of the NRTs and which makes decisions by unanimous agreement. The NRTs' Memorandum of Understanding (2001) explains in greater detail the NRTs' duties, responsibilities, and decision-making procedures. Where the NRRP calls for joint or collective action or decision-making by the NRTs, the NRTs shall act through the Trustee Council and pursuant to the 2001 Memorandum of Understanding.

## **PROJECT PROPOSAL PROCESS**

The NRTs will consider internally and externally generated projects. The NRTs will meet with local government, non-government organizations and stakeholder groups to discuss goals of the NRRP, Funds Use Plan, funds availability and to solicit project ideas, suggestions and concepts. Following these meetings the NRTs will finalize the Funds Use Plan incorporating as appropriate the project ideas, suggestions and concepts received during the meetings. Attachment 1 includes project ideas received to date.

The process for implementing a project proposal will be consistent with the flowchart shown in Figure 3. This process may be modified to be more efficient as experience is gained by the NRTs implementing the process.

Project proposals will be evaluated by the NRTs. The evaluation will include an assessment of the proposal against the criteria outlined below (Project Evaluation Criteria). A parcel scoring metric, similar to the metric shown in Table 1, may also be used to assess a project proposal. These assessments will aid the NRTs in selecting project proposals for funding.

The Trustees anticipate that ecological priorities for restoration projects will be influenced primarily by the following key factors:

- Relationship to injuries (restoration opportunities that address services and values similar to those lost due to the release of hazardous substances are preferred);

- Quality of restoration opportunities (projects with substantial ecological opportunities are preferred);
- Ecological function/hydraulic connectivity (areas in proximity to Fernald are preferred); and,
- Cost and cost-effectiveness (projects with lower cost per restored or replaced services or values preferred).

## **PROJECT EVALUATION CRITERIA**

This list of criteria for evaluating potential restoration ideas and projects presented herein for the Fernald Preserve natural resource damages site (“Fernald”) are based on criteria identified in federal regulations at 43 C.F.R. § 11.82 and 15 C.F.R. §§ 990.54 and 990.55, the Natural Resource Impact Assessment (NRIA) and NRRP, and relevant criteria developed as part of Natural Resource Damage Assessments (NRDAs) conducted at other such sites such as Bunker Hill, Idaho; Pecos Mine, New Mexico; New Bedford Harbor, Massachusetts; Green Bay, Wisconsin and Michigan; The Ottawa River, OH; and Kalamazoo River, Michigan.

### **Categories of Evaluation Criteria**

The criteria have been grouped into 4 evaluation categories: acceptability, focus, implementation, and benefits, to provide structure when evaluating potential projects. Initially, the acceptability criteria will be used as a screen to eliminate projects that do not meet minimum standards required by NRDA regulations. Following initial screening, the remaining projects will be evaluated in more detail with the focus, implementation, and benefits criteria. A brief description of each evaluation category follows:

- Acceptability:** Criteria that relate to whether a proposed project meets minimum standards of relevance to injured resources and/or services, achieve a beneficial outcome, and comply with applicable and relevant laws. A project must meet each of these criteria to be considered further. Failing any one acceptability criterion eliminates the project from consideration.
- Focus:** Criteria that relate to the documented goals and objectives of the trustees for the restoration related to the NRDA at Fernald.
- Implementation:** Criteria that relate to project implementability, feasibility, and cost effectiveness.
- Benefits:** Criteria that relate to the types, timing, and permanence of benefits provided by a project.

## **Evaluation Criteria and Their Interpretation**

The following tables provide specific criteria under each evaluation category. A brief interpretation of each criterion is provided to make clear how each will be used in the evaluation process.

<b>ACCEPTABILITY CRITERIA FOR RESTORATION PLANNING</b>		
<b>Priority</b>	<b>Criteria</b>	<b>Interpretation</b>
Pass/Fail	A1: Complies with applicable/relevant federal, state, and local laws and regulations and policies	Project must be in compliance with law, including coordination with response actions, must protect public health and safety, and must meet the requirements set forth in 43 C.F.R. Part 11 and any other laws applicable to NRD at the Fernald Site.
Pass/Fail	A2: Restores, rehabilitates, replaces, and/or acquires the equivalent of injured natural resources and services <sup>(1)</sup> .	Projects will be evaluated regarding whether they address resources injured by hazardous substances, or services lost because of injuries at the Fernald Site.
Pass/Fail	A3: Is technically feasible.	Projects must have a high likelihood of success.

1 – When used in this document, the term “services” includes ecological and active and passive public use services.

**FOCUS CRITERIA FOR RESTORATION PLANNING**

<b>Priority</b>	<b>Criteria</b>	<b>Interpretation</b>
Higher	F1: Projects that target on site resources or services that are unable to recover to baseline without restoration action, or that will require a long time to recover naturally (e.g., >5 to 10 years)	Baseline is the state of natural resources and services that would exist if hazardous substances had never been released and/or injury had not occurred. Projects that target resources/services that will be slow to recover will be favored over projects that target resources/services that will recover quickly naturally. Natural resources within or in the vicinity of the Fernald Preserve are preferred.
Higher	F2: Projects that target multiple resources thereby increasing ecosystem productivity and the ability to provide services are preferred	This may include creation/enhancement of wetlands and other habitats which provide benefits to a wide range of natural resources and services.
Medium	F3: Projects that address or incorporate restoration of “preferred” trust resources and services as documented by trustee mandates and priorities.	This may include a list of priorities based on the resource types injured and degree of injury. For example, groundwater, surface water, wetlands, specific habitats, endangered species, living resources, native species, and resources of particular cultural importance.
Lower	F4: Projects that replace services with little improvement to the ecosystem providing those services will not be preferred.	These could include projects which may provide services similar to those lost, but which do not address the underlying ecosystem and, therefore, are not preferred.

### IMPLEMENTATION CRITERIA FOR RESTORATION PLANNING

Priority	Criteria	Interpretation
Higher	I1: Projects that are cost effective, including planning, implementation, and long-term operation, and maintenance.	Project has a high ratio of expected benefits to expected cost. This may be assessed as relative to other projects that benefit the same resource. Cost sharing may be a component of the cost effectiveness.
Higher	I2: Projects that use established, reliable methods/technologies known to have a high probability of success.	Projects will be evaluated for their likelihood of success given the proposed methods. Factors that will be considered include whether the proposed technique is appropriate to the project, whether it has been used before, and whether it has been successful.
Lower	I3: Projects employing new or untested methods/technologies, or projects for which the benefits can not be readily measured.	Projects incorporating experimental methods, research, or unproven technologies will be given lower priority.

**BENEFIT CRITERIA FOR RESTORATION PLANNING**

<b>Priority</b>	<b>Criteria</b>	<b>Interpretation</b>
Higher	B1: Projects providing the greatest scope of ecological benefits to the largest area.	To the degree that a bigger project results in greater good, bigger projects are better. Projects that benefit more than one injured resource or service will be given priority. Projects that avoid or minimize additional natural resource injury, service loss, or environmental degradation will be given priority.
Higher	B2: Projects providing benefits that will not otherwise be provided by projects being implemented/funded under other programs.	Preference is given to projects that are not already being implemented or have no planned funding under other programs. Although the trustees will use restoration-planning efforts by other programs, preference is given to projects that would not otherwise be implemented without NRDA restoration funds.
Medium	B3: Projects aiming to achieve environmental equity and environmental justice.	Low-income and ethnic populations (including native Americans) often suffer the most from pollution, and sometimes benefit the least from restoration programs. Therefore, a restoration program should not have disproportionate high costs or low benefits to low-income or ethnic populations.
Lower	B4: Projects focused on directly providing replacement of lost services	Projects that directly provide lost services with little or no ecological improvement will be given lower priority.

**Table 1. Parcel Scoring Metric**

	Criteria	Metric	Range	How to score
A.	Parcel must be located within Figure 2 of the Funds Use Plan.	10	10 or 0	If the projects lies on the area shown on Figure 2 of the FUP then score 10 pts. If not, score 0 pts.
B.	Parcel lies over the Buried Valley Aquifer (BVA). <a href="http://www.epa.ohio.gov/portals/28/documents/swap/greatmiami-ssa.pdf">http://www.epa.ohio.gov/portals/28/documents/swap/greatmiami-ssa.pdf</a>	10	10 / 3 / 0	To score "lies over the BVA " potential 10 pts. total. To receive points for this criteria the parcel MUST be located on Figure 2 of the FUP within the region indicated as the BVA boundary; AND, • Score 10 points if upgradient of Fernald; or, • Score 3 points if downgradient of Fernald.
C.	Parcel is within Paddys Run drainage basin	10	10 / 3 / 0	To score "lies within PR drainage corridor", potential 10 pts. total. • Score 10 points if parcel is upstream of Fernald; or, • Score 3 points if parcel is downstream of Fernald.
D.	Parcel abutts or contains Paddys Run or one of its tributaries	10	10 or 0	If the parcel abutts or contains PR or a primary tributary upstream of Fernald as indicated in Figure 2 of the FUP or by field inspection, then score 10 pts. If not, score 0 pts.
E.	Parcel is adjacent to Fernald or other permanent greenspace	10	10 or 0	If the parcel is adjacent to Fernald Preserve or other permanent greenspace then score 10 pts. If not, score 0 pts.
F.	Species diversity within Parcel	15	0 - 15	To score "Species diversity", potential 15 pts. total. • Score 15 points for presence of Threatened or Endangered species (state or fed); OR, for parcels abutting/containing Paddys Run due to documented use by Sloan's Crayfish (State Threatened) and Indiana Bat (Federally endangered); OR, for parcels having presence of 7 or more species of amphibians or 3 species of ambystomid salamanders. • Score 10 points for breeding species of Concern (state or fed). • Score 8 points for presence of species of Concern or Special Interest (state or fed)
G.	Parcel habitat type	15	0 - 15	To score "Parcel habitat", potential 15 pts. total. • Score 15 pts if parcel contains any of the following: category 3 wetland, >100m riparian zone, >15 acre mature woodlot, or >50% natural habitat (woodland, grassland, riparian); or, • Score 10 pts if parcel contains any of the following: category 2 wetland, >50m riparian zone, >10 acre mature woodlot, or >30% natural habitat; or, • Score 5 pts if parcel contains any of the following: category 1 wetland, >25m riparian zone, >10 acre mature woodlot or >20% natural habitat.
H.	Parcel Size	10	0 - 10	To score "Parcel size", potential 10 pts. total. • Score 10 pts > 100 acres; 8 pts > 75 acre; 6 pts > 50 acres; 4 pts > 10; 1 pt < 10 acres
I.	Parcel contains historical/cultural resource	5	5 or 0	Cultural resources to be considered include: Native american sites, early (pre-1900) homesteads, projects of environmental equity/justice, etc.
J.	Ecological restoration will occur as part of conservation	15	0 - 15	Weighted based on type and size of restoration.
<b>Total Possible Points</b>		<b>110</b>		

Indicates a location based metric.

## **IMPLEMENTATION OF PROJECTS**

On site project implementation will follow the NRRP and the project specific Natural Resource Design Plan (NRDP). Implementation of off-site projects by external parties will be made per agreement between the NRTs and the contracting organization(s). Implementation will be conducted per project specific contracts and, in general, begin and reach completion in a timely manner after contract award; be compliant with all laws, rules, regulations, and BMPs; and attain specified goals in a reasonable time.

## **MONITORING**

Monitoring will include implementation monitoring and long term monitoring. Implementation monitoring will occur during the construction phase of the project and at the close of construction. Implementation phase monitoring will assure that the project is properly constructed. Long term monitoring will be conducted to assure that the goals of the project are met and that no encroachment, modification, or other adverse change occurs to the project over time. Details of monitoring requirements will be project specific and further detailed within the contracts mentioned in the Implementation section.

## **MAINTENANCE**

On site project maintenance will be completed as specified in the NRRP and the Restored Area Maintenance Plan. Projects implemented by external parties or off site will include a maintenance plan that will detail measures necessary to ensure the goals of the project are achieved and continue to be effective. The maintenance plan will be a separate submittal required under the contracts mentioned in the Implementation section.

## **PROJECT REPORTS**

For all projects implemented by external parties, annual reports for on-going projects will be required to be submitted to the NRTs by April 1 of each year, shall provide the following information for the prior calendar year:

1. Project expenditures, including cost versus projected costs, NRT funds vs other funding sources, etc.
2. Progress toward achieving project goals.
3. Project schedule.

For all projects implemented by external parties, a completion report shall be submitted to the NRTs within 90 days of project completion. The completion report shall provide the following information

1. Summary of expenditures.
2. Summary of project goals and achievement of those goals.
3. Project schedule.
4. Maps delineating project boundaries, significant habitat, and species locations.

5. Photo documentation of before and after.
6. As-built drawings of any constructed features.
7. Copies of any land use controls such as easements or environmental covenants addressing the project area.

For all projects implemented by external parties, annual monitoring reports for completed projects shall be submitted to the NRTs by April 1 of each year, and shall provide the following information for the prior calendar year:

1. Summary of any maintenance actions required to ensure restoration goals are maintained.
2. Documentation of the compliance and effectiveness of any land use controls, including photo documentation of site status.
3. Summary of any expenditure of NRT funds used.

All reports shall be submitted to the trustee council with three hard copies and one electronic copy.

### **NRT ANNUAL REPORT TO THE PUBLIC**

Pursuant to Section 1.5 of the NRRP, the NRTs will issue an annual report by June of each year providing the following information from the prior calendar year:

1. Funds remaining in the restoration account and a listing of expenditures for the prior year.
2. List of projects initiated or on-going that year.
3. Summary of projects completed that year.
4. Summary of total number of projects completed since approval of the Restoration Account Funds Use Plan
5. Regional map showing the location of all projects funded by the restoration account

### **PUBLIC INFORMATION PROCESS**

During development of this plan (a) representative(s) of the NRTs will attend stakeholder meetings including, but not limited to Fernald Community Alliance monthly meetings and Legacy Management semi-annual public update meetings to provide the information on NRT progress and answer questions. The NRTs held a public availability session on July 8, 2009, during which comments were provided, prior to finalization of this document. Attachment 2 is the Response to Comments document for comments received at that meeting and by other means during the comment period.

Following finalization of the Restoration Account Funds Use Plan and during implementation, the NRTs will continue to attend the above listed meetings. The NRTs may hold additional public meetings/availability sessions as needed or requested. In addition to public meetings, information will be available to the public in the project and annual reports described in previous sections. The NRTs will remain available to discuss the public's questions or concerns through phone calls or email.

## REFERENCES

2009 Butler County Environmental Covenant

2008 Consent Decree

2009 Hamilton County Environmental Covenant

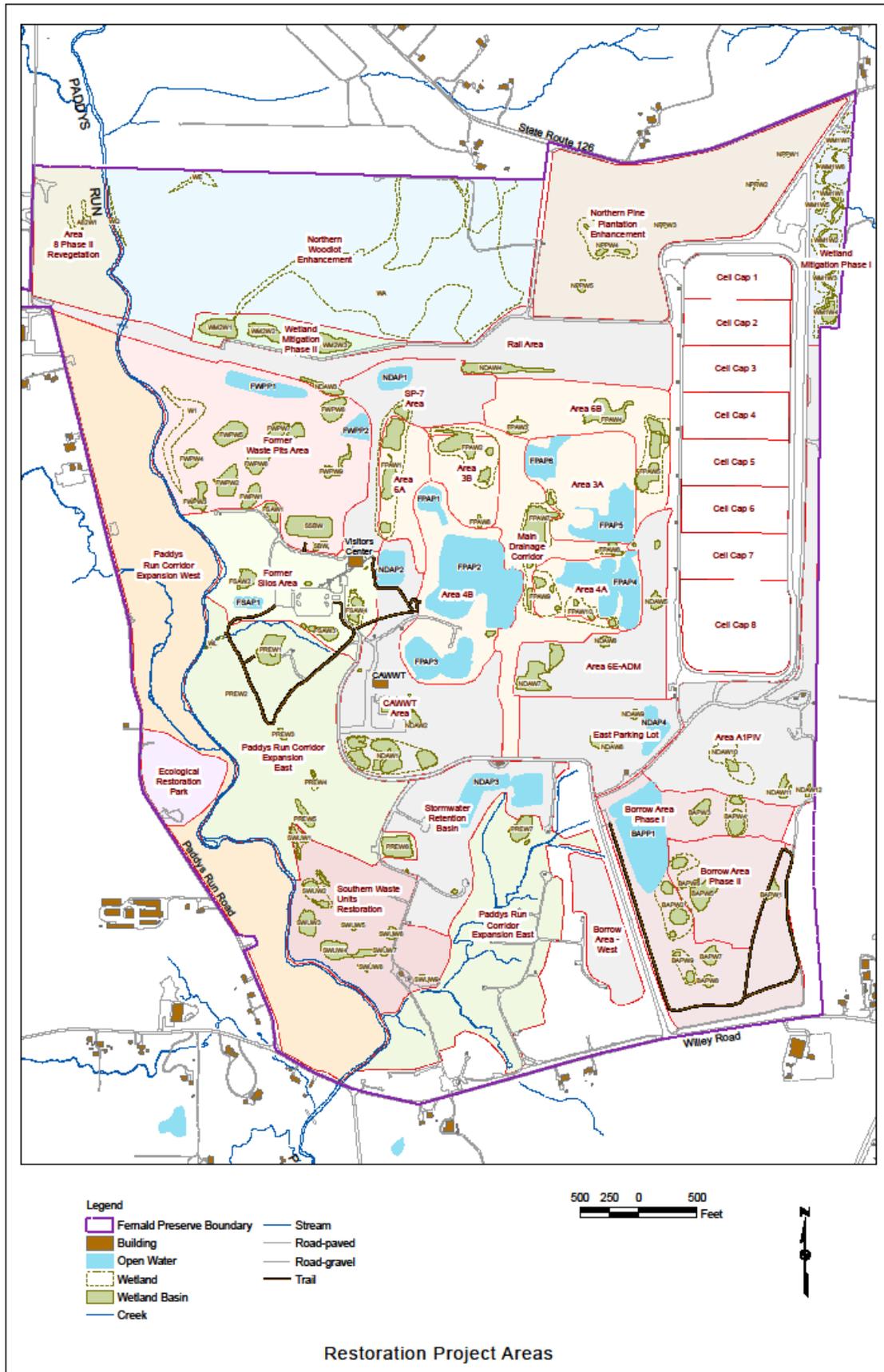
US Department of Energy, 1998, *Natural Resource Impact Assessment and Natural Resource Restoration Plan*, DOE, Fernald Area Office, Cincinnati, Ohio

US Department of Energy, 2008, *Natural Resource Restoration Plan*, Revision 0B, Final , DOE, Fernald Area Office, Cincinnati, Ohio

2001 Memorandum of Understanding

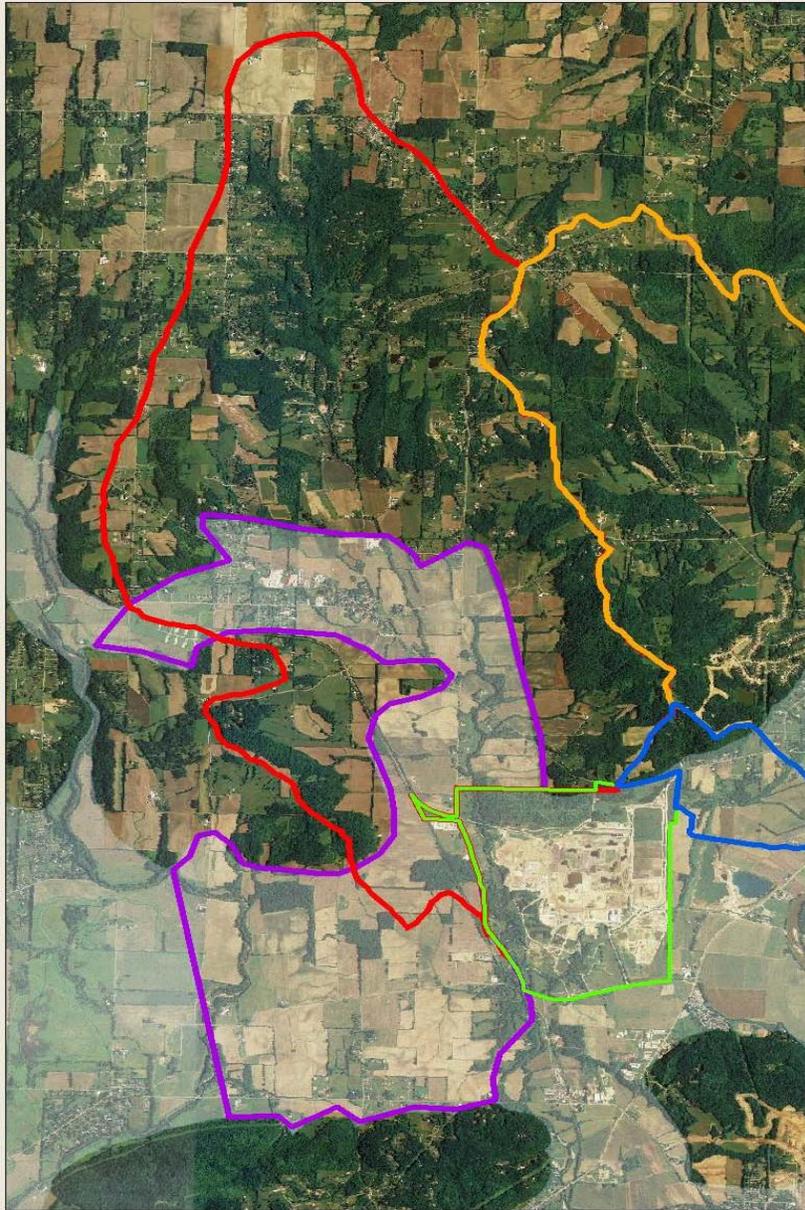
1998 Natural Resources Impact Assessment

# Figure 1



# Figure 2

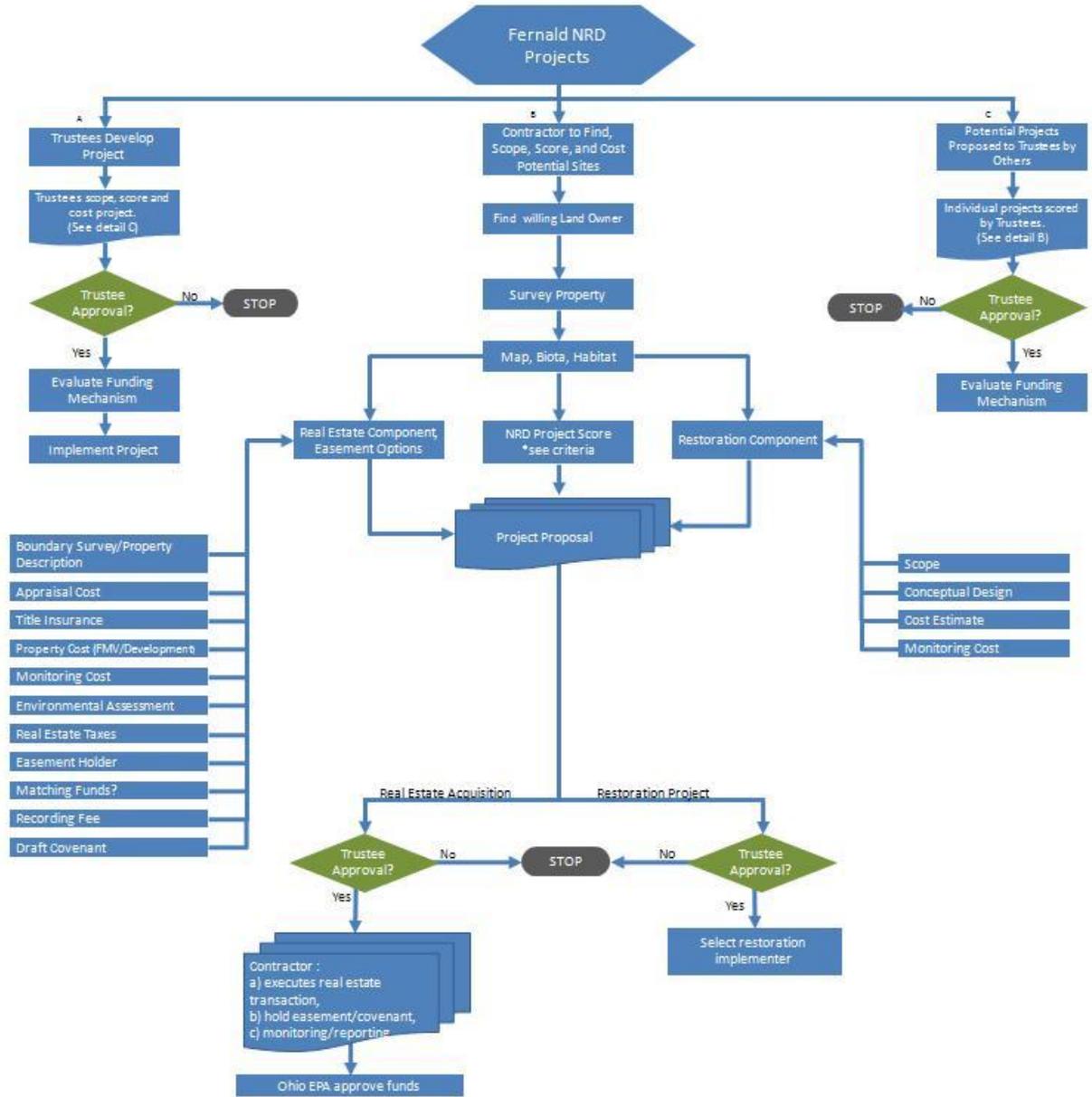
## Fernald Water Resources



- Legend**
- Unlabeled Trib Basin
  - Dry Run Basin
  - FEMP Property Boundary
  - Paddy's Run Basin
  - Aquifer Area



# Figure 3



## **Attachment 1**

### **Summary of Project Ideas Provided to NRTs**

1. Acquire conservation easements
2. Create a perpetual fund to support future easements
3. Development of cave salamander habitat
4. Construction of vernal pool habitats
5. Ambystomid habitat
6. Amphibian relocations
7. Protect and enhance riparian corridors in local streams
8. Purchase burial land for Native Americans
9. Complete in-stream restoration
10. Construct wetlands
11. Construct/restore headwater streams
12. Replace failing septic systems
13. Improve farm management practices
14. Protect riparian corridors

## Attachment 2

### Response to Comments

#### Natural Resources Funds Use Plan

##### Trustee Representatives

Ohio EPA:	Tom Schneider (937) 285-6466 tom.schneider@epa.state.oh.us
US Department of Energy:	Ray Plienness (970) 248-6091 Ray.Plienness@lm.doe.gov
US Fish & Wildlife Service	Dave DeVault (612) 713-5340 dave_devault@fws.gov

Ohio EPA and USDOE held a public meeting and associated comment period on July 8, 2009 regarding the Fernald Natural Resource Funds Use Plan. This document summarizes the comments and questions received at the public meeting and/or during the associated comment period, which ended on August 8, 2009.

Ohio EPA USDOE and DOI reviewed and considered all comments received during the public comment period. In this case,

In an effort to help you review this document, the questions are grouped by topic and organized in a consistent format.

**Comment 1:** **Several commenters suggested incorporating the figure used in the meeting presentation regarding Fernald water resources be incorporated into the plan.**

**Response 1:** The referenced figure has been incorporated into the revised Restoration Funds Use Plan as Figure 2 entitled Fernald Water Resources.

**Comment 2:** **Several commenters expressed their support for the acquisition of conservation easements and/or fee simple property acquisition within the areas identified on the Fernald Water Resources figure as appropriate uses of the funds.**

**Response 2:** The Fernald Water Resources figure has been incorporated into the revised Restoration Funds Use Plan. The trustees agree that projects within the boundaries of the Fernald Water Resources figure would address the Consent Decree and Natural Resource Restoration Plan requirements for projects being “in the vicinity of the Fernald Preserve.” Additional review of projects would be necessary to determine they met the statutory and Consent Decree requirements of restoring, replacing or acquiring the equivalent of the injured natural resource.

**Comment 3:** **Comments were made recommending the use of local land conservation trusts.**

**Response 3:** The Trustees appreciate the opportunities provided by local land conservation trusts and will consider them when developing the implementation strategy.

**Comment 4:** **Commenters requested creation of an endowment type fund to support maintenance and monitoring of any easements/property acquisitions.**

**Response 4:** The Trustees agree with the need to ensure any implemented projects address long term protection and sustainability. The specific mechanism for long term protection may vary from project to project.

**Comment 5:** **A citizen requested that any potential land agent be guided by three basic principles: a) clear parameters, b) limited funds, and c) use of predetermined percentages into selections.**

**Response 5:** The Trustees appreciate the comment and will consider it while refining the implementation strategy.

**Comment 6:** **A comment was made suggesting the creation of a conservation district to aid in implementing the Funds Use Plan.**

- Response 6:** At this point the Trustees do not envision the creation of a conservation district as being necessary or improving the Trustees ability to restore, replace or acquire the equivalent injured natural resources as required by the regulations and consent decree.
- Comment 7:** **A commenter suggested further prioritizing parcels that met the threshold criteria of being within the target area, by probability of imminent development.**
- Response 7:** The Trustees appreciate the comment and will consider it while refining the implementation strategy.
- Comment 8:** **Commenters suggested various areas for prioritizing land protection including:**
- a) Undeveloped floodplain east of the site**
  - b) Paddys Run watershed**
  - c) Green corridor between Fernald Preserve and Miami Whitewater Forest.**
  - d) Wetlands and critical habitat for endangered or threatened wildlife**
  - e) Land directly west of Fernald Preserve.**
- Response 8:** The Trustees appreciate the comment and will consider it while refining the implementation strategy.
- Comment 9:** **Commenters had specific recommended projects:**
- Wetland restoration**
  - Headwater stream creation/restoration**
  - In stream restoration**
  - Protect and enhance riparian corridors**
  - Connection of protected parcels via a bikeway/horse trail system.**
- Response 9:** The Trustees appreciate the comment and will keep the comment in mind while refining the implementation strategy. These proposals have been included in list of proposed products in Attachment 1 to the Restoration Funds Use Project.
- Comment 10:** **A commenter suggested removing the “cost-sharing” provisions of the ranking criteria as it burdens non-profit organizations.**

**Response 10:** The Trustees appreciate the comment and will consider the impacts of any cost sharing requirements as they refine the implementation strategy.

**Comment 13:** **A commenter recommended the Trustees investigate alternative avenues for addressing water quality issues including possibly funding health departments to assist in the repair/replacement of home septic systems and/or to improve farm management methods.**

**Response 13:** The Trustees appreciate the comment and will consider it while refining the implementation strategy, though it may be difficult to achieve a nexus with the injured natural resource for some of the suggestions.

**End of Response to Comments**