

Public Notice

**U.S. Army Corps
of Engineers**
Pittsburgh District

In Reply Refer to
Notice No. below

US Army Corps of Engineers, Pittsburgh District
1000 Liberty Avenue
Pittsburgh, PA 15222-4186

Application No. 2013-512

Date: April 2, 2013

Notice No. 13-13

Closing Date: May 3, 2013

1. **TO ALL WHOM IT MAY CONCERN:** The following Morgan Wetland Mitigation Project has been submitted by the West Virginia Department of Environmental Protection (WVDEP) for approval under the West Virginia In-Lieu Fee Program (WVILFP).
2. **APPLICANT:** Glenn McLernon
WV In-Lieu Fee Coordinator (Stream and Wetland Mitigation)
West Virginia Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304
3. **LOCATION:** The wetland restoration work will be completed along Turkey Run, near Lake Louise, within the Potomac Direct Drains Primary Service Area in Jefferson County, West Virginia.
4. **PURPOSE AND DESCRIPTION OF WORK:** The WVDEP proposes to restore .9 acres of Palustrine Scrub-Shrub Wetland (PSS), .9 acres of Palustrine Emergent Wetland (PEM) and preserve .31 acres of forested wetland buffer for a net wetland credit of 1.85 acres. Please see attached information.
5. **WEST VIRGINIA CERTIFICATION:** The West Virginia Department of Environmental Protection will issue 401 Water Quality Certification before construction begins.
6. **IMPACT ON NATURAL RESOURCES:** The District Engineer has consulted the most recently available information and has determined that the project will have no effect on endangered species or threatened species, or result in destruction or adverse modification of habitat of such species which has been determined to be critical. While concurrence with this determination is not required, this Public Notice serves as a request to the U.S. Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).
7. **IMPACT ON CULTURAL RESOURCES:** The National Register of Historic Places has been consulted, and it has been determined that there are no properties currently listed on the

register which would be directly affected by the proposed work. If we are made aware, as a result of comments received in response to this notice, or by other means, of specific archeological, scientific, prehistorical, or historical sites or structures which might be affected by the proposed work, the District Engineer will immediately take the appropriate action necessary pursuant to the National Historic Preservation Act of 1966 - Public Law 89-665 as amended (including Public Law 96-515). This Public Notice serves as a request for comments by the West Virginia Division of Cultural Resources.

8. PUBLIC INVOLVEMENT: Any person may request, in writing, within the comment period specified in the paragraph below entitled "RESPONSES," that a public hearing be held to consider this proposed West Virginia In-Lieu Fee Project. The requests for public hearing shall state, with particularity, the reasons for holding a public hearing.

9. EVALUATION: Interested parties are invited to state any objections they may have to the proposed WVILF project.

10. RESPONSES: This project will be authorized under the existing WVILF Instrument unless its issuance is found to be contrary to the public interest. Written statements concerning the proposed activity should be received in this office on or before the closing date of this Public Notice in order to become a part of the record and to be considered in the final determination. Any objections which are received during this period may be forwarded to the applicant for possible resolution before the determination is made whether to approve as an ILF project. All responses to this notice should be directed to the Regulatory Branch, attn Donald Bole at the above address, by telephoning (412) 395-7576, or by e-mail at Donald.R.Bole@usace.army.mil Please refer to File 2010-1440 in all responses.

FOR THE DISTRICT ENGINEER:

/SIGNED/

Jon T.Coleman
Chief, Southern Section
Regulatory Branch



West Virginia IN LIEU FEE Stream and Wetland Mitigation Program



Mitigation Plan

Morgan Wetland Mitigation Project

Potomac River HUC
Jefferson County, WV

February, 2012



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1. Introduction

This mitigation plan builds upon the Conceptual Proposal for the Morgan Wetland In-Lieu Fee Mitigation Project for the Potomac River HUC approved by the IRT in February, 2012. This plan is organized according to the Department of Defense and Environmental Protection Agency 40 CFR Part 230 Compensatory Mitigation for Losses of Aquatic Resources; Final Rule published April 10, 2008; effective June 9, 2008.

1.1 Location

The proposed Morgan Wetland mitigation site is 2.3 acre parcel owned by Scott and Sondra Morgan and is located in Jefferson County, West Virginia. The site is in the Potomac Direct Drains (HUC 02070004) and is under a conservation easement by the Jefferson County Farmland Protection Board and the Land Trust of the Eastern Panhandle. The potential wetland restoration is located in a 9.10 acre pasture located to the southeast of the parcel. The site is located 6.4 miles east of Charles Town, WV at 395 Lake Louise Lane. From the intersection of West Washington Street and George Street in Charles Town travel southwest on Washington Street (WV Route 51) for 0.4 miles to the intersection with Martin Luther King Blvd. Take a slight right at this intersection and continue on WV Route 51 another 5.6 miles. At the intersection of WV Route 51 and Lake Louise Lane turn left and immediately bear right on Lake Louise Lane, then continue about 0.4 mile to the residence. See location map on page 3.

1.2 Proposed Service Area

The proposed service area for the Morgan Site is the 8-digit Potomac Direct Drains HUC (02070004). A map of the service area may be found on page 4.

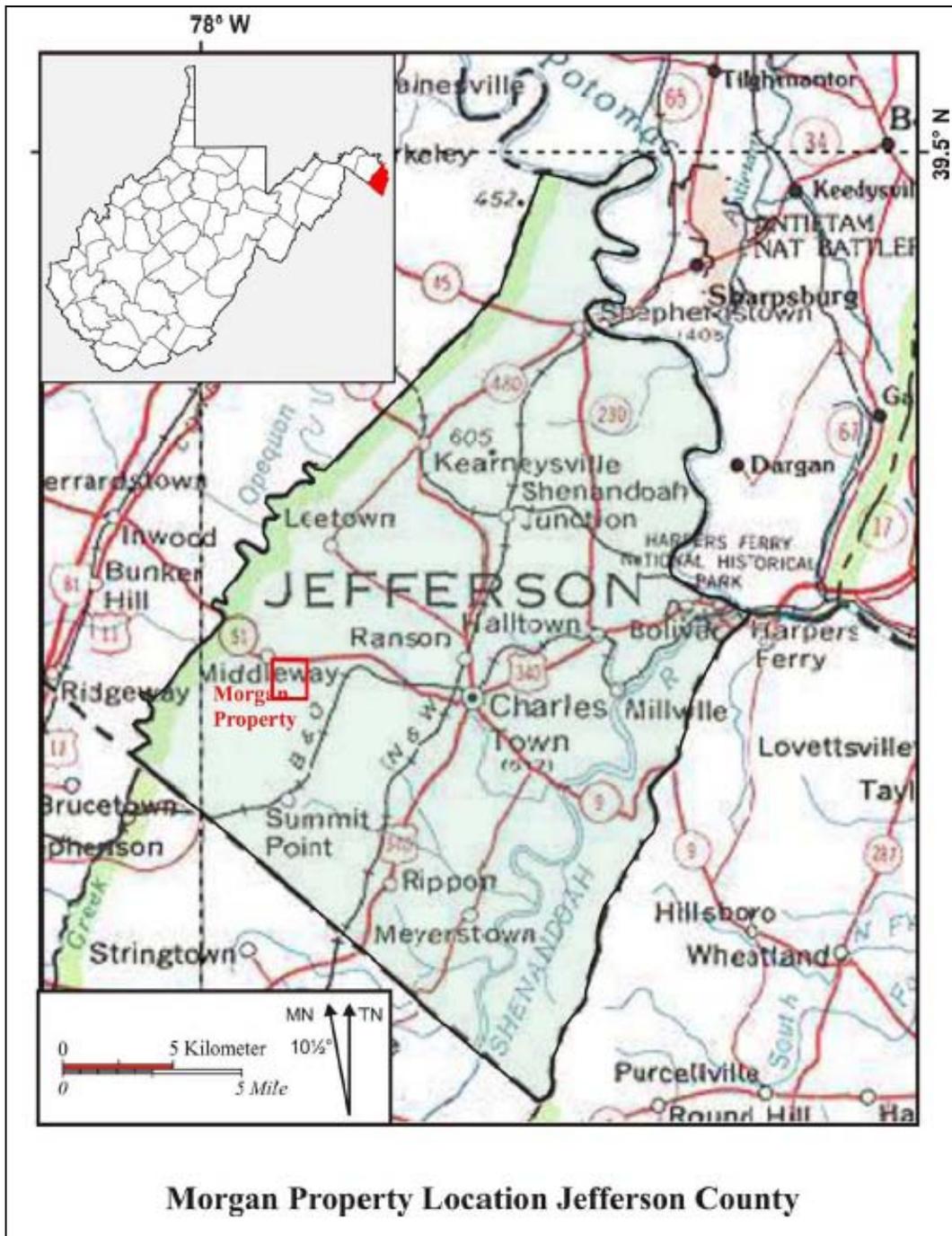
2. Mitigation Goals

This bank site is intended to mitigate for emergent marsh and scrub-shrub wetlands. The mitigation requirements are .55 acres of emergent marsh and .71 acres of scrub shrub wetland. Wetland objectives include:

Wetland

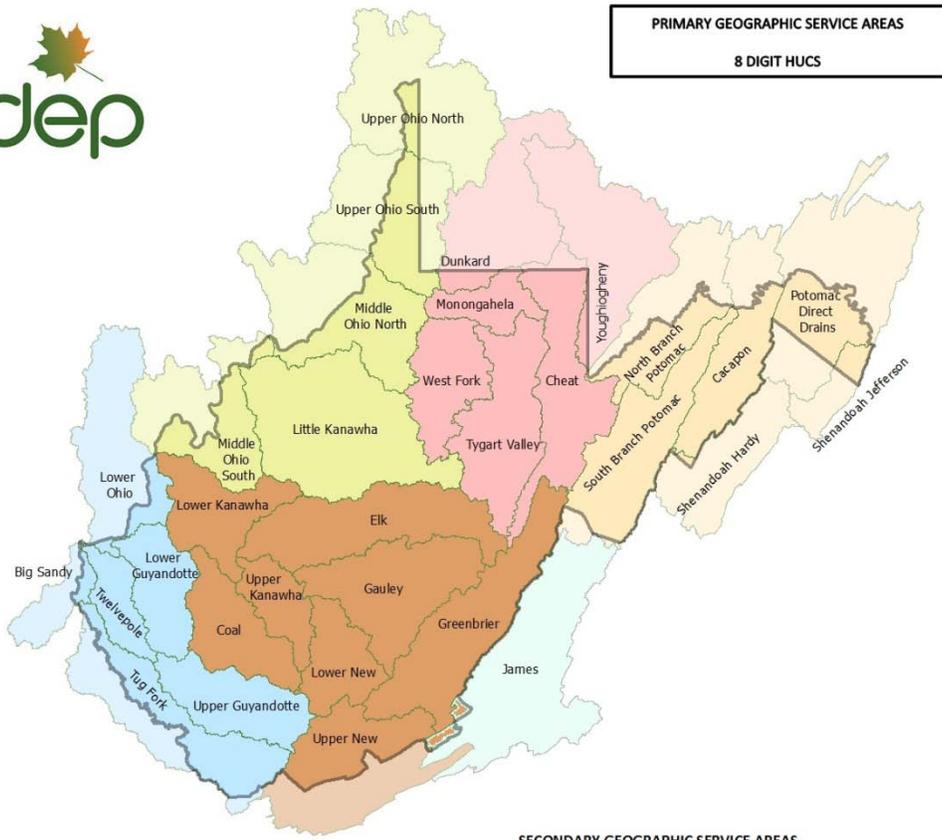
- Restore wetland hydrology, soils, and vegetation to ~1.8 acres of wetland
- Restore and preserve a forested wetland buffer zone ~.3 acres
- Eradicate invasive species and maintain less than 10% invasive coverage

The restoration of this wetland will provide excellent wildlife habitat, supporting a wide array of mammals, birds, reptiles, amphibians, and invertebrates that depend on wetlands for all or part of their life cycles. The site will also have value in flood mitigation, storm abatement, aquifer recharge, water quality improvement and aesthetics. In addition, wetlands function in maintaining water and air quality influences on a much broader scale than that of the wetland ecosystem itself (Mitsch and Gosselink, 2000).



Location Map

NAD 83 decimal degrees: Latitude 39.30206 Longitude -77.970958



PRIMARY GEOGRAPHIC SERVICE AREAS
8 DIGIT HUCS

SECONDARY GEOGRAPHIC SERVICE AREAS

1	Upper Ohio North, Upper Ohio South, Middle Ohio North, Middle Ohio South, Little Kanawha
2	Dunkard, Monongahela, West Fork, Tygart Valley, Cheat, Youghiogheny
3	North Branch Potomac, South Branch Potomac, Cacapon, Shenandoah Hardy, Potomac Direct Drains, Shenandoah Jefferson
4	Lower Kanawha, Upper Kanawha, Coal, Lower New, Upper New, Elk, Gauley, Greenbrier, James
5	Lower Guyandotte, Upper Guyandotte, Lower Ohio, Big Sandy, Twelvemile, Tug Fork

Proposed Service Area Map

3. Site Selection Criteria

This 2.3 acre site provides an excellent opportunity as a wetland mitigation site with the potential to expand in the future. This pasture is currently being used for grazing. The potential area for restoration borders the Lake Louise land tract owned by Eastman Kodak. This site has been proposed as a possible conservation easement holding by The Nature Conservancy. If this easement is acquired it would greatly enhance the potential wetland restoration project by increasing the wetland acreage surrounding Lake Louise.

Expansion of commercial and residential development within the service area of this mitigation site is high, fueled by the growing community of Martinsburg and its close proximity to Northern Virginia.

4. Site Protection Instrument

The property is subject to a conservation easement previously conveyed by the grantors to the Farm Protection Board and Land Trust of the Eastern Panhandle (Appendix A). A portion of the property containing approximately two acres has ecological value for mitigation in conjunction with impacts to aquatic resources. Funds from the WV Department of Environmental Protection In-Lieu-Fee Mitigation Program will be used to restore, enhance, or preserve the wetland restoration area and to monitor it in perpetuity. Restrictive covenants provide additional protection to the mitigation site (Appendix B).

5. Baseline Information

To meet the mitigation requirements a minimum of 0.55 acres of emergent marsh and 0.71 acres of scrub shrub wetland should be constructed. The potential wetland site will be recharged by a high volume of groundwater and a spring located within the restoration area. Adjacent to the property is a large underground spring which forms Lake Louise and is the source for Turkey Run. To ensure the site functions properly the topography will need to be altered and the area will be planted with native vegetation. The proposed acreage for wetland construction is approximately 2.1 acres with .9 acres each of emergent and scrub shrub. The forested .3 acres will be used as a wetland buffer.

5.1 Morgan Wetland Delineation

A routine wetland delineation was completed at the site. In the wetland delineators' professional opinions, all four of the sampled sites contained wetland soils. Due to cattle grazing there was little wetland vegetation within the sampled areas. The sampling was done out of growing season as well, making plant identification difficult. CVI will return to the site during growing season to further determine the presence of wetland vegetation. The impaired wetlands do not meet the classical jurisdictional definition because they exhibit wetland soils, but lack wetland vegetation and evidence of hydrology. One of the four sites had hydrology and soils present, but no obvious wetland vegetation. Owing to the fact these sites have been drained, they are not functioning wetlands. There was an existing .15 acre pond within the delineation area as well.

The total acreage of altered wetlands and other waters within the study area is ~2 acres, which are broken down by wetland/other water features in Table 1 below.

Table 1: Existing Wetland Size, Type, Status, and Status Justification

Wetland No.	Size	Type	Status	Justification
1	0.4	Emergent	Impaired	Soils and Hydrology, Lacks Vegetation
2	0.6	Emergent	Impaired	Soils, Lacks Vegetation and Hydrology
3	0.5	Forested	Impaired	Soils, Lacks Vegetation and Hydrology
4	0.3	Emergent	Impaired	Soils, Lacks Vegetation and Hydrology
5	0.15	Open water	Impaired	Soils and Hydrology, Lacks Vegetation
Total	1.95			

Currently, hay and pasture grasses are being harvested from the project area. If harvesting was restricted in this area, vegetative wetland species would likely return; however, invasive species would also likely return and proliferate. By actively restoring the site, wetland hydrology, soils, and vegetation will return much more quickly and invasive species will be controlled.

Soils Data

The soils present at the wetland restoration site are represented by Fairplay (marl) Silt Loam (Fa) and Oaklet Silt Loam (OeB). The Fairplay Silt Loam represents the majority of the restoration area and is well suited to be wetlands. This soil type is commonly a very poorly drained soil with the potential to hold a high water capacity. Depth to the seasonal high water table is commonly within 6 inches of the surface. This soil type is highly fertile and is slightly to moderately alkaline. Depth to bed rock is generally more than 60 inches. The Oaklet Silt Loam represents a small portion of the wetland restoration site. This soil type is commonly a slowly permeable soil with slow to medium runoff.

Vegetation Data

Wetland species, pasture grasses, Sycamore, ash, dogwood and cypress trees, and honeysuckle and multiflora rose were inventoried at the site. Wetland species were concentrated in lower lying areas and in and around the pond. Pasture grasses dominated the site and have been harvested from the site for years. Ash and Cypress trees dominate the area outside of the fence on the southeast edge of the property. The fence line is invaded by honeysuckle and multiflora rose on the southeast side of the property. The presence of wetland species indicates that the area was previously a wetland and has the potential to be restored.

6. Credit Determination Methodology

To determine the current functional value and the proposed functional value following enhancement, one wetland was assessed using the Ohio Rapid Assessment Method (ORAM) for Wetlands v.5.0 (Mack, 2001). Results from the quantitative assessment are located in Table 2. The impacted score of 26 places the wetland in the category 1 zone (0-29.9). Once enhanced, the wetland designation will increase to a category 3 (65-100).

Using the ratios provided in Table 3, the Morgan Wetland Site will have 1.87 wetland credits (measured acres). These numbers are approximate until final as-built surveys are completed. Table 3 includes information concerning mitigation measures, acreage, and resulting credit.

Credits released for mitigation sites are developed by the IRT on a case-by-case basis. The credit release schedule for the Morgan Site is provided in Table 4. Credits will be released according to this schedule if the performance criteria established in Section 9 are met.

Table 2: Impacted and Enhanced Wetland Assessment Scores

Quantitative Rating Metric (Maximum Value Possible)	Wetland Impacted	Wetland Enhanced
Size (6)	1	2
Buffers and Surrounding Land Use (14)	3	12
Hydrology (30)	18	28
Habitat (20)	3	20
Special Wetland Communities (10)	0	0
Plant Communities, Interspersion, Microtopography (20)	1	18
Total (100)	26	80

Table 3: Proposed Wetland Credits

Mitigation Measure	Acreage	Ratio	Credits
Wetland Restoration	1.81	1:1	1.81
Wetland Enhancement	0	2:1	0
Forested Wetland Buffer Preservation and Restoration	.31	5:1	.06
Total Morgan Wetland Mitigation Bank Site Credit	2.12		1.87

Table 4: Wetland Credit Release Schedule

Mitigation	Credit Ratio	Cumulative %	Credits Released
Real Estate Instrument	10 percent	10	.187
Grading	10 percent	20	.187
Planting	20 percent	40	.374
1 st Year Monitoring	10 percent	50	.187
2 nd Year Monitoring	20 percent	70	.374
3 rd Year Monitoring	15 percent	85	.281
5th Year Monitoring	15 percent	100	.281
Total	100 percent	100	1.87

7. Mitigation Work Plan

Erosion control measures will be installed, and then materials will be staged. The existing section of fence that is to be replaced will be removed. With cattle in the field it will be necessary to install the fencing or temporary fencing for the duration of the project. The project will begin by removing and stockpiling all topsoil as well as any sod that may be used for organic introduction to the wetlands. The topsoil will be stabilized with seed and mulched until it is reapplied near the completion of the project. Additionally, desirable species (native trees and shrubs) that may be salvaged will be set aside for subsequent replanting. Rough grading of the new wetland will be done next. The fence line will be buffered by an area of upland. Vernal pools will be excavated within the wetland restoration area. They should be dug to the specification of the plans and/or stakeout. The vernal pool or wetlands shall not penetrate the clay layer. If the clay layer would be breached clay shall be added and compacted to assure a proper impervious barrier. The wetland area shall contain microtopography achieved by a combination of bucket-mounding, hand-mounding, tire/track-rutting, and disking the surface materials. The wetland areas shall be built to an elevation not to exceed 513 feet. Seeding will be done immediately after new wetland construction is completed for that section of the project. Planting will be done once heavy equipment has finished wetland topography. Plants will be stored and planted as soon as possible after all grading work has been completed. Temporary seed mix and Ernst seed mix will be applied to site based on zone using a hydro seeder or by hand. Minimal mulch and no fertilizer will be applied to the hydro seeding mix. A loose layer of mulch (loose straw) shall be applied to the seeded areas within 48 hours of seeding. Live herbaceous species, shrubs and trees will be planted after the site has been seeded and mulched. Care will be taken to assure that the species are planted properly according to the requirements of their growth form. Once all plant materials have been planted and the designer and project sponsor have verified that the plan has been followed, the access road will be permanently stabilized or removed. The total emergent acreage will be approximately .9 acres and the total scrub shrub will be approximately .9 acres. The forested area will comprise of approximately .3 acres and will serve as a wetland buffer. Design drawings are included in Appendix F.

Invasive Plant Species Management

Invasive species present at the Morgan Wetland Site are multiflora rose (*Rosa multiflora*), honeysuckle (*Lonicera japonica*), barberry (*Berberis*), Japanese stilt grass (*Microstegium vimineum*) and garlic mustard (*Alliaria petiolata*). Invasive species control will be an integral part of the site restoration and will feature a two step approach. Step one will involve the foliar application of glyphosate (or another herbicide appropriate for wetland areas) to destroy existing invasives, followed by mechanical removal and burning of treated plants and dead top growth. This will be part of the initial site restoration and planting work. Step two will involve yearly control of seedlings and sprouts. Any new growth will be removed using mechanical methods or spot treatment with appropriate herbicide.

Care will be taken to do this in a manner that will be minimally destructive to new native plant growth. Invasive species shall be monitored and controlled, in conjunction with USACE recommendations, so that none become dominant or alter the desired community structure of the site. Potential references for management recommendations include: Multiflora Rose Control (Loux et al. 2005), Multiflora Rose (J.W. Armine 2002), and Best Management Practices for the Invasive Phalaris arundinacea L. (Reed canary grass) in Wetland Restoration (Reinhardt and Galatowitsch 2004).

8. Maintenance Plan

CVI will visit the site yearly to determine if maintenance is required at the mitigation bank site. An appropriate budget has been set aside for maintenance due to unforeseen events and will be used to ensure that the success criteria in Section 9: Ecological Performance Standards are met. Seeding, planting or both will be instituted if success criterion is not met. Invasive species management will involve yearly control of seedlings and sprouts. Any new growth will be removed using mechanical methods or spot treatment with appropriate herbicide. Care will be taken to do this in a manner that will be minimally destructive to new native plant growth.

Ineffective vegetation establishment will be remedied by replanting and/or seeding with the same or different vegetation, if appropriate based on vegetation monitoring.

The water table and their relationship to the restored wetlands will be evaluated upon each site visit. Observational data will be evaluated to determine if a change in elevation is required.

9. Ecological Performance Standards

To determine the success of the wetland restoration, best professional judgment shall be used while observing site conditions and reviewing the monitoring results. Variance from the success criterion shall not automatically require corrective action, as adherence to the success criterion may require corrective action under certain circumstances. Visual observations and a review of the entire wetland system shall be analyzed to determine if corrective action is warranted.

Two sets of success criteria are outlined in the table below. The first set will be used to ensure that the as-built construction of the design meets the design specifications. The second set will be used to measure the long-term success of the restoration project.

Table 5: As-Built Success Criteria

Category	Parameter	Measurement Method	Success Criteria
Wetland topography	Tortuosity	Surveyed Wetland Cross Section	Reference Specifications
Wetland topography	Roughness (peaks/foot)	Surveyed Wetland Cross Section	Reference Specifications

As-Built success criteria will ensure that the construction meets the design specifications. Microtopography will be restored to the wetlands on-site. Microtopography will be restored by a number of methods mentioned in the work plan. To ensure that microtopography is being constructed tortuosity and roughness criteria will be established based on reference wetland data. Tortuosity is the ratio of the over-surface distance to the straight line distance and can be measured in the field with measuring tapes. Roughness criteria such as the number of topographic peaks per linear foot for a cross section will also be established and can also be easily measured in the field with a measuring tape. Initial reference data revealed a tortuosity index of 1.002 and a Roughness index of 1 peak/15 linear feet. Wetland topographic should meet or exceed these criteria. Topography will range from the water table depth to 3' above the water table depth.

Table 6: Long-Term Monitoring Success Criteria

Category	Parameter	Measurement Method	Success Criteria
Vegetation (Hardwood Planted Zone)	Survival rate	Circular plots (Stems/Acre)	>320 stems/acre by end of 5th year
Vegetation (Hardwood Planted Zone)	Canopy coverage	Circular plots (Daubenmeyer cover estimates)	>30% by 3 rd year
Vegetation (Vernal Pools)	Herbaceous Plant Coverage	Circular plots (Daubenmeyer cover estimates)	30% 1 st year 40% 2 nd year 60% 3 rd year
Vegetation	Invasive/Noxious Species Coverage	Visual assessment	<10%
Wetland Condition	Wetland category and score	ORAM	>65
Wetland Soils	Hydric classification	Soil profile	hydric

Vegetation

A minimum of 320 stems per acre of planted native trees and shrubs shall be achieved by the end of the fifth growing season following planting. This applies to the entire site with the exception of the vernal pool areas. Canopy coverage shall be at least 30% each monitoring year thereafter. There shall be less than 10% canopy cover of noxious invasive species.

If spraying and/or mowing activities are required at the site to control the multiflora rose, or other invasive species, the number of woody stems per acre may vary. In such a case, CVI will discuss the need for a lower density with the agencies, revise the success criteria as appropriate, and include this information in the monitoring report.

In the vernal pool areas, plant coverage of at least 30% must be achieved by the end of the first growing season, 40% must be achieved by the end of the second growing season, and 60% must be achieved by the end of the third growing season and maintained through the end of the monitoring period. There shall be less than 10% canopy cover of noxious invasive species.

Wetland Condition

The IRT recommended assessing the functional wetland prior to enhancement using the Ohio Rapid Assessment Methodology. This methodology will also be used to assess the wetland following enhancement. Enhancement measures are anticipated to raise the ORAM score from a category 1 to a category 3 wetland with a score greater than 65 by the end of year 5.

Wetland Hydrology

Hydrologic analysis will be performed to determine if the wetland is meeting the criteria for wetland hydrology for 5% of the growing season consecutively based on the 1987 Army Corps of Engineers manual.

Wetland Soil

Soil analysis will be performed to monitor hydric soil development. Soils will be rated as hydric or non-hydric based on the 1987 Army Corps of Engineers manual standards.

10. Monitoring Requirements

The restored wetland will be monitored over a 5 year period. Monitoring reports will be submitted to IRT for credit release approval. Monitoring of the restoration activities will be conducted to demonstrate compliance with success criteria and to aid in the determination if corrective actions are warranted. Monitoring will be conducted once per year between July and November for Monitoring Years 1, 2, 3 and 5 (the month denotation is assuming that the construction activities are completed in the fall). The first monitoring event will occur approximately one year following the completion of the as-built survey. Monitoring of the vegetation will be conducted once per year between July and October for Monitoring Years 1, 2, 3, and 5, with Monitoring Year 1 considered the year following the first growing season. Soil monitoring will be conducted in the wetlands on the 5th year of monitoring between July and November. Rapid Bioassessment as well the Ohio Rapid Assessment will be completed for Monitoring Years 1, 3, and 5 between April and October.

Table 7: Monitoring Schedule

Monitoring Parameter	As-Built	Year 1	Year 2	Year 3	Year 5
Photography	x	x	x	x	x
Wetland Topography	x				
Vegetation		x	x	x	x
Wetland Condition		x		x	x
Wetland Soil					x

Visual Monitoring Data

A visual description of the site will be provided with each monitoring report through ground level photographs taken adjacent to each vegetation plot. Photographs will be taken facing north, south, east, and west. Permanent markers will be established to ensure that the same locations and view directions are monitored in each monitoring period.

Wetland Topography

Two permanent wetland cross-sections will be installed through each wetland. Wetland cross-section will be surveyed to assess as-built conditions. All cross-sections will be clearly marked with rebar endpins, stakes identifying the number, and flagging. Wetland cross-sections will provide detailed information on wetland microtopography. The data will be displayed graphically and as raw data. Tortuosity and roughness variables will be calculated for each cross section.

Vegetation

Vegetation sample plots will be located on a random basis over the entire area encompassing the revegetated wetland, riparian zones and upland areas. Six vegetation plots will be established; two in the wetland restoration/creation area, two in the enhancement area, and two in the upland restoration area. Each plot will consist of an area with an approximate 15 foot radius for woody plants and a 5 foot radius for herbaceous plants. Permanent markers will be established to ensure that the same locations are monitored in each monitoring period. The data collected will include the identification of all planted and recruited species, number of woody plants, percentage of each species, canopy cover of noxious invasive species, and canopy cover percentage for all planted and recruited species within the sampling plot. Invasive species shall be monitored and controlled, in conjunction with USACE recommendations, so that they remain less than 10% of the total cover.

Wetland Condition

Field forms will be completed for the Ohio Rapid Assessment according to ORAM methodology.

Wetland Soils

Wetland soils will be monitored in year 5. A soil profile in each wetland will be characterized for hydric soil indicators including color, texture, saturation and inundation and reducing conditions.

11. Long-Term Management Plan

Canaan Valley Institute will conduct monitoring as specified in the mitigation plan. The Nature Conservancy along with CVI will perform visual inspections and perform maintenance required after completion of the project.

A primary goal of the mitigation project is to create or restore a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention. To ensure this goal is met, Canaan Valley Institute will conduct maintenance and monitoring as specified in this mitigation plan. This includes:

1. Annual monitoring of the condition of structural elements and facilities on the site such as fencing, vegetation, and invasive species.
2. Maintenance, repair, and replanting as necessary to achieve the objectives of the mitigation project.

In addition, a non-wasting endowment will be provided to the Jefferson County Farmland Protection Board to be used for long-term annual monitoring of the easement conditions and restrictive covenants on the site, and other stewardship activities as deemed necessary. Fence repair funds will also be made available to the land owner for the purposes of repairing and replacing fence around the wetland restoration area to exclude livestock. More information can be found in the grant agreement between The Nature Conservancy and the Jefferson County Farmland Protection Board.

Grant funds awarded in the Grant are to be placed in a non-wasting endowment in which the interest is to be used for long-term annual monitoring of the restrictive covenants and can be used for other stewardship activities in which the Awardee deems necessary (Appendix G). Fence repair funds are to be made available to the owners of the property for the purposes of repairing or replacing fence around the wetland restoration area to exclude livestock from the wetland restoration area. More information can be found in the Private Grant Agreement for the Jefferson County Farmland Protection Board.

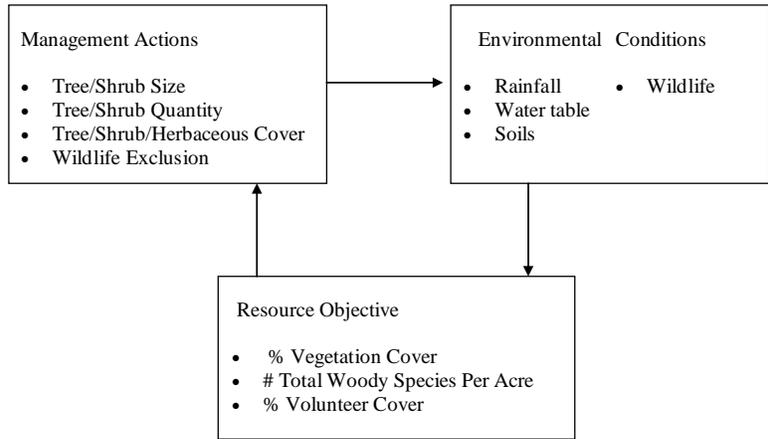
12. Adaptive Management Plan

Canaan Valley Institute will be the responsible party until all success criteria are met and the bank site has been transferred to the Jefferson County Farmland Protection Board. Because Canaan Valley Institute is wholly responsible for the success and management of the project, the iterative process of adaptive management can be more efficient, focused, and flexible while working in conjunction with the expertise and direction of the IRT. This approach will allow objective-driven goals to ensure the success of the project.

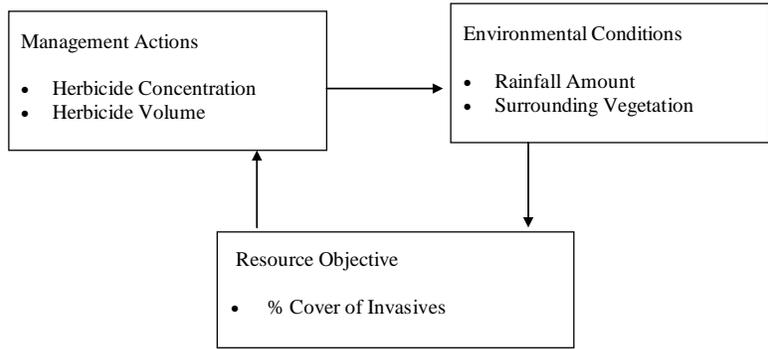
Resource objectives, environmental conditions, and management actions have been summarized for four main categories: vegetation establishment, invasive species control, and wetland physical parameters. The planting plan has been

developed based on regional species presence and on the hydrologic conditions anticipated at the site. Reference wetland data was collected and used to aid in the design of the bank site. If the planting plan, wetland design do not achieve the resource objectives either due to design specifications, construction, environmental conditions, or unforeseen events, adaptive management actions will be taken to ensure the outlined objectives are met.

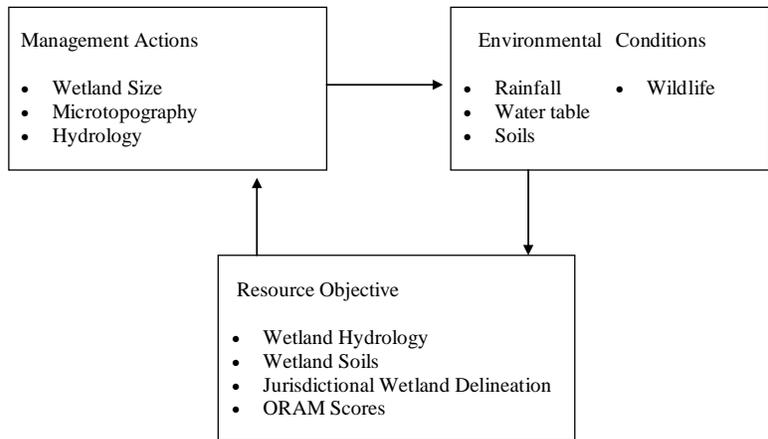
Vegetation:



Invasives:



Wetland Physical Parameters



13. Financial Assurances

As described in the draft WV DEP ILF instrument, 20% of the project funds in the Potomac watershed have been set aside within the ILF account to provide financial assurances that the project will meet its ecological success criteria and the provisions of the real estate instrument.