

Date: \_\_\_\_\_ Project Code: \_\_\_\_\_

Monitor: \_\_\_\_\_ Phone: \_\_\_\_\_ E-mail: \_\_\_\_\_

Stream/Watershed/Sub-Watershed: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Type(s):  Buffer;  Fencing;  Bioengineering;  Basin Retrofit;  Other \_\_\_\_\_

Project Completion Date: Phase I \_\_\_\_\_ Phase 2 \_\_\_\_\_

Approximate number of plants installed (from nursery lists): \_\_\_\_\_

Plant types installed:  Trees;  Shrubs;  Grasses/Wildflowers;  Emergent/Wetland Vegetation

**PLANT SURVEY:**

**Percentage of trees/shrubs planted that are alive and healthy (check all that apply):**

- Less than 25% alive/healthy;  26-50% alive/healthy  51-75% alive/healthy;  Greater than 75% alive/healthy
- Green leaves present
- Budding present
- Flowering/Fruiting present
- Trees/Shrubs increasing in size

Status of Live Stakes (if planted): \_\_\_\_\_

Comments: \_\_\_\_\_

**Damage to Plants:**

Type of Impact	Extent of Impact (none-low-med-high)	Comments/Description
Herbivory (indicate deer or rodent damage)		
Girdling of trunk (rodent damage or deer rub)		
Fungus/Disease/Leaf Die Back		
Mowing or other man-made impacts (trampling)		
Flood/storm damage (uprooted plants)		
Invasive plant competition		
Poor planting technique		
Unknown/Other:		

Additional Comments: \_\_\_\_\_

**INVASIVE PLANT SPECIES:**

**Are there invasive plant species present in the project area?**

Yes;  No **Comments:** \_\_\_\_\_

**Are there invasive plant species near the project but not yet established in the project area?**

Yes;  No **Comments:** \_\_\_\_\_

**If invasive plant species are present, please specify type and extent of colonization below:**

Invasive Plant	Extent of Damage (none-low-medium-high)
Multiflora rose (S) <i>(Rosa multiflora)</i>	
Japanese honeysuckle <i>(Lonicera japonica)</i> (V)	
Oriental bittersweet (V) <i>(Celastrus orbiculatus)</i>	
Purple loosestrife (H) <i>(Lythrum salicaria)</i>	
Lesser celandine (H) <i>(Ranunculus ficaria)</i>	
Norway maple (T) <i>(Acer platanoides)</i>	

Invasive Plant	Extent of Damage (low-medium-high)
English Ivy (V) <i>(Hedera helix)</i>	
Common reed (H) <i>(Phragmites australis)</i>	
Japanese knotweed (H) <i>(Polygonum cuspidatum)</i>	
Mile-a-minute (V) <i>(Polygonum perfoliatum)</i>	
Garlic mustard (H) <i>(Alliaria petiolata)</i>	
Others:	

This is not a comprehensive list of invasives. Refer to the NPS Handbook for other invaders.  
S= shrub; V= vine; H= herbaceous layer; T= tree

**BIOENGINEERING PHYSICAL SURVEY (IF APPLICABLE):**

**Erosion Control Matting: (check all that apply)**

- Intact/pinned down
- Torn up/removed
- Erosion under matting
- Seed mix/grasses growing in matting
- Bare earth under matting
- Live stakes/plants growing in matting

**Stabilization Materials/Structures (branch packs, fascines, coir logs, rock) Are: (check all that apply)**

- Intact/staked down
- Torn up/removed
- Erosion behind log
- Herbaceous plugs growing in materials
- No vegetation growing in materials
- Live stakes/plants growing in materials

**Erosion is Occurring:  
Vertically**

- Toe of slope
- Middle of slope
- Top of slope

**Horizontally**

- Upstream end of project reach
- Middle of project reach
- Downstream end of project reach

**Approximate extent of area damaged:**

\_\_\_\_\_ (square feet)  
 \_\_\_\_\_ (square feet)  
 \_\_\_\_\_ (square feet)  
 \_\_\_\_\_ (linear feet)  
 \_\_\_\_\_ (linear feet)  
 \_\_\_\_\_ (linear feet)

**Comments on Bioengineering:** \_\_\_\_\_

**STORMWATER RETROFIT SURVEY (IF APPLICABLE):**

**Retrofit Type:**  Naturalization;  Infiltration trench;  Outflow structure;  Berm;  
 Other \_\_\_\_\_

**Is water present in basin:**  3 hrs after rain;  6 hours after rain;  12 hours after rain;  
 24 hours after rain;  Other \_\_\_\_\_

**Are installed retrofit structures intact and functioning?**

Yes;  No; Comments: \_\_\_\_\_

**Do intake and outfall structures appear to be working?**

Yes;  No; Comments: \_\_\_\_\_

**Is there accumulated sediment present in the basin/adhering to vegetation?**

Yes;  No; Comments: \_\_\_\_\_

**Is any maintenance needed for proper functioning of retrofit structures (i.e., sediment removal)?**

Yes;  No; Needed Maintenance: \_\_\_\_\_

**Receiving Stream Characteristics**

**Is the stormwater discharge eroding the banks of the receiving stream?**

Yes;  No; Comments: \_\_\_\_\_

**Substrate Composition of Upstream Riffle**

**Dominant Substrate:**  Bedrock;  Boulder;  Cobble;  Gravel;  Sand;  /Silt/Clay/Mud

**Sub-Dominant Substrate:**  Bedrock;  Boulder;  Cobble;  Gravel;  Sand;  /Silt/Clay/Mud

**Riffle Consolidation:**  Loose;  Moderate;  Difficult to dislodge

**Substrate Composition of Downstream Riffle**

**Dominant Substrate:**  Bedrock;  Boulder;  Cobble;  Gravel;  Sand;  /Silt/Clay/Mud

**Sub-Dominant Substrate:**  Bedrock;  Boulder;  Cobble;  Gravel;  Sand;  /Silt/Clay/Mud

**Riffle Consolidation:**  Loose;  Moderate;  Difficult to dislodge

**Additional Comments:** \_\_\_\_\_

\_\_\_\_\_

**List Recommended Maintenance Activities:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**List Maintenance Actions Taken or Planned:**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Send copy of datasheets and photos to Delaware Riverkeeper Network (DRN) at P.O. Box 459 St. Peters, PA 19470 and to Project Partners listed in Project Folder.

## RESTORATION PROJECT SURVEY SCORES (1-10):

See scoring descriptions on back to rate each of the six components. Consider only the restoration project area in this assessment. Rate only those elements appropriate to the restoration project.

COMMENTS:

RESTORATION BUFFER WIDTH  
(LEFT BANK FACING UPSTREAM)

\_\_\_\_\_

\_\_\_\_\_

RESTORATION BUFFER WIDTH  
(RIGHT BANK FACING UPSTREAM)

\_\_\_\_\_

\_\_\_\_\_

TREES AND SHRUBS

\_\_\_\_\_

\_\_\_\_\_

HERBACEOUS VEGETATION

\_\_\_\_\_

\_\_\_\_\_

BIODIVERSITY

\_\_\_\_\_

\_\_\_\_\_

(List native species present if known)

EXOTIC INVASIVE VEGETATION

\_\_\_\_\_

\_\_\_\_\_

BIOENGINEERING TECHNIQUES

\_\_\_\_\_

\_\_\_\_\_

<b>TOTAL POINTS</b>		<b>&lt;4.0 = POOR</b> <b>4.1-6.0 = FAIR</b> <b>6.1-8.9 = GOOD</b> <b>&gt;9.0 = EXCELLENT</b>
<b>NUMBER OF CATEGORIES SCORED</b>		
<b>OVERALL SCORE (DIVIDE TOTAL POINTS BY # OF CATEGORIES SCORED)</b>		

**Comments & Observations:** (Describe any notable conditions about the restoration project not covered above) \_\_\_\_\_

\_\_\_\_\_

## SCORING DESCRIPTIONS FOR RESTORATION PROJECT SURVEY

Each assessment element is rated with a value of 1 to 10. Record the score that best fits the observations you make based on the narrative descriptions provided.

### RESTORATION BUFFER WIDTH

Planted vegetation extends >70 feet from the active channel	Planted vegetation extends 50 feet from the active channel	Planted vegetation extends 35 feet from the active channel	Planted vegetation extends 15 feet from the active channel	Planted vegetation extends less than 1 foot from active channel
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>

### TREES AND SHRUBS - NOTE GAPS WITH NO TREES IN PROJECT AREA (COULD INDICATE MORTALITY)

>90% of the project area has trees and shrubs that are healthy and growing	~70% of the project area has trees and shrubs that are healthy and growing	~50% of the project area has trees and shrubs that are healthy and growing	~30% of the project area has trees and shrubs that are healthy and growing	<10% of the project area has trees and shrubs that are healthy and growing
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>

### HERBACEOUS VEGETATION

>90% of herbaceous vegetation is green and healthy with a height of at least six inches	~70% of herbaceous vegetation is green and healthy with a height of at least six inches	~50% of herbaceous vegetation is green and healthy with a height of at least six inches	~30% of herbaceous vegetation is green and healthy with a height of at least six inches	<10% of herbaceous vegetation is green and healthy with a height of at least six inches
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>

### BIODIVERSITY - LIST SPECIES IF YOU CAN IDENTIFY (DO NOT INCLUDE INVASIVE SPECIES IN COUNT)

There are at least 16 different native plant species growing in the project area	There are at least 12 different native plant species growing in the project area	There are at least 8 different native plant species growing in the project area	There are at least 4 different native plant species growing in the project area	There is only one native plant species growing in the project area
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>

### EXOTIC INVASIVE VEGETATION

No invasives present in the project area or general vicinity around project area	~25% of project area has invasive species present and competing with planted vegetation	~50% of project area has invasive species present and competing with planted vegetation	~75% of project area has invasive species present and competing with planted vegetation	Invasive species dominate the project area – few natives unaffected by invasives
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>

### BIOENGINEERING TECHNIQUES – ONLY APPLICABLE TO PROJECTS WITH BANK REGRADING

>90% of all bioengineering materials intact and functioning; plants well-established	~70% of bioengineering materials intact; minor patches of erosion; majority of plants established	~50% of bioengineering materials intact; erosion common and compromising planted vegetation	~30% of bioengineering materials intact; high erosion areas with few surviving plants	<10% of bioengineering materials intact; bare soil, gullies and erosion dominate area
<b>10</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>1</b>



### Project Site Diagram

Use this sheet or project plan maps to record information. Include things like: general contour of project area and stream, stream flow direction, photopoint locations and orientation of photo, cross section locations, planting locations, biolog and matting locations, problem areas, major invasive plant infestations, and other land marks. Include an approximate scale.

