PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

STREAM NAME: S. JHS-05
STREAM CLASS: Ephemeral
INVESTIGATORS: DLM / LAU
DATE: 11/24/12
TIME: 2:30 PM
24 HOUR (I.E. 15:45)
MM/DD/yr
LOCATION: Somerset County, PA
LATITUDE: LONGITUDE: RIVERMILE: RIVER BASIN:
STATION #:

WEATHER CONDITIONS
NOW
STORM (HEAVY RAIN) RAIN (STEADY RAIN)
SHOWERS (INTERMITTENT)
% CLOUD COVER
CLEAR/SUNNY
PAST 24 HOURS
AIR TEMPERATURE: 73° F
OTHER
HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? YES / NO

SITE LOCATION MAP
PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

S - JHS-06

FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.

CHANNEL TOP WIDTH (E)
FLOW DEPTH (I)
BOTTOM WIDTH (F)
CHANNEL DEPTH (G)

RIGHT BANK (FACE DOWNSTREAM)
HORIZONTAL (A):
VERTICAL (B):
LEFT BANK (FACE DOWNSTREAM)
HORIZONTAL (C):
VERTICAL (D):
TOP WIDTH (E):
BOTTOM WIDTH (F):
OVERALL DEPTH (G):
ORDINARY HIGH WATER MARK (H):
FLOW DEPTH (I):
APPROX. SURFACE VELOCITY:

STREAM SUBSYSTEM
PERENNIAL
INTERMITTENT
EPHEMERAL
TIDAL

STREAM ORIGIN
GLACIAL
NON-GLACIAL MONTANE
SWAMP AND BOG

STREAM TYPE
COLD WATER
WARM WATER

CATCHMENT AREA:
SQ. MI.

SPRING FED
MIXTURE OF ORIGINS
OTHER
P. PRECIPITATION/STORMWATER
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

<table>
<thead>
<tr>
<th>WATERSHED FEATURES</th>
<th>PREDOMINANT SURROUNDING LANDUSE</th>
<th>LOCAL WATERSHED NPS POLLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOREST</td>
<td>COMMERCIAL</td>
<td>NO EVIDENCE</td>
</tr>
<tr>
<td>FIELD/PASTURE</td>
<td>INDUSTRIAL</td>
<td>SOME POTENTIAL SOURCES</td>
</tr>
<tr>
<td>AGRICULTURAL</td>
<td>OTHER</td>
<td>OBVIOUS SOURCES</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>LOCAL WATERSHED EROSION</td>
<td>MODERATE</td>
</tr>
</tbody>
</table>

**RIPARIAN VEG. (18 M. BUFFER)**

INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT

- TREES
- SHRUBS
- GRASSES
- HERBACEOUS

DOMINANT SPECIES PRESENT?

- BIRCH, NELLY

**INSTREAM FEATURES**

<table>
<thead>
<tr>
<th>STUDY LENGTH</th>
<th>FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANOPY COVER</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STREAM WIDTH</th>
<th>FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN</td>
<td>PARTLY OPEN</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STUDY REACH AREA</th>
<th>AC.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EST. DRAINAGE AREA SQ. MI.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MACROINVERTEBRATES PRESENT?</th>
<th>YES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES</td>
<td></td>
</tr>
</tbody>
</table>

| RIFFLE | % |
| POOL |

| TAXA PRESENT |
| CHANNELIZED | YES | NO |

| DAM PRESENT |
| YES | NO |

**LARGE WOODY DEBRIS**

| LWD | FT. |
| DENSITY OF LWD | FT. |/MI. |

**INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT**

- ROOTED EMERGENT
- FLOATING ALGAE
- ROOTED FLOATING

**DOMINANT SPECIES PRESENT**

- Slightly Turbid

**PORTION OF THE REACH WITH AQUATIC VEGETATION**

**WATER QUALITY**

| TEMPERATURE | °C |
| SPEC. CONDUCTANCE | |
| DISSOLVED OXYGEN | |
| pH | |
| TURBIDITY | |

**WATER ODORS**

- NORMAL/NONE
- SEWAGE
- CHEMICAL
- OTHER

**WATER SURFACE OILS**

- SLICK
- GLOBES
- FLECKS
- NONE
- OTHER

**TURBIDITY (IF NOT MEASURED)**

- CLEAR
- SLIGHTLY TURBID
- STAINED

**SEDIMENT/ SUBSTRATE**

<table>
<thead>
<tr>
<th>ODORS</th>
<th>NORMAL</th>
<th>SEWAGE</th>
<th>PETROLEUM</th>
<th>ANAEROBIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPOSITS</td>
<td>SLUDGE</td>
<td>PAPER FIBER</td>
<td>SAWDUST</td>
<td></td>
</tr>
<tr>
<td>UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR?</td>
<td>YES</td>
<td>NO</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>DIAMETER</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEDROCK</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>BOULDER</td>
<td>256 MM (10&quot;)</td>
<td></td>
</tr>
<tr>
<td>COBBLE</td>
<td>64 - 256 MM (2.5 - 10&quot;)</td>
<td></td>
</tr>
<tr>
<td>GRAVEL</td>
<td>2 - 64 MM (0.1 - 2.5&quot;)</td>
<td></td>
</tr>
<tr>
<td>SAND</td>
<td>0.06 -0.2 MM (GRITTY)</td>
<td></td>
</tr>
<tr>
<td>SILT</td>
<td>0.004 - 0.06 MM</td>
<td>50</td>
</tr>
<tr>
<td>CLAY</td>
<td>&lt;0.004 MM (SLICK)</td>
<td>50</td>
</tr>
</tbody>
</table>

**ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>CHARACTERISTIC</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETRITUS</td>
<td>STICKS, WOOD, COARSE PLANT MATERIALS (CPOM)</td>
<td>100%</td>
</tr>
<tr>
<td>MUCK - MUD</td>
<td>BLACK, VERY FINE ORGANIC (FPOM)</td>
<td></td>
</tr>
<tr>
<td>MARL</td>
<td>GREY, SHELL FRAGMENTS</td>
<td></td>
</tr>
</tbody>
</table>
## Riverine Assessment Form

### Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in weedy channels classified as intermittent or perennial

### Project Information

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Name</th>
<th>Locality</th>
<th>HUC</th>
<th>Date</th>
<th>AA #</th>
<th>AA Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A115</td>
<td>Pre Allegheny Tn.</td>
<td></td>
<td></td>
<td>05.14.12</td>
<td>5.79.03</td>
<td></td>
</tr>
</tbody>
</table>

### Name(s) of Evaluator(s)

- DIM, JU

### Site Name and Information

- **Site Name:** S. JHS-05
- **Site Location:** WAIN TO STONEY CAVERNS RIVER

### 1. Riparian Vegetation

**Assess the floodplain along the entire SAR (visual estimates of area coverage from aerial photos with field-verified acceptable).**

<table>
<thead>
<tr>
<th>Conditional Category</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Riparian Vegetation</strong></td>
<td>Tree stratum (dbh &gt; 3 inches) present, with &lt; 50% tree canopy cover</td>
<td>Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 50% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 60% tree canopy cover and either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover</td>
<td>Low Poor: Laminated, non-maintained areas, nanoseeds, bare soil, impervious surfaces, impervious surfaces, bare soil, impervious surfaces.</td>
</tr>
</tbody>
</table>

### Conditional Category Scores

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

1. **Identify Condition Category areas along the floodplain using the descriptors above.**
2. **Estimate the % area within each condition category.**

#### Right Side

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50%</td>
<td>11</td>
</tr>
</tbody>
</table>

#### Left Side

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50%</td>
<td>11</td>
</tr>
</tbody>
</table>

### 2. Riparian Zone of Influence

**Assess land cover along both sides, 100 feet from edge of floodplain into the upland along the entire SAR (visual estimates of area coverage from aerial photos with field-verified acceptable).**

<table>
<thead>
<tr>
<th>Conditional Category</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Riparian ZOI</strong></td>
<td>Tree stratum (dbh &gt; 3 inches) present, with &lt; 50% tree canopy cover</td>
<td>Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 50% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
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### Conditional Category Scores

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
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<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

1. **Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.**
2. **Estimate the % area within each condition category.**

#### Right Side

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50%</td>
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<tbody>
<tr>
<td>1.50%</td>
<td>11</td>
</tr>
</tbody>
</table>

### Comments:

ZOI IS COMPRised of Upland, deciduous forest.

### Riparian Ecotone Condition Index

**RECI**

<table>
<thead>
<tr>
<th>NOTE: The CIs and RECI should be rounded to 2 decimal places.</th>
<th>THE RIPARIAN ECOTONE CONDITION INDEX (RECI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECI = (Sum of CIs)/2</td>
<td>0.70</td>
</tr>
</tbody>
</table>

---

XXX-XXXX-XXX / Draft May 23, 2012 / Page 14
S-JHS-05 overview, facing upstream.

S-JHS-05 overview, facing downstream.
STREAM SYSTEM: PERENNIAL

STREAM ORIGINS:
- Glacial
- Intermittent

STREAM SUBSYSTEM:
- Spring Fed
- Mixture of Origins
- Other

STREAM TYPE:
- Cold Water Catchment Area
- Warm Water Catchment Area

FLOW DEPTH:
- 0.25 ft.

ORDINARY HIGH WATER MARK:
- (H)

CHANNEL DEPTH:
- (G)

FLOW DEPTH:
- (f)

BOTTOM WIDTH:
- (d)

CHANNEL TOP WIDTH:
- (e)

ORDINARY HIGH WATER MARK:
- (d)

FOR LINEAR PROJECTS PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.

WEATHER CONDITIONS:
- Storm (Intermittent)
- Showers (Steady Rain)

LATITUDE:
- 39° 45' 12" N

LONGITUDE:
- 115° 45' 0" W

TIME:
- 2:35 PM

RAIN (STORM)
- 5/16" 1/2" 1/4" 3/16" 1/8"

HOURS PAST 24:
- 75

AIR TEMPERATURE:
- 75°F

HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS?
- Yes

STORMWATER QUALITY FIELD DATA SHEET

CLIENT PROJECT:
- Somerset Canal PA

INVESTIGATOR:
- Magnificent Island

STATION #:
- 0.12

PTC:
- 0.06

CLIENT:
- Client 1

STORAGE:
- 0

RIVER BASIN:
- 0

LOCATION:
- 0

DATE:
- 5/15/06

ELEVATION:
- 1649
Riverine Assessment Form
Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in nade channels classified as intermittent or perennial

Project # | Project Name | Locality | HUC | Date | AA # | AA length
--- | --- | --- | --- | --- | --- | ---
A11 | Rh Allsworn Trou | | | | | |

Name(s) of Evaluator(s) | Steam Name and Information | DLM C. LAM.
S-JHS.06 | S-JHS.06 | S-JHS.06

1. RIPARIAN VEGETATION: Assess the footprint along the entire SAR (visual estimates of aerial coverage from aerial photos with field verified acceptable)

**Conditional Category**

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 50% to 60% tree canopy cover and containing both herbaceous and shrub layers or in non-maintained understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 50% tree canopy cover and containing both herbaceous and shrub layers or in non-maintained understory.</td>
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<td></td>
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<td>High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub or tree layer (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover</td>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree stratum, hay pastures, open water, if present, tree stratum (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover with maintained understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scores**

<table>
<thead>
<tr>
<th></th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Side</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Left Side</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 130 feet from edge of floodplain into the upland along the entire SAR (visual estimates of aerial coverage from aerial photos with field verified acceptable)

**Conditional Category**

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
<th>Suboptimal</th>
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<td></td>
<td></td>
<td></td>
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**Scores**

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<tr>
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<td>12</td>
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<td>10</td>
</tr>
</tbody>
</table>

**RIPARIAN ECOTONE CONDITION INDEX**

**NOTE:** The CIs and RECI should be rounded to 2 decimal places.

THE RIPARIAN ECOTONE CONDITION INDEX (RECI)

RECI = (Sum of CIs/2)
S-JHS-06 overview, facing upstream.

S-JHS-06 overview, facing downstream.
STREAM S-JHS-07
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

**WATERSHED FEATURES**
- Predominant Surrounding Landuse:
  - Forest
  - Commercial
  - Agricultural
  - Residential
- Local Watershed NPS Pollution:
  - No Evidence
  - Some Potential Sources
  - Obvious Sources
  - Heavy

**RIPARIAN VEG. (18 M. BUFFER)**
- Indicate the Dominant Vegetation Type and Record the Dominant Species Present:
  - Black, Leaf Birch

**INSTREAM FEATURES**
- Study Length:
  - 0.7 ft
- Study Width:
  - 2.0 ft
- Canopy Cover:
  - Open

**LARGE WOODY DEBRIS**
- LWD:
  - 0 ft
- Density of LWD:
  - 5 ft

**AQUATIC VEGETATION**
- Indicate the Dominant Type and Record the Dominant Species Present:
  - Rooted Emergent
  - Attached Algae

**WATER QUALITY**
- Temperature:
  - 65°C
- Dissolved Oxygen:
  - Normal
- Conductance:
  - None
- pH:
  - 7
- Turbidity:
  - Clear
- Water Odors:
  - Chemical
- Water Surface Oils:
  - Sheen- Oily
- TURBIDITY (IF NOT MEASURED):
  - Slightly Turbid
- SDI Instrument Used:
  - Yes

**SEDIMENT/SUBSTRATE**
- Odors:
  - Normal
- Substrate Deposits:
  - Sludge
- Silt:
  - Moderate
- Sand:
  - 0.05 - 0.2 mm (Gritty)
- Clay:
  - <0.004 mm (Slick)

**INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td>10%</td>
<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (FPOM)</td>
<td>80%</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 mm</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 mm</td>
<td>10%</td>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
<td>80%</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 mm</td>
<td>50%</td>
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<td></td>
</tr>
<tr>
<td>Sand</td>
<td>0.05 - 0.2 mm (Gritty)</td>
<td>50%</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.06 mm</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 mm (Slick)</td>
<td>40%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)**

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<th>Substrate Type</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Marl</td>
<td>Grey, Shell Fragments</td>
<td>40%</td>
</tr>
</tbody>
</table>

---

STREAM ID: S-JHS-07
S-JHS-07 overview, facing upstream.

S-JHS-07 overview, facing downstream.
STREAM S-JHS-08
### Physical Characterization/Water Quality Field Data Sheet

**Watershed Features**
- Predominant Surrounding Landuse
  - Forest [✓]
  - Field/Pasture [✓]
  - Agricultural [✓]
  - Residential
  - Other
- Local Watershed NPS Pollution
  - No Evidence [✓]
  - Obvious Sources
  - Some Potential Sources
  - Heavy

**Riparian Vég. (18 M. Buffer)**
- Indicate the Dominant Type and Record the Dominant Species Present
  - Shrubs [✓]
  - Grasses [✓]
  - Herbaceous

**Instream Features**
- Study Length [200 ft.]
- Study Width [30 ft.]
- Study Reach Area
  - Acres [10]
  - Sq. Meters [5000]
- Properties of Reach, Stream Morphology Types
  - Riffle [40%]
  - Pool [60%]
- Channelized [✓]
- Dam Present [No

**Large Woody Debris**
- LWD [170 ft.]
- Density of LWD

**Aquatic Vegetation**
- Indicate the Dominant Type and Record the Dominant Species Present
  - Rooted Emergent [✓]
  - Rooted Submerged [✓]
  - Floating Algae [✓]
  - Attached Algae
  - Free Floating

**Water Quality**
- Temperature [82°F]
- Spec. Conductance [10 µS/cm]
- Dissolved Oxygen [6 mg/L]
- pH [7.2]
- Turbidity [0 NTU]
- WQ Instrument Used
- Water Odors
  - Normal/None [✓]
  - Petroleum
  - Chemical
  - Fishe
  - Other
- Water Surface Oils
  - Slick [✓]
  - Glob [No]
  - Sheen - Oily
  - Flecks
  - Other
  - Turbidity (If Not Measured)
  - Clear [✓]
  - Turbid
  - Stained
- Sediment/Substrate
  - Odors
    - Normal [✓]
    - Sewage
    - Petroleum
    - Other
  - Anaerobic
  - None [✓]
  - Chemical
  - Other
  - Deposits
    - Sludge [✓]
    - Paper Fiber
    - Relict Shells
    - Sand
    - Other
- Oils
  - Absent [✓]
  - Moderate
  - Slight
  - Profuse
- Undersides of Non-Embedded Stones Black in Color? [No]

### Inorganic Substrate Components (Add to 100%)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td></td>
<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (CPOM)</td>
<td>75%</td>
</tr>
<tr>
<td>Boulder</td>
<td>266 MM (10+4)</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobble</td>
<td>64 – 256 MM (2.5 - 10)</td>
<td>50</td>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
<td>25%</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 – 64 MM (0.1 – 2.5)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>0.06 – 0.2 MM (Gritty)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 – 0.05 MM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (Slick)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Organic Substrate Components (May Add to less than 100%)

- Marl
- Grey, Shell Fragments
1. RIPARIAN VEGETATION: Assess the floodplain along the entire SRP (visual estimates of woody cover from aerial photos with field verification acceptable).

### Conditional Category

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Suboptimal:</strong> Riparian areas with two strata (ditch ≥ 3 inches) present, with 50% to 60% tree canopy cover and a maintained undertory, , or a non-maintained undertory.</td>
<td><strong>Low Suboptimal:</strong> Riparian areas with low stratum (ditch ≤ 2 inches) present, with 20% to 30% tree canopy cover and a maintained undertory.</td>
<td><strong>High Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td></td>
</tr>
<tr>
<td><strong>Low Suboptimal:</strong> Riparian areas with low stratum (ditch ≤ 2 inches) present, with 20% to 40% tree canopy cover and a maintained undertory,</td>
<td><strong>Low Suboptimal:</strong> Riparian areas with low stratum (ditch ≤ 2 inches) present, with 20% to 40% tree canopy cover and a maintained undertory,</td>
<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td></td>
</tr>
</tbody>
</table>

### Scores

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>6</td>
<td>10</td>
<td>6</td>
<td>10</td>
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</tr>
<tr>
<td>9</td>
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<tr>
<td>8</td>
<td>4</td>
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<td>1</td>
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<td></td>
</tr>
</tbody>
</table>

2. RIZPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SRP (Visual estimates of woody cover from aerial photos with field verification acceptable).

### Conditional Category

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High Suboptimal:</strong> Riparian areas with two strata (ditch ≥ 3 inches) present, with 50% to 60% tree canopy cover and a maintained undertory,</td>
<td><strong>Low Suboptimal:</strong> Riparian areas with low stratum (ditch ≤ 2 inches) present, with 20% to 30% tree canopy cover and a maintained undertory,</td>
<td><strong>High Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td></td>
</tr>
<tr>
<td><strong>Low Suboptimal:</strong> Riparian areas with low stratum (ditch ≤ 2 inches) present, with 20% to 40% tree canopy cover and a maintained undertory,</td>
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<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td><strong>Low Marginal:</strong> Non-maintained, dense herbaceous vegetation.</td>
<td></td>
</tr>
</tbody>
</table>

### Scores

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
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<tr>
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<tr>
<td>7</td>
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<td>1</td>
<td></td>
<td>1</td>
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<td>1</td>
<td></td>
</tr>
</tbody>
</table>

RIPARIAN ECOTONE CONDITION INDEX

<table>
<thead>
<tr>
<th>RECI</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.35</td>
</tr>
</tbody>
</table>

NOTE: The CIs and RECI should be rounded to 2 decimal places.
S-JHS-08 overview, facing upstream.

S-JHS-08 overview, facing downstream.
**Physical Characterization/Water Quality Field Data Sheet**

<table>
<thead>
<tr>
<th>Watershed Features</th>
<th>Predominant Surrounding Landuse</th>
<th>Local Watershed NPS Pollution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[ ] Forest</td>
<td>[ ] No Evidence</td>
</tr>
<tr>
<td></td>
<td>[ ] Field/Pasture</td>
<td>[ ] Some Potential Sources</td>
</tr>
<tr>
<td></td>
<td>[ ] Agricultural</td>
<td>[ ] Obvious Sources</td>
</tr>
<tr>
<td></td>
<td>[ ] Residential</td>
<td>[ ] Local Watershed Erosion</td>
</tr>
<tr>
<td>Riparian Veg. (18 M. Buffer)</td>
<td>[ ] Trees</td>
<td>[ ] None</td>
</tr>
<tr>
<td></td>
<td>[ ] Shrubs</td>
<td>[ ] Moderate</td>
</tr>
<tr>
<td></td>
<td>[ ] Grasses</td>
<td>[ ] Heavy</td>
</tr>
<tr>
<td></td>
<td>[ ] Herbaceous</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

**Instream Features**

- **Study Length (ft.):**
- **Canopy Cover:**
  - [ ] Open
  - [ ] Partly Open
  - [ ] Partly Shaded
  - [ ] Shaded

**Aquatic Vegetation**

- **Rooted Emergent:**
- **Attached Algae:**
- **Floating Algae:**
- **Free Floating:**
- **Dominant Species Present:**

**Water Quality**

- **Temperature:**
- **Specific Conductance:**
- **Dissolved Oxygen:**
- **pH:**
- **Turbidity:**
- **Water Odors:**
  - [ ] Normal/None
  - [ ] Sewage
  - [ ] Petroleum
  - [ ] Chemical
  - [ ] Fishy
  - [ ] Other
- **Water Surface Oils:**
  - [ ] Slick
  - [ ] Sheen - Oily
  - [ ] Globs
  - [ ] Flocks
  - [ ] None
  - [ ] Other
- **Turbidity (if not measured):**
  - [ ] Clear
  - [ ] Slightly Turbid
  - [ ] Turbid
  - [ ] Opaque
  - [ ] Stained
  - [ ] Other

**Sediment/Substrate**

- **Odors:**
  - [ ] Normal
  - [ ] Sewage
  - [ ] Petroleum
  - [ ] Chemical
  - [ ] Other
- **Absence:**
- [ ] Slight
- [ ] Profuse

**Inorganic Substrate Components (Add to 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 mm</td>
<td>100%</td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 mm (2.5 - 10)</td>
<td>-</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 mm (0.1 - 2.5)</td>
<td>-</td>
</tr>
<tr>
<td>Sand</td>
<td>0.05 - 0.2 mm (gritty)</td>
<td>90</td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.06 mm</td>
<td>20</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 mm (slick)</td>
<td>-</td>
</tr>
</tbody>
</table>

**Organic Substrate Components (May Add to Less Than 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (CPOM)</td>
<td>leaves</td>
</tr>
<tr>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
<td>mud</td>
</tr>
<tr>
<td>Marl</td>
<td>Grey, Shell Fragments</td>
<td>-</td>
</tr>
</tbody>
</table>
Riverine Assessment Form
Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in wadeable channels classified as intermittent or perennial

Project # | Project Name | Locality | HUC | Date | AA # | AA length
--- | --- | --- | --- | --- | --- | ---

Name(s) of Evaluator(s) | Steam Name and Information
--- | ---

1. RIPARIAN VEGETATION: Assess the fish habitat along the entire SRP (visual estimates of areal cover are field verified acceptable).

<table>
<thead>
<tr>
<th>Conditional Category</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riparian Vegetation (Floodplain)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 50% to 60% tree canopy cover containing both herbaceous and shrub layers or a non-utilitarian understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 25% to 50% tree canopy cover containing both herbaceous and shrub layers or a non-utilitarian understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 1 inches) present, with &gt;30% tree canopy cover.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian area lacking tree stratum, has production, ponds, open water if present, tree stratum (dbh &gt; 1 inches) present, with &gt;30% tree canopy cover with maintained understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scores: High Low High Low High Low
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each condition category in the blocks below. Ensure the sum of % Riparian Blocks equal 100

Right Side
<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>14</td>
</tr>
<tr>
<td>0.25</td>
<td>4</td>
</tr>
</tbody>
</table>

Left Side
<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>14</td>
</tr>
<tr>
<td>0.25</td>
<td>4</td>
</tr>
</tbody>
</table>

CIT = Sum (Rt and L Sub-Index) / 2

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SRP (visual estimates of areal cover from aerial photos with field verified acceptable).

<table>
<thead>
<tr>
<th>Conditional Category</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riparian ZOI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 50% to 60% tree canopy cover containing both herbaceous and shrub layers or a non-utilitarian understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 25% to 50% tree canopy cover containing both herbaceous and shrub layers or a non-utilitarian understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 1 inches) present, with &gt;30% tree canopy cover.</td>
<td></td>
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</tr>
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<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian area lacking tree stratum, has production, ponds, open water if present, tree stratum (dbh &gt; 1 inches) present, with &gt;30% tree canopy cover with maintained understory.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Score: High Low High Low High Low
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian ZOI Blocks equal 100

Right Side
<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.75</td>
<td>14</td>
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Left Side
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<th>% Riparian Area</th>
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<tr>
<td>0.75</td>
<td>14</td>
</tr>
<tr>
<td>0.25</td>
<td>4</td>
</tr>
</tbody>
</table>

CIT = Sum (Rt and L Sub-Index) / 2

Comments:
ZOI IS UPLAND, DISENGAGED RESULT OF ELECTRICAL POWERINGS NOW.

RIPARIAN ECOTONE CONDITION INDEX

NOTE: The CIs and RECs should be rounded to 2 decimal places.

XXX-XXXX-XXX / Draft May 23, 2012 / Page 14
S-JHS-09 overview, facing upstream.

S-JHS-09 overview, facing downstream.
PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

STREAM NAME: JHS-10

STREAM CLASS: PERENNIAL

INVESTIGATORS: JHH LAU

DATE: 5/17/12

TIME: 12:58

MM/DD/YR: 24 HOUR (i.e. 16:45)

LOCATION: Somerset County, PA

LATITUDE: LONGITUDE: RIVERMILE:

RIVER BASIN: STORER #

CLIENT: PTC

PROJECT: Allegheny Tunnel

HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? [YES/NO]

WEATHER CONDITIONS:

STORM (HEAVY RAIN) RAIN (STEADY RAIN) SHOWERS (INTERMITTENT)

% CLOUD COVER CLEAR/SUNNY

AIR TEMPERATURE: 70 °F

OTHER

SITE LOCATION MAP

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.

CHANNEL TOP WIDTH (E)

CHANNEL DEPTH (C)

FLOW DEPTH (I)

BOTTOM WIDTH (F)

ORDINARY HIGH WATER MARK (G)

CHANNEL DIMENSIONS

TOP WIDTH (E)

BOTTOM WIDTH (F)

OVERALL DEPTH (G)

ORDINARY HIGH WATER MARK (H)

FLOW DEPTH (I)

APPROX. SURFACE VELOCITY

STREAM SUBSYSTEM

PERENNIAL: INTERMITTENT: TIDAL

EPHEMERAL

STREAM ORIGIN

GLACIAL: NON-GLACIAL MONTANE

SWAMP AND BOG

STREAM TYPE

COLD WATER

WARM WATER

CATCHMENT AREA

SQUARE MI.

SPRING FED

MIXTURE OF ORIGINS

OTHER
# Physical Characterization/Water Quality Field Data Sheet

## Watershed Features
- **Predominant Surrounding Land Use**
  - Forest
  - Field/Pasture
  - Agricultural
  - Residential
  - Commercial
  - Industrial
  - Other
  - None
- **Local Watershed NPS Pollution**
  - No Evidence
  - Some Potential Sources
  - Obvious Sources
- **Local Watershed Erosion**
  - None
  - Moderate
  - Heavy

## Riparian Veg. (18 M. Buffer)
- **Indicate the Dominant Type and Record the Dominant Species Present**
  - Trees
  - Shrubs
  - Grasses
  - Herbaceous
- **Dominant Species Present**
  - *Bunch Grasses*

## Instream Features
- **Study Length**
  - FT.
- **Canopy Cover**
  - Open
  - Partly Open
  - Partly Shaded
  - Shaded
- **Properties of Reach, Stream Morphology Types**
  - Channelized
  - Yes
  - No
  - Dam Present
  - Yes
  - No

## Aquatic Vegetation
- **Indicate the Dominant Type and Record the Dominant Species Present**
  - Rooted Emergent
  - Rooted Submerged
  - Rooted Floating
  - Attached Algae
  - Free Floating
- **Dominant Species Present**
- **Portion of the Reach with Aquatic Vegetation**

## Water Quality
- **Water Odors**
  - Normal/None
  - Sewage
  - Chemical
  - Fishty
  - Other
- **Water Surface Oils**
  - Slick
  - Globs
  - None
  - Flecks
  - Other
- **Turbidity (If Not Measured)**
  - Clear
  - Turbid
  - Slightly Turbid
  - Stained

## Sediment/Substrate
- **Sediment Type**
  - Normal
  - Sewage
  - Petroleum
  - Other
- **Silt**
  - Absent
  - Moderate
  - Profuse

## Inorganic Substrate Components (Add to 100%)
<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 MM (10&quot;)</td>
<td>-</td>
</tr>
<tr>
<td>Cobble</td>
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<td>-</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 MM (0.1 - 2.5&quot;)</td>
<td>-</td>
</tr>
<tr>
<td>Sand</td>
<td>0.06 - 0.2 MM (Gritty)</td>
<td>-</td>
</tr>
<tr>
<td>Silt</td>
<td>0.001 - 0.00 MM</td>
<td>10</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (Slick)</td>
<td>15</td>
</tr>
</tbody>
</table>

## Organic Substrate Components (May Add to Less Than 100%)
<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (CPOM)</td>
<td>35</td>
</tr>
<tr>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
<td>-</td>
</tr>
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<td>Grey, Shell Fragments</td>
<td>-</td>
</tr>
</tbody>
</table>
### Riverine Assessment Form

#### Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

For use in reachable channels classified as intermittent or perennial

**Project #**

**Project Name**

**Locality**

**HUC**

**Date**

**AA #**

**AA length**

**Name(s) of Evaluator(s)**

**Steam Name and Information**

---

#### 1. RIPARIAN VEGETATION: Assess the footprint along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable)

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Optimal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 10% to 30% tree canopy cover and a maintained understory.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>High Marginal: Non-maintained dense herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Marginal: Non-maintained dense herbaceous vegetation with shrub and stream stratum, hay production, ponds, open water. If present, tree stratum plant height &gt;3 inches present, with &lt;30% tree canopy cover.</td>
<td></td>
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</tr>
</tbody>
</table>

**Scores**

<table>
<thead>
<tr>
<th>High</th>
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</tr>
</tbody>
</table>

**NOTES>>**

1. Identify Condition Category areas along the Floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sum of % Riparian Blocks equal 100

**Right Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>16</td>
</tr>
</tbody>
</table>

**Left Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
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</tr>
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<tbody>
<tr>
<td>1.00</td>
<td>16</td>
</tr>
</tbody>
</table>

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#### 2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along each side, 100 feet from edge of floodplain into the upland along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable)

<table>
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<tr>
<th>Riparian ZOI</th>
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**NOTES>>**

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian ZOI Blocks equal 100

**Right Side**

<table>
<thead>
<tr>
<th>% Riparian ZOI</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>100</td>
</tr>
</tbody>
</table>

**Left Side**

<table>
<thead>
<tr>
<th>% Riparian ZOI</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>100</td>
</tr>
</tbody>
</table>

---

**Comments:**

ZOI IS UPLAND DECIDUOUS FOREST.

---

### RIVERIAN ECOTONE CONDITION INDEX

**RECI**

**NOTE:** The Reis and RECI should be rounded to 2 decimal places.

---

**The Riparian Ecotone Condition Index (RECI)**

RECI = (Sum of CIs) / 2

---

**XXX-XXXX-XXX / Draft May 23, 2012 / Page 14**
S-JHS-10 overview, facing upstream.

S-JHS-10 overview, facing downstream.
PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

STREAM NAME: JHS-11
STREAM CLASS: PERENNIAL

INVESTIGATORS: JSH, LAU
DATE: 6/17/12
TIME: 12:45
LOCATION: Somerset County, PA

LATITUDE: LONGITUDE: RIVERMILE: STORET:

HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS? [ ] YES [ ] NO

WEATHER CONDITIONS:
- STORM (HEAVY RAIN)
- RAIN (STEADY PAIN)
- SHOWERS (INTERMITTENT)
- % CLOUD COVER
- CLEAR/SUNNY

AIR TEMPERATURE: 70 °F

SITE LOCATION MAP:
- PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.

CHANNEL TOP WIDTH (E)

CHANNEL DEPTH (G)

FLOW DEPTH (I)

BOTTOM WIDTH (F)

ORDINARY HIGH WATER MARK (H)

CHANNEL DIMENSIONS:
- TOP WIDTH (E)
- BOTTOM WIDTH (F)
- OVERALL DEPTH (G)
- ORDINARY HIGH WATER MARK (H)
- FLOW DEPTH (I)
- APPROX. SURFACE VELOCITY

STREAM CHARACTERIZATION:
- COLD WATER
- WARM WATER

STREAM ORIGIN:
- GLACIAL
- NON-GLACIAL, MONTANE
- SWAMP AND BOG

STREAM TYPE:
- SPRING FED
- MIXTURE OF ORIGINS
- OTHER

CATCHMENT AREA:
- SQ. MI.

CLIENT:
- Allegheny Tunnel

PROJECT:

PTC:

STORAGE:

24 HOUR (I.E. 16:45)

MM/DD/YEAR

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.

- FT.
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

**WATERSHED FEATURES**
- **PREDOMINANT SURROUNDING LAND USE**
  - Forest
  - Field/Pasture
  - Agricultural
  - Residential
  - Commercial
  - Industrial
  - Other

- **LOCAL WATERSHED NPS POLLUTION**
  - No evidence
  - Some potential sources
  - Obvious sources

- **LOCAL WATERSHED EROSION**
  - None
  - Moderate
  - Heavy

**RIPARIAN VEG. (18 M. BUFFER)**
- **INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT**
  - Trees
  - Shrubs
  - Grazes
  - Herbaceous

- **DOMINANT SPECIES PRESENT?**
  - Maple
  - Oak
  - White Cherry

**INSTREAM FEATURES**
- **STUDY LENGTH**
  - Ft.
- **STUDY WIDTH**
  - Ft.

- **STUDY REACH AREA**
  - Ac.
  - Sq. M.

- **MACROINVERTEBRATES PRESENT?**
  - Yes
  - No

- **TAXA PRESENT?**
  - Yes
  - No

- **CANOPY COVER**
  - Open
  - Partly open
  - Partly shaded
  - Shaded

- **PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES**
  - Channelized
  - Dam Present

- **% DAM PRESENT**
  - Yes
  - No

**LARGE WOODY DEBRIS**
- **LWD**
  - Ft.
- **DENSITY OF LWD**
  - Ft./mi.

**AQUATIC VEGETATION**
- **INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT**
  - Rooted Emergent
  - Rooted Submerged
  - Floating Algae
  - Attached Algae
  - Rooted Floating
  - Free Floating

- **LEAF LITTER**

**WATER QUALITY**
- **TEMPERATURE**
  - °C
- **SPEC. CONDUCTANCE**
  - µS/cm
- **DO**
  - mg/L
- **DISSolved Oxygen**
  - mg/L
- **PH**
  - Open
- **TURBIDITY**
  - Yes
  - No

- **WATER ODORS**
  - Normal/None
  - Sewage
  - Other

- **PETROLEUM**
  - Normal/None
  - Chemical
  - Fishy

- **WATER SURFACE OILS**
  - Slick
  - Globs
  - None

- **TURBIDITY (IF NOT MEASURED)**
  - Clear
  - Turbid
  - Stained

- **DEPOSITS**
  - Sludge
  - Paper Fiber
  - Relict Shells
  - Other

- **ANOREXIC**
  - None
  - Anaerobic
  - Chemical

- **ODORS**
  - Absent
  - Moderate
  - Slight
  - Profuse

- **SEDIMENT/SUBSTRATE**
  - Normal
  - Sewage
  - Petroleum
  - Other

- **OILS**
  - Absent
  - Moderate
  - Slight
  - Profuse

- **UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR?**
  - Yes
  - No

**INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>DIAMETER</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
<th>SUBSTRATE TYPE</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td></td>
<td>Detritus</td>
<td>Sticks, wood, coarse plant materials (CPOM)</td>
</tr>
<tr>
<td>Boulder</td>
<td>259 mm (10^4)</td>
<td></td>
<td></td>
<td>50 - 35%</td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 mm (2.5 - 10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 mm (0.1 - 2.5)</td>
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<tr>
<td>Sand</td>
<td>0.06 - 0.2 mm (gritty)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.06 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 mm (slight)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)**

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>CHARACTERISTIC</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muck - Mud</td>
<td>Black, very fine organic (FPOM)</td>
<td>15%</td>
</tr>
<tr>
<td>Marl</td>
<td>Grey, shell fragments</td>
<td></td>
</tr>
</tbody>
</table>
**Riverine Assessment Form**

**Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0**

For use in navigable channels classified as intermittent or perennial

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Name</th>
<th>Locality</th>
<th>HUC</th>
<th>Date</th>
<th>AA #</th>
<th>AA Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; J</td>
<td>BUCKEY RUN</td>
<td>S. JHS 11</td>
<td>05-17-12</td>
<td>S. JHS 11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name(s) of Evaluator(s)** Steam Name and information

JSH, OLM, LAU

S. JHS 11 - TENT TO STONY CREEK ADK

---

1. **RIPARIAN VEGETATION**
   - Assess the floodplain along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable).

   **Conditional Category**
   
<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
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<tbody>
<tr>
<td>Riparian Vegetation (Floodplain)</td>
<td>Tree stratum (dbh &gt; 3 inches) present, with &lt;50% tree canopy cover</td>
<td>Wetlands and stream channels located within the riparian areas</td>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 50% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory</td>
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**Scores**

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<tbody>
<tr>
<td>Right Side</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
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**NOTES>>**

1. Identify Condition Category areas along the floodplain using the descriptions above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sum of % Riparian Blocks equal 100.

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<tbody>
<tr>
<td>Right Side</td>
<td>1.00%</td>
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<td>1.00%</td>
<td>1.00</td>
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</tbody>
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2. **RIPARIAN ZONE OF INFLUENCE**
   - Assess land cover along both sides, 100 feet from edge of floodplain into the upland along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable).

   **Conditional Category**
   
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**NOTES>>**

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptions above.
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</tr>
<tr>
<td>Left Side</td>
<td>1.00%</td>
<td>1.00</td>
</tr>
</tbody>
</table>

**Comments:**

ZOI IS MATURE, UPLAND DOMINATED FOSSIL

---

**RIPARIAN ECOTONE CONDITION INDEX (RECI)**

**NOTE:** The CIs and RECI should be rounded to 2 decimal places.

**THE RIPARIAN ECOTONE CONDITION INDEX (RECI)**

RECI = (Sum of CIs)/10

---

XXX-XXXX-XXX / Draft May 23, 2012 / Page 14
S-JHS-11 overview, facing upstream.

S-JHS-11 overview, facing downstream.
STREAM S-JHS-12
### PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

#### WATERSHED FEATURES
- **Predominant Surrounding Land Use**
  - □ Field/Pasture
  - □ Commercial
  - □ Other
- **Local Watershed NPS Pollution**
  - □ No Evidence
  - □ Some Potential Sources
  - □ Obvious Sources
- **Local Watershed Erosion**
  - □ None
  - □ Moderate
  - □ Heavy

#### RIPARIAN VEG. (18 M. BUFFER)
- **Indicate the Dominant Type and Record the Dominant Species Present**
  - □ Trees
  - □ Shrubs
  - □ Grasses
  - □ Herbaceous

#### INSTREAM FEATURES
- **Study Length**
  - FT.
- **Canopy Cover**
  - Open
  - Partly Open
  - Partly Shaded
  - Shaded
- **Study Reach Area**
  - AC.
  - SQ. MI.
- **Est. Drainage Area**
  - SQ. MI.
- **Macronvertebrates Present?**
  - □ Yes
  - □ No
- **Taxa Present**
  - Maj. Nematodes
  - 20 - 30
- **LWD**
  - FT.
- **Density of LWD**
  - FT.²/MI.²
- **Properties of Reach, Stream Morphology Types**
  - □ Riffle
  - □ Pool
  - □ Run
  - □ Channelized
  - □ Yes
  - □ No
  - □ Dam Present
  - □ Yes
  - □ No

#### AQUATIC VEGETATION
- **Indicate the Dominant Type and Record the Dominant Species Present**
  - □ Rooted Emergent
  - □ Rooted Submerged
  - □ Floating Algae
  - □ Free Floating

#### WATER QUALITY
- **Temperature**
  - °C
- **Spec. Conductance**
  - **Dissolved Oxygen**
- **pH**
- **Turbidity**
  - **Water Surface Oils**
  - **Turbidity (if not measured)**
  - **Clear**
  - **Turbid**
  - **Opaque**
  - **Stained**

#### SEDIMENT/substrate
- **Odors**
  - Normal
  - Sewage
  - Petroleum
  - Other
- **Anoxygenic Deposits**
  - Sludge
  - Paper Fiber
  - Relict Shells
  - Sawdust
  - Sand
  - None
- **Oils**
  - Absent
  - Moderate
  - Slight
  - Profuse
  - **Undersides of non-embedded stones black in color?**
  - □ Yes
  - □ No

#### INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)
<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 MM (10&quot;)</td>
<td>5</td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 MM (2.5 - 10&quot;)</td>
<td>10</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 MM (0.1 - 2.5&quot;)</td>
<td>20</td>
</tr>
<tr>
<td>Sand</td>
<td>0.00-0.2 MM (gritty)</td>
<td>30</td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.06 MM</td>
<td>20</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (slick)</td>
<td>10</td>
</tr>
</tbody>
</table>

#### ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)
<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detritus</td>
<td>Sticks, wood, coarse plant materials (CPOM)</td>
<td>60</td>
</tr>
<tr>
<td>Muck - Mud</td>
<td>Black, very fine organic (FPOM)</td>
<td>20</td>
</tr>
<tr>
<td>Marl</td>
<td>Gray, shell fragments</td>
<td>10</td>
</tr>
</tbody>
</table>
1. RIPARIAN VEGETATION: Assess the foofand along the entire SRP (Visual estimates of bare cover from aerial photos with field verifica acceptable).

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Suboptimal: Riparian areas with tree strata (dbh &gt; 3 inches) present, with 50% to 100% tree canopy cover and mixed layers of native vegetation</td>
<td>High Mangement: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover</td>
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</tr>
<tr>
<td>Low Suboptimal: Riparian areas with tree strata (dbh &gt; 3 inches) present, with 50% to 100% tree canopy cover and mixed layers of native vegetation</td>
<td>High Mangement: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover</td>
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</tr>
</tbody>
</table>

Scores: High Low High Low High Low
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sum of % Riparian Areas equals 100.

Right Side: % Riparian Area: 100%
Score: 16

Left Side: % Riparian Area: 100%
Score: 16

2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 feet from edge of floodplain into the upland along the entire SRP (Visual estimates of bare cover from aerial photos with field verifica acceptable).

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>

Scores: High Low High Low High Low
20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian ZOI Areas equals 100.

Right Side: % Riparian Area: 100%
Score: 16

Left Side: % Riparian Area: 100%
Score: 16

Comments:
ZOI IS PREDOMINANTLY MATURE, UPLAND DECIDUOUS FOREST.

RIPARIAN ECOTONE CONDITION INDEX

NOTE: The CIs and RECI should be rounded to 2 decimal places.

THE RIPARIAN ECOTONE CONDITION INDEX (RECI)
RECI = (Sum of CIs) / 2
S-JHS-12 overview, facing upstream.

S-JHS-12 overview, facing downstream.
STREAM S-JHS-13
### PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

<table>
<thead>
<tr>
<th>STREAM NAME</th>
<th>STREAM CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-JHS-13</td>
<td>Perennial</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INVESTIGATORS</th>
<th>DATE</th>
<th>MM/DD/RR</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM, LAU</td>
<td>5/17/12</td>
<td>24 HOUR (I.E. 19:45)</td>
<td>Somerset County, PA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>RIVERMILE</th>
<th>STORET #</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>S-JHS-13</td>
</tr>
</tbody>
</table>

#### WEATHER CONDITIONS

- **NOW**
  - Storm (Heavy Rain)
  - Rain (Steady Rain)
  - Showers (Intermittent)
  - Cloud cover
  - Clear/Sunny

- **PAST 24 HOURS**
  - Air Temperature: 70 °F

- **HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS?**
  - Yes [ ]
  - No [ ]

**SITE LOCATION MAP**

- Provide a plan view sketch with a north arrow (indicate directions of photographs).

**CHANNEL Dimensions**

- **CHANNEL TOP WIDTH (E)**
- **TOP WIDTH (E)**
- **BOTTOM WIDTH (F)**
- **FLOW DEPTH (I)**

**STREAM CHARACTERIZATION**

- **STREAM SUCCESION**
  - Perennial
  - Ephemeral

- **STREAM ORIGIN**
  - Glacial
  - Non-glacial Montane
  - Swamp and Bog

**STREAM TYPE**

- Cold Water
- Warm Water

**CATCHMENT AREA**

- sq. mi.

**WATER VELOCITY**

- ft./sec.
### Riverine Assessment Form

**Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0**

For use in redevelopable channels classified as intermittent or perennial.

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Name</th>
<th>Locality</th>
<th>HUC</th>
<th>Date</th>
<th>AA #</th>
<th>AA length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A15</td>
<td>BR ALLEGHENY TUNNEL</td>
<td></td>
<td></td>
<td>05.17.12</td>
<td>S-JHS-13</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name(s) of Evaluator(s):**

| S-JHS-13 | LRN TO STONY CREEK RIVER |

#### 1. RIPARIAN VEGETATION:
Assess the floodplain along the entire SAR (visual estimates of aerial coverage from aerial photos with field verified acceptable).

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

**NOTES:**
- **High Suboptimal:** Riparian areas with tree stratum (diam > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or non-maintained understory.
- **Low Suboptimal:** Riparian areas with tree stratum (diam > 3 inches) present, with <30% tree canopy cover and containing both herbaceous and shrub layers or non-maintained understory.
- **High Marginal:** Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (diam > 3 inches) present, with <30% tree canopy cover.
- **Low Marginal:** Non-maintained, dense herbaceous vegetation, riparian areas backing shore and tree stratum, hay production, ponds, open water. If present, tree stratum (diam > 3 inches) present, with <30% tree canopy cover and maintained understory.
- **High Poor:** Local, non-cultivated and maintained areas, meadows, no-old growth, active grazed pasture, sparsely vegetated non-maintained areas recently seeded or stabilized, or other comparable condition.
- **Low Poor:** Impenetrable surfaces, stone, spoil lands, dead surfaces, non-crops, active feed beds, flats, or other comparable conditions.

**Scores:**

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
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<td>13</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

**Comments:**

ZOI CONSISTS OF MATURE, UPLAND DECIDUOUS FOREST.

#### 2. RIPARIAN ZONE OF INFLUENCE:
Assess floodplain along both sides, 100 feet from edge of floodplain into the upland along the entire SAR (visual estimates of aerial coverage from aerial photos with field verified acceptable).

<table>
<thead>
<tr>
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<td>High</td>
<td>Low</td>
</tr>
</tbody>
</table>

**NOTES:**
- **High Suboptimal:** Riparian areas with tree stratum (diam > 3 inches) present, with <60% tree canopy cover. Woodlands and stream channels located within the riparian areas.
- **Low Suboptimal:** Riparian areas with tree stratum (diam > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or non-maintained understory.
- **High Marginal:** Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (diam > 3 inches) present, with <30% tree canopy cover.
- **Low Marginal:** Non-maintained, dense herbaceous vegetation, riparian areas backing shore and tree stratum, hay production, ponds, open water. If present, tree stratum (diam > 3 inches) present, with <30% tree canopy cover and maintained understory.
- **High Poor:** Local, non-cultivated and maintained areas, meadows, no-old growth, active grazed pasture, sparsely vegetated non-maintained areas recently seeded or stabilized, or other comparable condition.
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**Scores:**

<table>
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<td>11</td>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

**Comments:**

ZOI CONSISTS OF MATURE, UPLAND DECIDUOUS FOREST.

#### RIPARIAN ECOTONE CONDITION INDEX

**REC1**

**NOTE:** The CIs and REC1 should be rounded to 2 decimal places.

**THE RIPARIAN ECOTONE CONDITION INDEX (REC1) 0.80**

**REC1 = (Sum of CIs)/2**

XXX-XXXX-XXX / Draft May 23, 2012 / Page 14
S-JHS-13 overview, facing upstream.

S-JHS-13 overview, facing downstream.
## PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

<table>
<thead>
<tr>
<th>STREAM NAME</th>
<th>S-J2S-14</th>
<th>CLIENT</th>
<th>PTC</th>
<th>PROJECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREAM CLASS</td>
<td>ephemeral</td>
<td></td>
<td></td>
<td>Allegheny Tunnel</td>
</tr>
<tr>
<td>INVESTIGATORS</td>
<td></td>
<td></td>
<td></td>
<td>Somerset County, PA</td>
</tr>
<tr>
<td>DATE</td>
<td>5/17/12</td>
<td>LOCATION</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIME</td>
<td>0700</td>
<td>RIVER BASIN</td>
<td></td>
<td>Stecnear R.</td>
</tr>
<tr>
<td>LATITUDE</td>
<td></td>
<td>STATION #</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LONGITUDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 HOUR (L.E. 16:45)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WEATHER CONDITIONS
- **NOW**
  - Storm (Heavy Rain)
  - Rain (Steady Rain)
  - Showers (Intermittent)
- **PAST 24 HOURS**
  - % Cloud Cover: Clear/Sunny
- **HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS?**
  - Yes [ ]
  - No [ ]
- **AIR TEMPERATURE**
  - 60°F
- **OTHER**

### SITE LOCATION MAP
- Provide a plan view sketch with a north arrow (indicate directions of photographs)

### CHANNEL TOP WIDTH
- (E)

### CHANNEL DEPTH
- (C)

### FLOW DEPTH
- (I)

### BOTTOM WIDTH
- (F)

### ORINARY HIGH WATER MARK
- (H)

### CHANNEL DIMENSIONS
- Channel Top Width: 6.5' FT.
- Channel Depth: 2.0' FT.
- Flow Depth: 0.17' FT.
- Approx. Surface Velocity: 1.0 SLP

### STREAM CHARACTERIZATION
- Perennial [ ]
- Ephemeral [ ]
- Intermittent [ ]
- Tidal [ ]

### STREAM ORIGIN
- Glacial [ ]
- Non-Glacial Montane [ ]
- Swamp and Bog [ ]

### STREAM SUBSYSTEM
- Cold Water [ ]
- Warm Water [ ]

### STREAM TYPE
- Catchment Area [SQ. MI.]
- Spring Fed [ ]
- Mixture of Origins [ ]
- Other [ ]

### OVERLAND FLOW
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

**WATERSHED FEATURES**
- Predominant Surrounding Landuse:
  - Forest
  - Field/Pasture
  - Commercial
  - Industrial
  - Agricultural
  - Residential
- Local Watershed NPS Pollution:
  - No Evidence
  - Some Potential Sources
  - Obvious Sources
- Local Watershed Erosion:
  - None
  - Moderate
  - Heavy

**RIPARIAN VEG. (18 M. BUFFER)**
- Indicate the Dominant Type and Record the Dominant Species Present:
  - Trees
  - Shrubs
  - Grasses
  - Herbaceous
- Dominant Species Present:
  - Alder
  - Black Locust
  - Fawn
  - Sycamore

**INSTREAM FEATURES**
- Study Length:
  - FT.
  - FT.
- Study Reach Area:
  - AC.
  - SQ. MI.
- Macroinvertebrates Present?
  - Yes
  - No
- Taxa Present:
  - Yes
  - No

**LARGE WOODY DEBRIS**
- LWD
  - FT.
  - FT.
- Density of LWD

**AQUATIC VEGETATION**
- Indicate the Dominant Type and Record the Dominant Species Present:
  - Rooted Emergent
  - Rooted Submerged
  - Floating Algae
  - Attached Algae
  - Free Floating
- Dominant Species Present:
  - None
- Portion of the Reach with Aquatic Vegetation:
  - %

**WATER QUALITY**
- Temperature
  - °C
- Specific Conductance
- Dissolved Oxygen
- pH
- Turbidity
- Turbidity (If Not Measured):
  - Clear
  - Slightly Turbid
  - Opaque
  - Stained
- Sediment/Substrate Odors:
  - Normal
  - Sewage
  - Petroleum
  - Other
- Depositions:
  - Sludge
  - Paper Fiber
  - Sand
  - Relict Shells
  - Other
  - None
- Inorganic Substrate Components (Add to 100%)
  - Bedrock
  - Boulder
  - Cobble
  - Gravel
  - Sand
  - Silt
  - Clay
- Organic Substrate Components (May Add to Less Than 100%)
  - Detritus
  - Stick, Wood, Coarse Plant Materials (CPCM)
  - Muck - Mud
  - Black, Very Fine Organic (FPOM)
  - Marl
  - Grey, Shell Fragments
1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAP (Visual estimates of aerial coverage from aerial photos with field verified acceptable).

### Conditional Category

#### Optimal

- High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 50% tree canopy cover. Wetlands and stream channels located within riparian areas.

#### Suboptimal

- Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 50% tree canopy cover. Wetlands and stream channels located within riparian areas.

#### Marginal

- High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with > 50% tree canopy cover.

#### Poor

- High Poor: Lains, moved, and maintained areas, areas, no-till cropland, actively grazed pasture, stream and riparian non-maintained area, recently seeded and stabilized, or other comparable conditions.

Scores

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
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<th>Low</th>
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</thead>
<tbody>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the table below. Ensure the sum of % Riparian Block is equal 100.

### Conditional Category

#### Optimal

- High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 50% tree canopy cover. Wetlands and stream channels located within riparian areas.

#### Suboptimal

- Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with > 50% tree canopy cover. Wetlands and stream channels located within riparian areas.

#### Marginal

- High Marginal: Non-maintained, dense herbaceous vegetation with either a shrub layer or a tree layer (dbh > 3 inches) present, with > 50% tree canopy cover.

#### Poor

- Low Poor: Lains, moved, and maintained areas, areas, no-till cropland, actively grazed pasture, stream and riparian non-maintained area, recently seeded and stabilized, or other comparable conditions.

Scores

<table>
<thead>
<tr>
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</tr>
<tr>
<td>14</td>
<td>13</td>
<td>12</td>
<td>11</td>
<td>10</td>
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<td>8</td>
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<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the table below. Ensure the sum of % Riparian ZOI Blocks is equal 100.

### Comments:

ZOI IS MATURE, UPLAND DELICIOUS!
S-JHS-14 overview, facing upstream.

S-JHS-14 overview, facing downstream.
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

<table>
<thead>
<tr>
<th>STREAM NAME</th>
<th>JHS-15</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREAM CLASS</td>
<td>PERENNIAL</td>
</tr>
<tr>
<td>INVESTIGATORS</td>
<td>DLM, SL, CEC</td>
</tr>
<tr>
<td>DATE</td>
<td>5/22/13</td>
</tr>
<tr>
<td>TIME</td>
<td>11:00</td>
</tr>
<tr>
<td>LOCATION</td>
<td>Somerset County, PA</td>
</tr>
<tr>
<td>RIVER BASIN</td>
<td>RUSTIC CREEK, BR. JUNGMANN PI</td>
</tr>
</tbody>
</table>

**WEATHER CONDITIONS**
- STORM (HEAVY RAIN)
- RAIN (STEADY RAIN)
- SHOWERS (INTERMITTENT)
- CLOUD COVER: 90%
- TEMPERATURE: 70°F

**HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS?**
- Yes

**SITE LOCATION MAP**
- Plan view sketch with a north arrow (indicate directions of photographs)

**FOR LINEAR PROJECTS, PROVIDE DIMENSIONS AT THE CENTERLINE OF THE STREAM CROSSING.**

**CHANNEL TOP WIDTH**
- (E)

**CHANNEL DEPTH**
- (G)

**FLOW DEPTH**
- (I)

**BOTTOM WIDTH**
- (F)

**CHANNEL DIMENSIONS**
- TOP WIDTH (E): 23 ft
- BOTTOM WIDTH (F): 10 ft
- OVERALL WIDTH (G): 5 ft
- ORDINARY HIGH WATER MARK (H): 0.67 ft
- FLOW DEPTH (I): 0.33 ft
- APPROX. SURFACE VELOCITY: 5 ft/sec

**STREAM CHARACTERIZATION**
- PERENNIAL
- INTERMITTENT
- TIDAL

**STREAM ORIGIN**
- GLACIAL
- NON-GLACIAL MONTANE
- SWAMP AND BOG

**STREAM SUBSYSTEM**
- COLO WATER
- WARM WATER

**STREAM TYPE**
- SPRING FED
- MIXTURE OF ORIGINS
- OTHER

**CLIENT**
- Allegheny Tunnel

**PROJECT**
- PA

**LOCATION**
- Somerset County, PA
# Physical Characterization/Water Quality Field Data Sheet

## Watershed Features
- Predominant Surrounding Landuse
  - Forest
  - Field/Pasture
  - Commercial
  - Industrial
  - Agricultural
  - Residential
  - Other

- Local Watershed NPS Pollution
  - No Evidence
  - Some Potential Sources
  - Obvious Sources

- Local Watershed Erosion
  - None
  - Moderate
  - Heavy

## Riparian Veg. (18 m. Buffer)
- Indicate the dominant type and record the dominant species present
  - Trees
  - Shrubs
  - Grasses
  - Herbaceous

## Instream Features
- Study Length
- Study Reach Area
- Macroinvertebrates Present?
- Canopy Cover
  - OPEN
  - PARTLY OPEN
  - PARTLY SHADED
  - SHADED

## Aquatic Vegetation
- Rooted Emergent
- Rooted Submersed
- Floating Algae
- Attached Algae
- Free Floating

## Water Quality
- Temperature
- Spec. Conductance
- Dissolved Oxygen
- pH
- Turbidity
- Turbidity (If Not Measured)
- Water ODors
  - Normal/None
  - Petroleum
  - Fishy
  - Chemical
  - Other
- Water Surface Oils
  - Slick
  - Globs
  - None
  - Flecks
  - Other

## Sediment/Substrate
- Odors
  - Normal
  - Sewage
  - Petroleum
  - Other
- Deposits
  - Sludge
  - Paper Fiber
  - Sawdust
  - Sand
  - Relict/Shells
  - Other
- Oils
  - Absent
  - Slight
  - Moderate
  - Profuse

### Inorganic Substrate Components (Add to 100%)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td></td>
<td></td>
<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (CPOM)</td>
<td>20</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 MM (10^3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 MM (2.5 - 10&quot;)</td>
<td>20</td>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
<td>20</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 MM (0.1 - 2.5&quot;)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>0.05 - 2 MM (GRITTY)</td>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.05 MM</td>
<td>30</td>
<td>Marl</td>
<td>Grey, Shell Fragments</td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (SLICK)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Riverine Assessment Form

**Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0**

For use in weedy channels classified as intermittent or perennial.

### Name(s) of Evaluator(s) & Steam Name and Information

**DLM, SRL, LAU**

**UNIT TO KAYSTOWN BRANCH OR JUNIATA FLOWER**

### 1. RIPARIAN VEGETATION: Assess the floodplain along the entire SFR (visual estimates of plant cover from aerial photos with field verified acceptable).

#### Conditional Category

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Suboptimal: Riparian areas with two layers (dbh &gt; 3 inches) present, with 0% to 50% herbaceous vegetation and shrub layers, and 50% to 100% low canopy cover and a maintained understory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Suboptimal: Riparian areas with two layers (dbh &gt; 3 inches) present, with 0% to 50% herbaceous vegetation and shrub layers, and 50% to 100% low canopy cover and a maintained understory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Marginal: Herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &gt;50% low canopy cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree layer (dbh &gt; 3 inches), present, with &lt;50% low canopy cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Scores

- **High**: 20
- **Low**: 12
- **High**: 15
- **Low**: 9

### 2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides. 100 feet from edge of floodplain into the upland along the entire SFR (Visual estimates of plant cover from aerial photos with field verified acceptable).

#### Conditional Category

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Suboptimal: Riparian areas with two layers (dbh &gt; 3 inches) present, with 0% to 50% herbaceous vegetation and shrub layers, and 50% to 100% low canopy cover and a maintained understory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Suboptimal: Riparian areas with two layers (dbh &gt; 3 inches) present, with 0% to 50% herbaceous vegetation and shrub layers, and 50% to 100% low canopy cover and a maintained understory</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Marginal: Herbaceous vegetation with either a shrub layer or a tree layer (dbh &gt; 3 inches) present, with &gt;50% low canopy cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking shrub and tree layer (dbh &gt; 3 inches), present, with &lt;50% low canopy cover</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Scores

- **High**: 20
- **Low**: 12
- **High**: 15
- **Low**: 9

### Comments:

**MAJORITY OF ZOI IS MATURE, UPLAND DESSERTIVE, W1 ONE GRAVE - ND TIME.**

### RIPARIAN ECOTONE CONDITION INDEX

**NOTE:** The CIs and REs should be rounded to 2 decimal places.

**THE RIPARIAN ECOTONE CONDITION INDEX (RECI)**

**RECI = (Sum of CIs) / 2**

| RECI | 0.82 |
S-JHS-15 overview, facing upstream.

S-JHS-15 overview, facing downstream.
STREAM S-JHS-16
# Physical Characterization/Water Quality Field Data Sheet

## Watershed Features

<table>
<thead>
<tr>
<th>Predominant Surrounding Landuse</th>
<th>Local Watershed NPS Pollution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest</td>
<td>No Evidence</td>
</tr>
<tr>
<td>Field/Pasture</td>
<td>Some Potential Sources</td>
</tr>
<tr>
<td>Commercial</td>
<td>Obvious Sources</td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
</tr>
<tr>
<td>Agricultural</td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td></td>
</tr>
</tbody>
</table>

## Riparian Veg. (18 M. Buffer)

- Trees
- Shrubs
- Grasses
- Herbs

## Instream Features

- Study Length
- Stream Width
- Study Reach Area
- Est. Drainage Area
- Macrinvertebrates Present?
- Canopy Cover
- Taxa Present

## Aquatic Vegetation

- Rooted Emergent
- Rooted Submerged
- Floating Algae
- Attached Algae
- Free Floating

## Water Quality

- Temperature
- Spec. Conductance
- Dissolved Oxygen
- pH
- Turbidity
- Water Surface Oils
- WQ Instrument Used

## Sediment/Substrate

- Odors
- Deposits

## Inorganic Substrate Components (Add to 100%)

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
<th>Substrate Type</th>
<th>Characteristic</th>
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</thead>
<tbody>
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<td>Bedrock</td>
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<td>Detritus</td>
<td>Sticks, Wood, Coarse Plant Materials (CPOM)</td>
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<tr>
<td>Boulder</td>
<td>256 MM (*10^4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobble</td>
<td>256 - 64 MM (2.5 - 10)</td>
<td>3D</td>
<td>Muck - Mud</td>
<td>Black, Very Fine Organic (FPOM)</td>
</tr>
<tr>
<td>Gravel</td>
<td>64 - 2 MM (0.1 - 2.5)</td>
<td>3D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sand</td>
<td>0.06 - 0.2 MM (gritty)</td>
<td>4D</td>
<td>Marl</td>
<td>Grey, Shell Fragments</td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.06 MM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (Slick)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Riverine Assessment Form**

Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0

*For use in washable channels classified as intermittent or perennial*

**Project #**

**Project Name**

**Locality**

**HUC**

**Date**

**AA #**

**AA length**

**Name(s) of Evaluator(s)**

**Stream Name and Information**

---

**1. RIPARIAN VEGETATION:** Assess the floodplain along the entire S&R (visual estimates of aerial coverage from aerial photos with field verification acceptable).

**Conditional Category**

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riparian Vegetation (Floodplain)</td>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 60-100% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30-50% tree canopy cover and containing both herbaceous and shrub layers or non-maintained understory.</td>
<td>Low Marginal: Non-maintained, dense herbaceous vegetation, riparian area lacking shrub and tree stratum, high production, ponds, open water. If present, tree stratum (dbh &gt; 3 inches) present, with &lt;50% tree canopy cover.</td>
<td>High Poor: Liana, moved, and maintained areas, nutrients, nutrient, no-till, coalescence, actively grazed pasture, actively grazed. Non-maintained area recently seeded and stabilized, or other comparable condition.</td>
</tr>
</tbody>
</table>

**Scores**

<table>
<thead>
<tr>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

---

1. Identify Condition Category areas along the floodplain using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each category in the blocks below. Ensure the sum of % Riparian Blocks equals 100.

**Right Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>20</td>
</tr>
</tbody>
</table>

**Left Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>19</td>
</tr>
</tbody>
</table>

---

**2. RIPARIAN ZONE OF INFLUENCE:** Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire S&R (Visual estimates of aerial coverage from aerial photos with field verification acceptable).

**Conditional Category**

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Riparian ZOI</td>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30-50% tree canopy cover and containing both herbaceous and shrub layers or non-maintained understory.</td>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 10-20% tree canopy cover and maintaining both herbaceous and shrub layers or a non-maintained understory.</td>
<td>Low Marginal: Non-maintained, dense herbaceous vegetation with a shrub layer at a tree stratum (dbh &gt; 3 inches) present, with &lt;50% tree canopy cover.</td>
<td>High Poor: Liana, moved, and maintained areas, nutrients, nutrient, no-till, coalescence, actively grazed pasture, actively grazed. Non-maintained area recently seeded and stabilized, or other comparable condition.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Score</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
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<tbody>
<tr>
<td>20</td>
<td>19</td>
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<td>7</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

---

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian ZOI Blocks equals 100.

**Right Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>20</td>
</tr>
</tbody>
</table>

**Left Side**

<table>
<thead>
<tr>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>18</td>
</tr>
</tbody>
</table>

---

Comments:

ZOE CONSIST OF MATURE, UPLAND DECIDUOUS FOREST.

---

**RIPARIAN ECOZONE CONDITION INDEX**

**RECI**

**NOTE:** The CIs and RECI should be rounded to 2 decimal places.

<table>
<thead>
<tr>
<th>THE RIPARIAN ECOZONE CONDITION INDEX (RECI)</th>
<th>RECI = (Sum of CIs/2)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.10</td>
</tr>
</tbody>
</table>

---

**XXX-XXXX-XXX / Draft May 23, 2012 / Page 14**
S-JHS-16 overview, facing upstream.

S-JHS-16 overview, facing downstream.
### Physical Characterization/Water Quality Field Data Sheet

**Stream Name:** S-JHS-17  
**Stream Class:**ephemeral  
**Investigators:** DLW, LAM  
**Date:** 5/2/12  
**MM/DD/yr:**  
**Time:** 11:30  
**24 Hour (i.e., 16:45):**  
**Location:** Somerset County, PA  
**River Basin:** Raystown Branch of Juniata  

### Weather Conditions

- **Now:**  
- **Storm (Heavy Rain):**  
- **Rain (Steady Rain):**  
- **Showers (Intermittent):**  
- **Past 24 Hours:**  
- **Air Temperature:** 70°F  
- **Cloud Cover:**  
- **Clear/Sunny:**  
- **Other:**  

### Site Location Map

- **Provide a plan view sketch with a north arrow (indicate directions of photographs):**

### Channel Top Width

- **(E):**

### Channel Depth

- **(d):**

### Flow Depth

- **(l):**

### Bottom Width

- **(F):**

### Ordinary High Water Mark

- **(H):**

### Channel Dimensions

- **Right Bank (Face Downstream):**
  - **Horizontal (A):** 15 ft.
  - **Vertical (B):** 6 ft.
- **Left Bank (Face Downstream):**
  - **Horizontal (C):** 10 ft.
  - **Vertical (D):** 4 ft.
- **Top Width (E):** 28 ft.
- **Bottom Width (F):** 3 ft.
- **Overall Depth (G):** 6 ft.
- **Ordinary High Water Mark (H):** 8.5 ft.
- **Flow Depth (I):**
- **Approx. Surface Velocity (J):** FT./SEC

### Stream Characterization

- **Stream Subsystem:**
  - Perennial  
  - Ephemeral  
  - Intermittent  
  - Tidal  

- **Stream Origin:**
  - Glacial  
  - Non-Glacial Montane  
  - Swamp and Bog  

- **Stream Type:**
  - Cold Water  
  - Warm Water  
  - Spring Fed  
  - Mixture of Origins  

- **Catchment Area:**
  - SQ. MI.

- **Other:**
Riverine Assessment Form
Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in weedy channels classified as intermittent or perennial

<table>
<thead>
<tr>
<th>Project #</th>
<th>Project Name</th>
<th>Locality</th>
<th>HUC</th>
<th>Date</th>
<th>AA #</th>
<th>AA length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1T</td>
<td>DLN ALLEGHENY TANK</td>
<td>02.12.18</td>
<td>5.3.17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name(s) of Evaluator(s) Steam Name and Information

JLM, LAM  5.3.17 UNIT TO RAVENHURST BRANCH OF JUNIOA RIVER

1. RIPARIAN VEGETATION: Assess the floodplain along the entire SAP (Visual estimates of aerial coverage form aerial photos with field verified acceptable).

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Conditional Category</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Suboptimal</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Poor</td>
</tr>
</tbody>
</table>

Tree stratum (dbh > 3 inches) present, with >50% low canopy cover. Willows and stream channels located within the riparian area.

High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present with 30% to 60% low canopy cover and low stratum/tree stratum ratio (dense vegetation)

Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present with 30% to 50% low canopy cover and low stratum/tree stratum ratio (dense vegetation)

Low Marginal: Riparian areas with tree stratum (dbh > 3 inches) present with >50% low canopy cover

Low Margin: Non-maintained dense herbaceous vegetation, riparian areas lacking tree stratum, high production, ponds, open water if present

High Poor: Lamns, moved and maintained areas, silted, nearly straight, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded, stable, in other comparable condition

Low Poor: Impervious surfaces, mine spoils, lands, landfills, areas, over-paved, actively farmed, highly impacted, formerly abandoned in other comparable condition

<table>
<thead>
<tr>
<th>Scores</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Identify Condition Category areas along the floodplain using the descriptors above.

2. Estimate the % area within each condition category. Calculators are provided for you below.

3. Enter the % Riparian Area and Score for each condition category in the blocks below.

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Conditional Category</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Suboptimal</td>
<td>Marginal</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>Poor</td>
</tr>
</tbody>
</table>

Tree stratum (dbh > 3 inches) present, with >50% low canopy cover. Willows and stream channels located within the riparian area.

High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present with 30% to 60% low canopy cover and low stratum/tree stratum ratio (dense vegetation)

Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present with 30% to 50% low canopy cover and low stratum/tree stratum ratio (dense vegetation)

Low Marginal: Riparian areas with tree stratum (dbh > 3 inches) present with >50% low canopy cover

Low Margin: Non-maintained dense herbaceous vegetation, riparian areas lacking tree stratum, high production, ponds, open water if present

High Poor: Lamns, moved and maintained areas, silted, nearly straight, actively grazed pasture, sparsely vegetated non-maintained area, recently seeded, stable, in other comparable condition

Low Poor: Impervious surfaces, mine spoils, lands, landfills, areas, over-paved, actively farmed, highly impacted, formerly abandoned in other comparable condition

<table>
<thead>
<tr>
<th>Scores</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
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1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptors above.

2. Estimate the % area within each condition category. Calculators are provided for you below.

3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

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<tr>
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<td></td>
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</tr>
</tbody>
</table>

ZOI IS PRIMARILY MATURE, UPLAND DECIDUOUS FOREST.

RIPARIAN ECOTONE CONDITION INDEX

<table>
<thead>
<tr>
<th>RECI</th>
<th>XXXX-XXXX-XXXX / Draft May 23, 2012 / Page 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOTE: The CIs and RECI should be rounded to 2 decimal places.</td>
<td>THE RIPARIAN ECOTONE CONDITION INDEX (RECI) = (Sum of CIs) x 2</td>
</tr>
</tbody>
</table>
S-JHS-17 overview, facing upstream.

S-JHS-17 overview, facing downstream.
1. RIPARIAN VEGETATION: Assess the condition of the riparian areas along the entire site (visual estimates of areal coverage from aerial photos with field verified accepted).

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Suboptimal: Riparian areas with tree stems (dbh &gt; 3 inches) present, with 50% to 100% tree canopy cover and shrub/layer cover or non-maintained understory</td>
<td>High Marginal: Non-maintained dense vegetation, riparian areas lacking shrub and tree stems, hay production, ponds, open water. If present tree stems (dbh &gt; 3 inches) present, with &lt;50% tree canopy cover</td>
<td>High Marginal: Non-maintained dense vegetation, riparian areas lacking shrub and tree stems, hay production, ponds, open water. If present tree stems (dbh &gt; 3 inches) present, with &lt;50% tree canopy cover</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scores: High 20 Low 16

1. Identify Condition Category areas along the floodplain using the descriptions above.
2. Estimate the % area within each condition category. Calculations are provided for you below.
3. Enter the % Riparian Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian Blocks equal 100

Right Side
- % Riparian Area: 100%
- Score: 20

Left Side
- % Riparian Area: 100%
- Score: 16

RIPIARAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 foot from edge of floodplain into upland and across the entire site (visual estimates of areal coverage from aerial photos with field verified accepted).

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scores: High 15 Low 10

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptions above.
2. Estimate the % area within each condition category. Calculations are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below. Ensure the sum of % Riparian ZOI Blocks equal 100

Right Side
- % Riparian ZOI Area: 100%
- Score: 15

Left Side
- % Riparian ZOI Area: 100%
- Score: 10

Comments:
ZOI IS MATURE, UPLAND DECIDUOUS FOREST.

RIPIARAN ECOTONE CONDITION INDEX

NOTE: The CIs and RECI should be rounded to 2 decimal places.
S-JHS-18 overview, facing upstream.

S-JHS-18 overview, facing downstream.
**Physical Characterization/Water Quality Field Data Sheet**

**Watershed Features**
- Predominant Surrounding Landuse: [ ] Forest [ ] Commercial [ ] Other
- Local Watershed NPS Pollution: [ ] No Evidence [ ] Some Potential Sources [ ] Obvious Sources

**Riparian Vegetation (18 M. Buffer)**
- Indicate the Dominant Type and Record the Dominant Species Present: [ ] Trees [ ] Shrubs [ ] Grasses [ ] Herbaceous

**Instream Features**
- Study Length: [ ] FT. [ ] CANOPY COVER
- Stream Width: [ ] FT.
- Study Reach Area: [ ] AC. [ ] Square MI.
- Macroinvertebrates Present? [ ] Yes [ ] No
- Channelized Dam Present? [ ] Yes [ ] No

**Larger Woody Debris**
- LWD: [ ] FT. [ ] Density of LWD: [ ] FT.²

**Aquatic Vegetation**
- Indicate the Dominant Type and Record the Dominant Species Present: [ ] Rooted Emergent [ ] Rooted Submerged [ ] Floating Algae [ ] Attached Algae [ ] Free Floating
- Portion of the Reach with Aquatic Vegetation: %

**Water Quality**
- Temperature: °C
- Spec. Conductance:
- Dissolved Oxygen:
- pH:
- Turbidity:
- WQ Instrument Used:
- Water Odors:
  - Normal/None
  - Sewage
  - Petroleum
  - Chemical
  - Fishy
  - Other
- Water Surface Oils:
  - Slick
  - Globes
  - FLECKS
  - None
  - Other
- Turbidity (If Not Measured):
  - Clear
  - Turbid
  - Slightly Turbid
  - Opaque
  - Stained
  - Other

**Sediment/Substrate**
- Odors:
  - Normal
  - Sewage
  - Petroleum
  - Anaerobic
  - Chemical
  - Other
- Deposits:
  - Sludge
  - Paper Fiber
  - Sawdust
  - Reclit Shells
  - Sand
  - Other
- Oils:
  - Absent
  - Moderate
  - Slight
  - Profuse
- Undersides of Non-Embedded Stones Black in Color? [ ] Yes [ ] No

**Inorganic Substrate Components (Add to 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Diameter</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bedrock</td>
<td>-</td>
<td>10</td>
</tr>
<tr>
<td>Boulder</td>
<td>256 MM (10&quot;)</td>
<td>25</td>
</tr>
<tr>
<td>Cobble</td>
<td>64 - 256 MM (2.5 - 10&quot;)</td>
<td>20</td>
</tr>
<tr>
<td>Gravel</td>
<td>2 - 64 MM (0.1 - 2.5&quot;)</td>
<td>30</td>
</tr>
<tr>
<td>Sand</td>
<td>0.06 - 0.02 MM (GRITTY)</td>
<td>15</td>
</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.05 MM</td>
<td></td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 MM (SLICK)</td>
<td></td>
</tr>
</tbody>
</table>

**Organic Substrate Components (May Add to Less Than 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Characteristic</th>
<th>% Composition in Sampling Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detritus</td>
<td>Sticks, wood, coarse plant materials (CPOM)</td>
<td>20</td>
</tr>
<tr>
<td>Muck - Mud</td>
<td>Slack, very fine organic (FPOM)</td>
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Riverine Assessment Form
Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0
For use in wadeable channels classified as intermittent or perennial

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Name(s) of Evaluator(s)

SAC, DLH, LAI
Steam Name and Information

1. RIPARIAN VEGETATION: Assess the floodplain along the entire EAF (Visual estimates of areal coverage from aerial photos with field-verified acceptable).

<table>
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<tr>
<th>Riparian Vegetation (Floodplain)</th>
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<tr>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 60% tree canopy cover and a maintained understory of herbaceous and shrubbery or a non-maintained understory.</td>
<td>Low Suboptimal: Riparian areas with low stratum (dbh &gt; 3 inches) present, with 50% to 60% tree canopy cover and a maintained understory of herbaceous and shrubbery or a non-maintained understory.</td>
<td>High Marginal: Non-maintained dense herbaceous vegetation, riparian areas lacking stratum and/or tree stratum, bare areas, open water. If present: tree stratum (dbh &gt; 3 inches) present, with &lt;30% tree canopy cover.</td>
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Scores

<table>
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<tr>
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<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
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NOTES:

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3. Enter the % Riparian Area and Score for each condition category in the blocks below.

Score = 100

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2. RIPARIAN ZONE OF INFLUENCE: Assess land cover along both sides, 100 feet from edge of floodplain into the upland along the entire EAF (Visual estimates of areal coverage from aerial photos with field-verified acceptable).

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Comments:

ZOI IS PRIMARILY MOWED, MAINTAINED HERBACEOUS WITH AN ADJ. GRAVEL ROAD.

RIPARIAN ECOTONE CONDITION INDEX

NOTE: The CIs and RECI should be rounded to 2 decimal places.

RECI = (Sum of Ci) x 2

XXX-XXX-XXX / Draft May 23, 2012 / Page 14
S-JHS-19 overview, facing upstream.

S-JHS-19 overview, facing downstream.
STREAM S-JHS-20
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

**WATERSHED FEATURES**
- Predominant surrounding landuse: "Field/Pasture"
- Local watershed NPS pollution: "Some potential sources"
- Local watershed erosion: "Moderate"

**RIPARIAN VEGETATION**
- Trees: Present
- Shrubs: Present
- Grasses: Present
- Herbaceous: Present

**INSTREAM FEATURES**
- Study Length: 3.5 ft.
- Study Reach Area: Est. Drainage Area: 2.5 sq. mi.
- Macroinvertebrates present: Yes
- Taxa present: "Caddis, stoneflies"
- Canopy cover: "OPEN"
- Properties of reach, stream morphology types: "Run" 70%

**LARGE WOODY DEBRIS**
- LWD: 6 ft.
- Density of LWD: 1.5 ft. m^2^.

**AQUATIC VEGETATION**
- Rooted emergent: Present
- Rooted submersed: Present
- Floating: Free floating
- Portion of reach with aquatic vegetation: 50%

**WATER QUALITY**
- Temperature: 18°C
- Conductance: Dissolved Oxygen: pH: 7.0
- TURBIDITY: (If not measured)
- WQ instrument used: "Dissolved Oxygen" %
- Turbidity
- Water surface oils
- Sheen: Oil
- Sheen: FLECKS
- Slime: Other

**SEDIMENT/SUBSTRATE**
- Odors: Normal
- Deposits: Sawdust
- Undersides of non-embedded stones black in color?

**INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)**

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<tr>
<th>Substrate Type</th>
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</tr>
<tr>
<td>Silt</td>
<td>0.004 - 0.006 mm</td>
<td>20</td>
</tr>
<tr>
<td>Clay</td>
<td>&lt;0.004 mm (slick)</td>
<td>-</td>
</tr>
</tbody>
</table>

**ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)**

<table>
<thead>
<tr>
<th>Substrate Type</th>
<th>Characteristic</th>
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<td>Muck - Mud</td>
<td>Black, very fine organic (FPOM)</td>
<td>-</td>
</tr>
<tr>
<td>Marl</td>
<td>Grey, shell fragments</td>
<td>-</td>
</tr>
</tbody>
</table>
### Riverine Assessment Form

**Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.3**

For use in undeveloped channels classified as intermittent or perennial

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<tr>
<th>Project #</th>
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<tbody>
<tr>
<td>A11J</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Name(s) of Evaluator(s):** Steam Name and Information

| SRC, DUM, LAW | S.JHS.20 | HAT TO FLAYSTOWN BRANCH OF JUNEAU NEAR |

1. **RIPARIAN VEGETATION:** Assess the floodplain along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable).

#### Conditional Category

<table>
<thead>
<tr>
<th>Riparian Vegetation (Floodplain)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
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</thead>
<tbody>
<tr>
<td>Tree stratum (dbh &gt; 3 inches) present, with &gt; 60% tree canopy cover. Wetlands and stream channels located within the riparian areas.</td>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 10% to 30% tree canopy and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>High Marginal: Non-maintained herbaceous vegetation, riparian areas with tree stratum, herb production, and shrubs, open water if present (dbh &gt; 3 inches) present, with &lt;60% tree canopy cover.</td>
<td>High Marginal: Non-maintained herbaceous vegetation, riparian areas with tree stratum, herb production, and shrubs, open water if present (dbh &gt; 3 inches) present, with &lt;60% tree canopy cover.</td>
</tr>
<tr>
<td><strong>Scores</strong></td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
</tr>
</tbody>
</table>

1. Identify Condition Category areas along the floodplain using the descriptions above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian Area and Score for each condition category in the blocks below.

#### Example

<table>
<thead>
<tr>
<th>Right Side</th>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.60</td>
<td>0.10</td>
<td>1.00</td>
</tr>
<tr>
<td>0.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Examples:**
- **Left Side:** % Riparian Area = 0.70
- **Score:** 0.10

**Comments:**

1. **RIPARIAN ZONE OF INFLUENCE:** Assess land cover along both sides, 100 foot from edge of floodplain into the upland along the entire SAR (Visual estimates of aerial coverage from aerial photos with field verified acceptable).

#### Conditional Category

<table>
<thead>
<tr>
<th>Riparian ZOI</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree stratum (dbh &gt; 3 inches) present, with &gt; 60% tree canopy cover. Wetlands and stream channels located within the riparian areas.</td>
<td>High Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>Low Suboptimal: Riparian areas with tree stratum (dbh &gt; 3 inches) present, with 10% to 30% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.</td>
<td>High Marginal: Non-maintained herbaceous vegetation, riparian areas with tree stratum, herb production, and shrubs, open water if present (dbh &gt; 3 inches) present, with &lt;60% tree canopy cover.</td>
<td>High Marginal: Non-maintained herbaceous vegetation, riparian areas with tree stratum, herb production, and shrubs, open water if present (dbh &gt; 3 inches) present, with &lt;60% tree canopy cover.</td>
</tr>
<tr>
<td><strong>Scores</strong></td>
<td>High</td>
<td>Low</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
</tr>
</tbody>
</table>

1. Identify Condition Category areas along each side of the Riparian ZOI using the descriptions above.
2. Estimate the % area within each condition category. Calculators are provided for you below.
3. Enter the % Riparian ZOI Area and Score for each condition category observed in the blocks below.

#### Example

<table>
<thead>
<tr>
<th>Right Side</th>
<th>% Riparian Area</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.50</td>
<td>0.30</td>
<td>0.10</td>
</tr>
<tr>
<td>0.20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.40</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Examples:**
- **Left Side:** % Riparian Area = 0.70
- **Score:** 0.10

**Comments:**

**RIPARIAN ECOTONE CONDITION INDEX**

**NOTE:** The CIs and RECIs should be rounded to 2 decimal places.

<table>
<thead>
<tr>
<th>THE RIPARIAN ECOTONE CONDITION INDEX (RECIs)</th>
<th>RECI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XXX-XXXXX-XXX</strong> Draft May 23, 2012</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Page 14</strong></td>
<td></td>
</tr>
</tbody>
</table>

**XXX-XXXXX-XXX** Draft May 23, 2012 / Page 14
S-JHS-20 overview, facing upstream.

S-JHS-20 overview, facing downstream.
STREAM S-JHS-21
### Physical Characterization/Water Quality Field Data Sheet

<table>
<thead>
<tr>
<th>Stream Name</th>
<th>TJS 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stream Class</td>
<td>Nondominant Bioturbation Flow</td>
</tr>
<tr>
<td>Investigators</td>
<td>LAU</td>
</tr>
<tr>
<td>Date</td>
<td>5/23/12</td>
</tr>
<tr>
<td>Time</td>
<td>10:25</td>
</tr>
<tr>
<td>MM/DD/YY</td>
<td>24 Hour (i.e., 16:45)</td>
</tr>
<tr>
<td>Location</td>
<td>Somerset County, PA</td>
</tr>
<tr>
<td>River Basin</td>
<td>Paystown Branch Juwata</td>
</tr>
</tbody>
</table>

#### Weather Conditions
- **NCW**: [ ]
- **Storm (Heavy Rain)**: [ ]
- **Rain (Steady Rain)**: [ ]
- **Showers (Intermittent)**: [ ]
- **% Cloud Cover**: [ ]
- **Clear/Sunny**: [ ]
- **Air Temperature**: 60°F

**Has There Been a Heavy Rain in the Last 7 Days?**
- [ ] Yes
- [ ] No

#### Site Location Map

- **Provide a Plan View Sketch with a North Arrow**: (Sketch with map details)

#### Stream Characteristics

**Channel Top Width (E)**

**Channel Depth**

**Flow Depth (l)**

**Bottom Width (F)**

**Ordinary High Water Mark (H)**

#### Stream Subsystem
- **Perennial**: [ ]
- **Ephemeral**: [ ]
- **Intermittent**: [ ]
- **Tidal**: [ ]

#### Stream Origin
- **Glacial**: [ ]
- **Non-Glacial Montane**: [ ]
- **Swamp and Bog**: [ ]
- **Spring Fed**: [ ]
- **Mixture of Origins**: [ ]
- **Other**: [ ]

#### Stream Type
- **Cold Water Catchment Area**: [ ]
- **Warm Water Source**: [ ]

---

**Right Bank (Face Downstream)**
- **Horizontal (A)**: 0 ft.
- **Vertical (B)**: 1 ft.

**Left Bank (Face Downstream)**
- **Horizontal (C)**: 0 ft.
- **Vertical (D)**: 2 ft.

**Channel Dimensions**
- **Top Width (E)**: 3 ft.
- **Bottom Width (F)**: 3 ft.
- **Overall Depth (G)**: 2 ft.
- **Ordinary High Water Mark (H)**: 0.50 ft.
- **Flow Depth (l)**: 0.85 ft.
- **Approx. Surface Velocity**: 6 ft./sec.
STREAM ID: S-JHS-21

PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET

WATERSHED FEATURES
- PREDOMINANT SURROUNDING LANDUSE
  - [ ] FOREST
  - [ ] COMMERCIAL INDUSTRIAL
  - [ ] AGRICULTURAL
  - [ ] RESIDENTIAL
  - [ ] OTHER

- LOCAL WATERSHED NPS POLLUTION
  - [ ] NO EVIDENCE
  - [ ] SOME POTENTIAL SOURCES
  - [ ] OBVIOUS SOURCES
  - [ ] HEAVY

- LOCAL WATERSHED EROSION
  - [X] MODERATE
  - [ ] HEAVY

RIPARIAN VEG. (18 M. BUFFER)
- INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT
  - [X] TREES
  - [ ] SHRUBS
  - [ ] GRASSES
  - [ ] HERBACEOUS
  - [X] RANCH GRASS, BUSHES, DOCK, CHEWY, ASPEN, PINEWOOD

- DOMINANT SPECIES PRESENT?

INSTREAM FEATURES
- STUDY LENGTH
  - [ ] FT.

- CANOPY COVER
  - [ ] OPEN
  - [ ] PARTLY OPEN
  - [ ] PARTLY SHADED
  - [ ] SHADED

- PROPERTIES OF REACH, STREAM MORPHOLOGY TYPES
  - [ ] RIFFLE
  - [ ] POOL

- CHANNELIZED DAM PRESENT
  - [ ] YES
  - [ ] NO

- TAXA PRESENT
  - [ ] YES
  - [ ] NO

- LWD
  - [ ] FT.

- DENSITY OF LWD
  - [ ] FT2.

AQUATIC VEGETATION
- INDICATE THE DOMINANT TYPE AND RECORD THE DOMINANT SPECIES PRESENT
  - [ ] ROOTED EMERGENT
  - [ ] FLOATING ALGAE
  - [ ] ATTACHED ALGAE
  - [ ] FREE FLOATING

- DOMINANT SPECIES PRESENT

- PORTION OF THE REACH WITH AQUATIC VEGETATION

WATER QUALITY
- TEMPERATURE
  - °C

- SPEC. CONDUCTANCE

- DISSOLVED OXYGEN

- pH

- TURBIDITY

- WQ INSTRUMENT USED

- WATER ODORS
  - [ ] NORMAL/NONE
  - [ ] SEWAGE
  - [ ] FISHY
  - [ ] OTHER

- WATER SURFACE OILS
  - [ ] SLICK
  - [ ] GLOBS
  - [ ] SHEEN - Oily
  - [ ] FLECKS
  - [ ] OTHER

- TURBIDITY (IF NOT MEASURED)
  - [ ] CLEAR
  - [ ] SLIGHTLY TURID
  - [ ] TURID
  - [ ] OPATIC
  - [ ] STAINED
  - [ ] OTHER

SEDIMENT/SUBSTRATE
- ODORS
  - [ ] NORMAL
  - [ ] SEWAGE
  - [ ] PETROLEUM
  - [ ] OTHER

- SEDIMENT SUBSTRATE
  - [ ] NORMAL
  - [ ] SEWAGE
  - [ ] PETROLEUM
  - [ ] OTHER

- ODORS ABSENT
  - [ ] Slight
  - [ ] Profuse

- DEPOSITS
  - [ ] SLUDGE
  - [ ] PAPER-FIBER
  - [ ] SAWDUST
  - [ ] REICL SHELLS
  - [ ] SAND
  - [ ] OTHER

- UNDERSIDES OF NON-EMBEDDED STONES BLACK IN COLOR?
  - [ ] YES
  - [ ] NO

INORGANIC SUBSTRATE COMPONENTS (ADD TO 100%)

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>DIAMETER</th>
<th>% COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEDROCK</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOULDER</td>
<td>256 MM (10^4)</td>
<td></td>
</tr>
<tr>
<td>COBBLE</td>
<td>84 - 256 MM (2.5 - 10^4)</td>
<td></td>
</tr>
<tr>
<td>GRAVEL</td>
<td>2 - 84 MM (0.1 - 2.5)</td>
<td></td>
</tr>
<tr>
<td>SAND</td>
<td>0.0000 - 0.6 MM (GRITTY)</td>
<td></td>
</tr>
<tr>
<td>SILT</td>
<td>0.004 - 0.06 MM</td>
<td></td>
</tr>
<tr>
<td>CLAY</td>
<td>&lt;0.004 MM (SLICK)</td>
<td></td>
</tr>
</tbody>
</table>

ORGANIC SUBSTRATE COMPONENTS (MAY ADD TO LESS THAN 100%)

<table>
<thead>
<tr>
<th>SUBSTRATE TYPE</th>
<th>COMPOSITION IN SAMPLING REACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETRITUS</td>
<td>15</td>
</tr>
<tr>
<td>STICKS, WOOD, COARSE PLANT MATERIALS (CPOM)</td>
<td></td>
</tr>
<tr>
<td>MUCK - MUD</td>
<td></td>
</tr>
<tr>
<td>BLACK, VERY FINE ORGANIC (FPOM)</td>
<td></td>
</tr>
<tr>
<td>MARL</td>
<td></td>
</tr>
<tr>
<td>GREY, SHELL FRAGMENTS</td>
<td></td>
</tr>
</tbody>
</table>

DEPRES:
- [ ] SLUDGE
- [ ] PAPER-FIBER
- [ ] SAWDUST
- [ ] REICL SHELLS
- [ ] SAND
- [ ] OTHER
**Riverine Assessment Form**

**Pennsylvania Riverine Condition Level 1 Rapid Assessment Version 1.0**

For use in weedy channels classified as intermittent or perennial

---

### Name(s) of Evaluator(s):

SAK, DKB, LAM, SYI, SRB, RNH, JBE, ABE

### Stream Name and Information:

SAC, DEM, LAM, SYI, SRB, RNH, JBE, ABE

---

1. **RIPARIAN VEGETATION:** Assess the floodplain along the entire EAP (visual estimates of aerial coverage from aerial photos with field verified acceptable).

   **Conditional Category**
   - **Optimal**
   - **Suboptimal**
     - High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.
     - Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 10% to 30% tree canopy cover and a maintained understory, herbaceous vegetation.
   - **Marginal**
     - High Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking stratum, tree protection, and wetland areas.
     - Low Marginal: Non-maintained, tree protection, and wetland areas.
   - **Poor**
     - Low Poor: Inopportune surfaces, some spoil banks, boulders, and other comparable conditions

   **Scores**
   - High: 10
   - Low: 0

   **NOTES>>**

   - Ensure the sum of % Riparian Blocks equal 100

   **Right Side**
   - % Riparian Area: 1.00%
   - Score: 3

   **Left Side**
   - % Riparian Area: 1.00%
   - Score: 3

---

2. **RIPARIAN ZONE OF INFLUENCE:** Assess land cover along both sides, 100 foot from edge of floodplain into upland along the entire EAP (visual estimates of aerial coverage from aerial photos with field verified acceptable).

   **Conditional Category**
   - **Optimal**
   - **Suboptimal**
     - High Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 30% to 60% tree canopy cover and containing both herbaceous and shrub layers or a non-maintained understory.
     - Low Suboptimal: Riparian areas with tree stratum (dbh > 3 inches) present, with 10% to 30% tree canopy cover and a maintained understory, herbaceous vegetation.
   - **Marginal**
     - High Marginal: Non-maintained, dense herbaceous vegetation, riparian areas lacking stratum, tree protection, and wetland areas.
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   - **Poor**
     - Low Poor: Inopportune surfaces, some spoil banks, boulders, and other comparable conditions

   **Scores**
   - High: 10
   - Low: 0

   **NOTES>>**

   - Ensure the sum of % Riparian ZOI Blocks equal 100

   **Right Side**
   - % Riparian Area: 1.00%
   - Score: 3

   **Left Side**
   - % Riparian Area: 0.00%
   - Score: 0

   **Comments:**
   - ZOIs consists of fill slope (veg.) and I-76 fastbound.

---

**Riverine ECOTONE CONDITION INDEX**

**RECI**

**NOTE:** The CIs and RECI should be rounded to 2 decimal places.

**THE RIVERINE ECOTONE CONDITION INDEX (RECI)**

RECI = (Sum of CIs/2)

---

**XXX-XXXX-XXX / Draft May 23, 2012 / Page 14**
S-JHS-21 overview, facing upstream.

S-JHS-21 overview, facing downstream.
**PHYSICAL CHARACTERIZATION/WATER QUALITY FIELD DATA SHEET**

<table>
<thead>
<tr>
<th>STREAM NAME</th>
<th>5-JHS-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>STREAM CLASS</td>
<td>Perennial</td>
</tr>
</tbody>
</table>

**INVESTIGATORS**

<table>
<thead>
<tr>
<th>SRC</th>
<th>DLM</th>
<th>LAU</th>
<th>RIVERMILE</th>
</tr>
</thead>
</table>

**DATE** | 5/23/11 | 24 HOUR (I.E. 16:45) |

**LOCATION** | Somerset County, PA |

**HAS THERE BEEN A HEAVY RAIN IN THE LAST 7 DAYS?**

| YES □ | NO □ |

**WEATHER CONDITIONS**

- STORM (HEAVY RAIN)
- RAIN (STEADY RAIN)
- SHOWERS (INTERMITTENT)
- % CLOUD COVER
- CLEAR/SUNNY

**SITE LOCATION MAP**

PROVIDE A PLAN VIEW SKETCH WITH A NORTH ARROW (INDICATE DIRECTIONS OF PHOTOGRAPHS)

**STREAM CHARACTERIZATION**

- PERENNIAL
- EPHEMERAL
- INTERMITTENT
- TIDAL

**STREAM ORIGIN**

- GLACIAL
- NON-GLACIAL MONTANE
- SWAMP AND BOG

**STREAM TYPE**

- COLD WATER
- WARM WATER
- SPRING FED
- MIXTURE OF ORIGINS

**PERMITS**

- PTC

**PROJECT**

- Allegheny Tunnel