2018 MBSS Summer Habitat Assessment Training

Harford Community College
May 29, 2018

MBSS Summer Habitat

Regular Summer Habitat Data Sheet

SITE | Watershed Code | Segment | Type | Year | Reviewer: First / Second

BANK EROSION

Left Bank | Right Bank

Extent (m)

Severity ___
0 = none
1 = min
2 = mod
3 = severe

Average Height (m)

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

- Cobble
- Gravel
- Sand
- Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m)	Depth (cm)	Velocity (m/s)
0 0 0 0	0 0 0	0 0 0

STREAM CHARACTER

- Braided
- Riffle
- Run/Glide
- Deep Pool (>= 0.5m)
- Shallow Pool (< 0.5m)
- Gravel
- Sand
- Silt/Clay
- Cobble
- Bedrock
- Boulder >2m
- Boulder <2m
- Beaver Pond
- Overhead Cover
- Undercut Bank
- Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

- No. of Instream Woody Debris
- No. of Dewatered Woody Debris
- No. of Instream Rootwads
- No. of Dewatered Rootwads

Maximum Depth (cm)

Wetted Width (m)	Thalweg Depth (cm)	Thalweg Velocity (m/s)

Alternative Flow Measurements

- Distance (cm)
- Depth (cm)
- Width (cm)
- Time (sec) 1. 2. 3.

Summer Habitat Certification Development Data Sheet

SITE | Watershed Code | Segment | Type | Year | Reviewer: First / Second

BANK EROSION

Left Bank | Right Bank

Extent (m)

Severity ___
0 = none
1 = min
2 = mod
3 = severe

Average Height (m)

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

- Cobble
- Gravel
- Sand
- Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m)	Depth (cm)	Velocity (m/s)
0 0 0 0	0 0 0	0 0 0

STREAM CHARACTER

- Braided
- Riffle
- Run/Glide
- Deep Pool (>= 0.5m)
- Shallow Pool (< 0.5m)
- Gravel
- Sand
- Silt/Clay
- Cobble
- Bedrock
- Boulder >2m
- Boulder <2m
- Beaver Pond
- Overhead Cover
- Undercut Bank
- Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

- No. of Instream Woody Debris
- No. of Dewatered Woody Debris
- No. of Instream Rootwads
- No. of Dewatered Rootwads

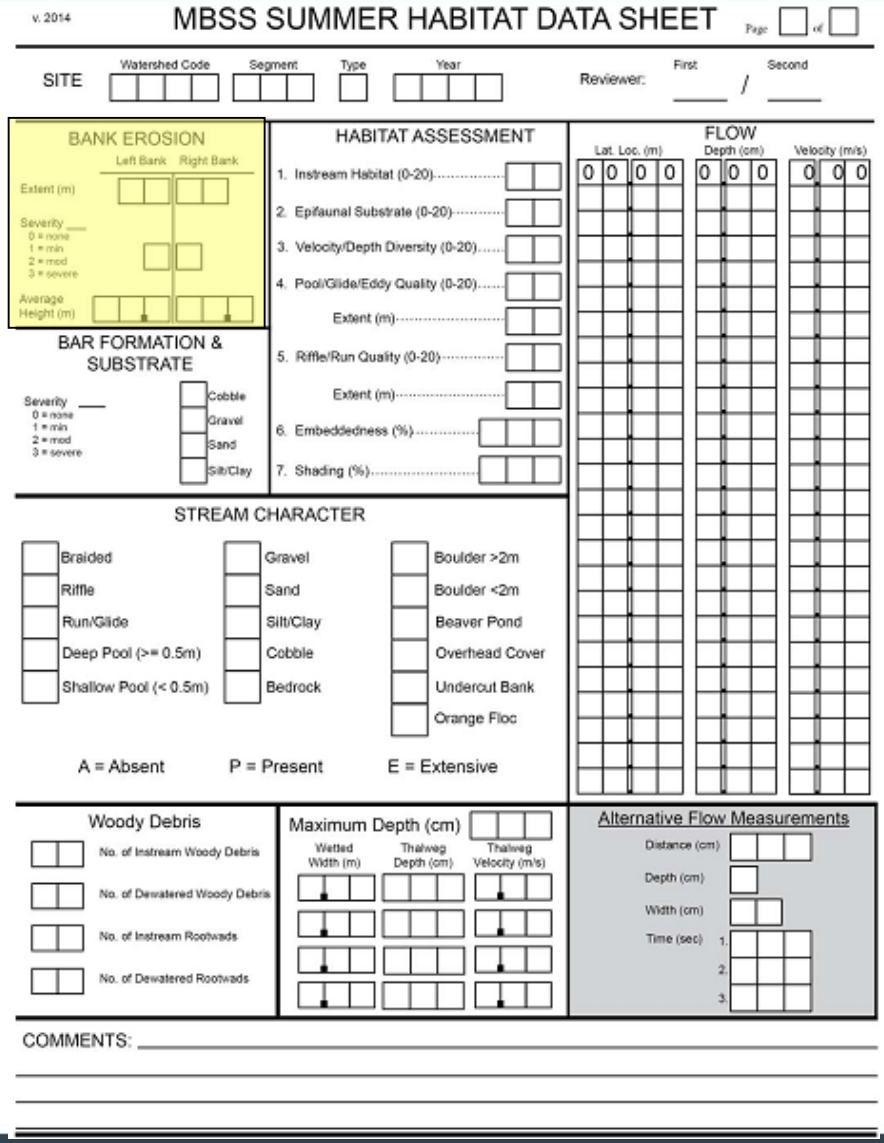
MBSS Summer Habitat Certification Development Questions

How many times have you attended MBSS summer habitat training?
☐ 1-2 ☐ 3-5 ☐ 6-10 ☐ >10

At how many field sites have you scored MBSS summer habitat?
☐ 0 ☐ 1-10 ☐ 11-100 ☐ 101-250 ☐ >250

For how many years have you been conducting fieldwork in non-tidal streams?
☐ 0 ☐ 1-2 ☐ 3-5 ☐ 6-10 ☐ >10

MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET

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SITE Watershed Code ☐☐☐☐ Segment ☐☐☐ Type ☐ Year ☐☐☐☐ Reviewer: First ____ / Second ____

BANK EROSION

Left Bank Right Bank

Extent (m) ☐☐ ☐☐

Severity ___
0 = none
1 = min
2 = mod
3 = severe

☐ ☐

Average Height (m) ☐☐ ☐☐

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

☐ Cobble
☐ Gravel
☐ Sand
☐ Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20) ☐☐
2. Epifaunal Substrate (0-20) ☐☐
3. Velocity/Depth Diversity (0-20) ☐☐
4. Pool/Glide/Eddy Quality (0-20) ☐☐
   Extent (m) ☐☐
5. Riffle/Run Quality (0-20) ☐☐
   Extent (m) ☐☐
6. Embeddedness (%) ☐☐☐
7. Shading (%) ☐☐☐

FLOW

Lat. Loc. (m)				Depth (cm)			Velocity (m/s)		
0	0	0	0	0	0	0	0	0	0

STREAM CHARACTER

☐ Braided	☐ Gravel	☐ Boulder >2m
☐ Riffle	☐ Sand	☐ Boulder <2m
☐ Run/Glide	☐ Silt/Clay	☐ Beaver Pond
☐ Deep Pool (>= 0.5m)	☐ Cobble	☐ Overhead Cover
☐ Shallow Pool (< 0.5m)	☐ Bedrock	☐ Undercut Bank
		☐ Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

☐☐ No. of Instream Woody Debris
☐☐ No. of Dewatered Woody Debris
☐☐ No. of Instream Rootwads
☐☐ No. of Dewatered Rootwads

Maximum Depth (cm) ☐☐☐

Wetted Width (m)	Thalweg Depth (cm)	Thalweg Velocity (m/s)
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐

Alternative Flow Measurements

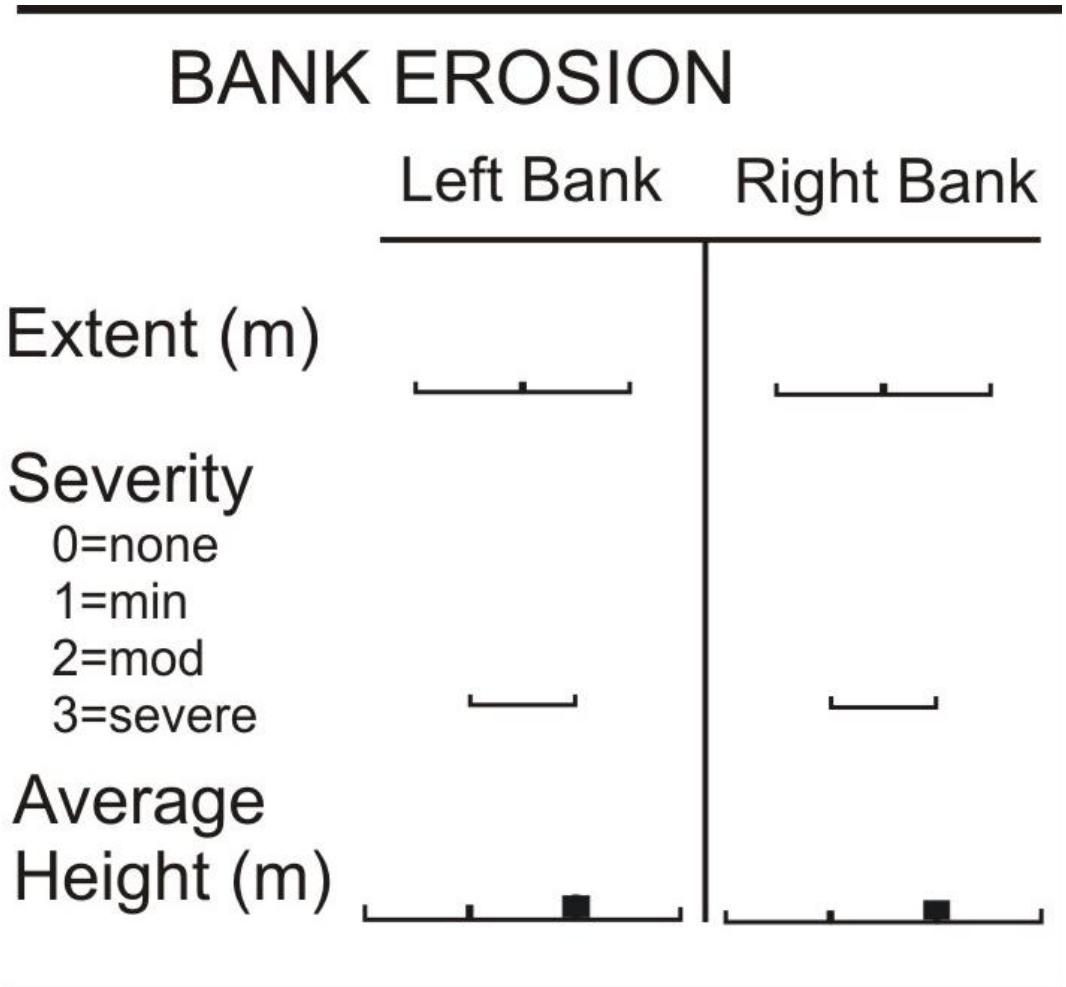
Distance (cm) ☐☐☐
Depth (cm) ☐
Width (cm) ☐☐
Time (sec) 1. ☐☐☐
2. ☐☐☐
3. ☐☐☐

COMMENTS: _____

MBSS Summer Habitat Data Sheet

- **Bank Erosion**
- Bar Formation
- Habitat Assessment
- Stream Character
- Woody Debris
- Transect Measurements
- Stream Flow

MBSS Summer Habitat



MBSS Summer Habitat

No bank erosion

Extent = 0

Severity = 0 (none)

Average Height = 0

MBSS Summer Habitat

Minimum bank erosion

Extent = 10 m

Severity = 1

Average Height = 0.2 m

MBSS Summer Habitat

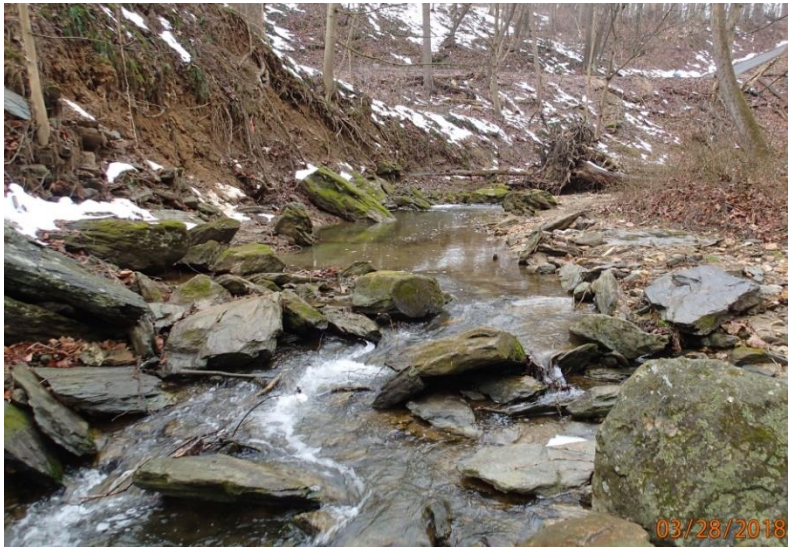
Moderate bank erosion

Extent = 40 m

Severity = 2

Average Height = 0.6 m

MBSS Summer Habitat



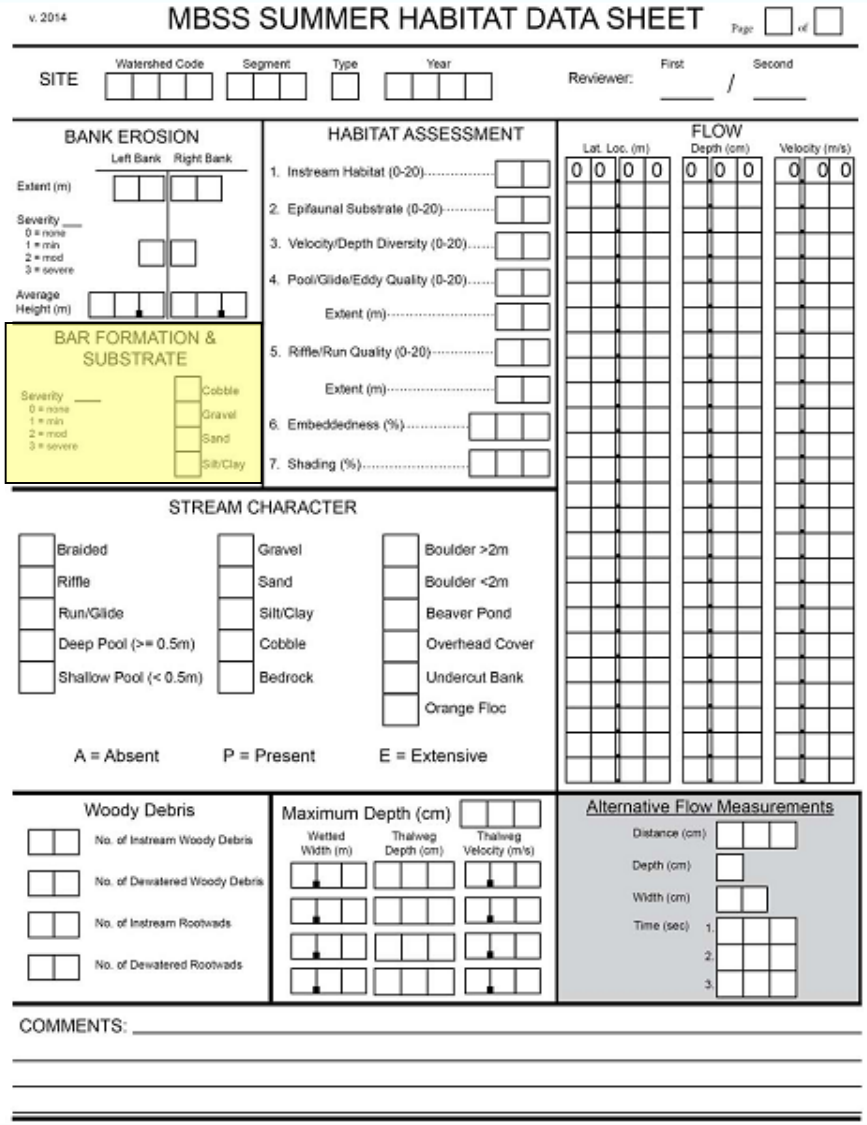
Severe bank erosion

Extent = 75 m

Severity = 3

Average Height = 2 m

MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET

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SITE — Watershed Code | Segment | Type | Year — Reviewer: First / Second

BANK EROSION

Left Bank | Right Bank

Extent (m)

Severity
0 = none
1 = min
2 = mod
3 = severe

Average Height (m)

BAR FORMATION & SUBSTRATE

Severity
0 = none
1 = min
2 = mod
3 = severe

Cobble
Gravel
Sand
Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m) | Depth (cm) | Velocity (m/s)

STREAM CHARACTER

- Braided
- Riffle
- Run/Glide
- Deep Pool (>= 0.5m)
- Shallow Pool (< 0.5m)
- Gravel
- Sand
- Silt/Clay
- Cobble
- Bedrock
- Boulder >2m
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- Overhead Cover
- Undercut Bank
- Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

- No. of Instream Woody Debris
- No. of Dewatered Woody Debris
- No. of Instream Rootwads
- No. of Dewatered Rootwads

Maximum Depth (cm)

Wetted Width (m) | Thalweg Depth (cm) | Thalweg Velocity (m/s)

Alternative Flow Measurements

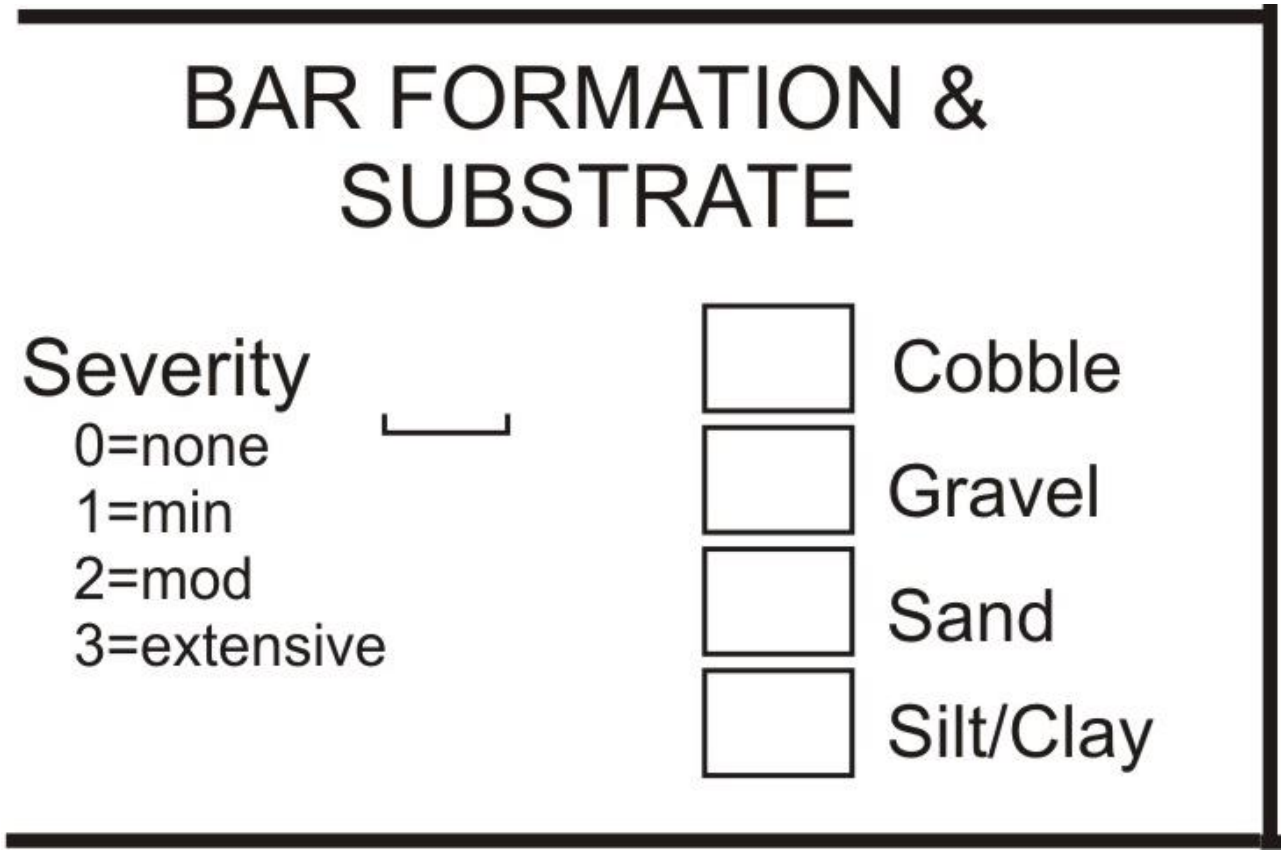
- Distance (cm)
- Depth (cm)
- Width (cm)
- Time (sec) 1. 2. 3.

COMMENTS:

MBSS Summer Habitat Data Sheet

- Bank Erosion
- **Bar Formation**
- Habitat Assessment
- Stream Character
- Woody Debris
- Transect Measurements
- Stream Flow

MBSS Summer Habitat



Characterize most dominant substrate type

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Bar Formation = None

MBSS Summer Habitat

Bar Formation = Minor
(Sand, Gravel)

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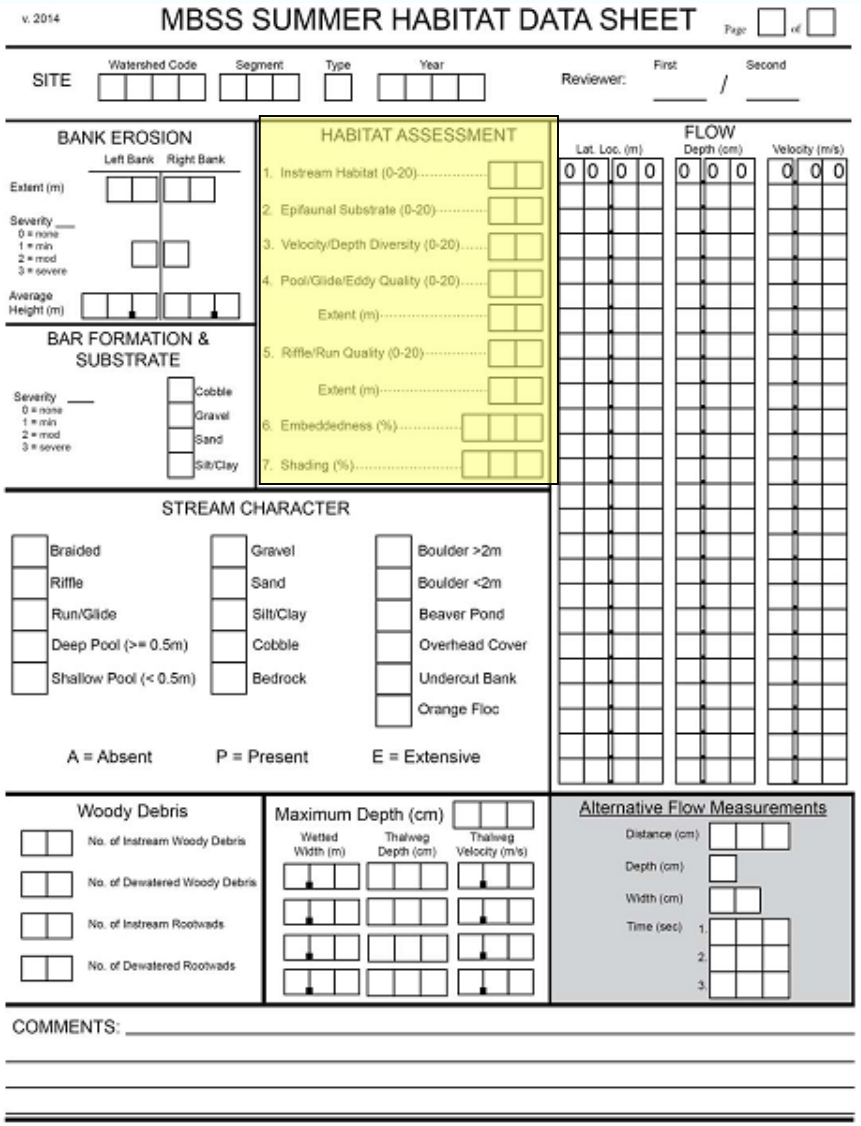
Bar Formation = Moderate
(Sand, Silt/Clay)

MBSS Summer Habitat

Bar Formation = Extensive
(Cobble, Gravel, Sand, Silt/Clay)

MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET

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Left Bank | Right Bank

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0 = none
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Average Height (m)

BAR FORMATION & SUBSTRATE

Severity
0 = none
1 = min
2 = mod
3 = severe

☐ Cobble
☐ Gravel
☐ Sand
☐ Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m) | Depth (cm) | Velocity (m/s)

STREAM CHARACTER

☐ Braided
☐ Riffle
☐ Run/Glide
☐ Deep Pool (>= 0.5m)
☐ Shallow Pool (< 0.5m)

☐ Gravel
☐ Sand
☐ Silt/Clay
☐ Cobble
☐ Bedrock

☐ Boulder >2m
☐ Boulder <2m
☐ Beaver Pond
☐ Overhead Cover
☐ Undercut Bank
☐ Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

☐ No. of Instream Woody Debris
☐ No. of Dewatered Woody Debris
☐ No. of Instream Rootwads
☐ No. of Dewatered Rootwads

Maximum Depth (cm) ☐☐☐

Wetted Width (m) | Thalweg Depth (cm) | Thalweg Velocity (m/s)

Alternative Flow Measurements

Distance (cm) ☐☐☐
Depth (cm) ☐
Width (cm) ☐☐
Time (sec) 1. ☐☐☐ 2. ☐☐☐ 3. ☐☐☐

COMMENTS: _____

MBSS Summer Habitat Data Sheet

- Bank Erosion
- Bar Formation
- **Habitat Assessment**
- Stream Character
- Woody Debris
- Transect Measurements
- Stream Flow

MBSS Summer Habitat

HABITAT ASSESSMENT

1. Instream Habitat (0-20) ..... [ ][ ]
2. Epifaunal Substrate (0-20) ..... [ ][ ]
3. Velocity/Depth Diversity (0-20) ..... [ ][ ]
4. Pool/Glide/Eddy Quality (0-20) ..... [ ][ ]
   Extent (m) ..... [ ][ ]
5. Riffle/Run Quality (0-20) ..... [ ][ ]
   Extent (m) ..... [ ][ ]
6. Embeddedness (%) ..... [ ][ ][ ]
7. Shading (%) ..... [ ][ ][ ]

MBSS Summer Habitat

MBSS Stream Habitat Assessment Guidance Sheet				
Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
1. Instream Habitat[a]	Greater than 50% of a variety of cobble, boulder, submerged logs, undercut banks, snags, rootwads, aquatic plants, or other stable habitat	30-50% of stable habitat. Adequate habitat	10-30% mix of stable habitat. Habitat availability less than desirable	Less than 10% stable habitat. Lack of habitat is obvious
2. Epifaunal Substrate[b]	Preferred substrate abundant, stable, and at full colonization potential (riffles well developed and dominated by cobble; and/or woody debris prevalent, not new, and not transient)	Abund. of cobble with gravel &/or boulders common; or woody de-bris, aquatic veg., undercut banks, or other pro-ductive surfaces common but not prevalent /suited for full colonization	Large boulders and/or bedrock prevalent; cobble, woody debris, or other preferred surfaces uncommon	Stable substrate lacking; or particles are over 75% surrounded by fine sediment or flocculent material
3. Velocity/Depth Diversity[c]	Slow (<0.3 m/s), deep (>0.5 m); slow, shallow (<0.5 m); fast (>0.3 m/s), deep; fast, shallow habitats all present	Only 3 of the 4 habitat categories present	Only 2 of the 4 habitat categories present	Dominated by 1 velocity/depth category (usually pools)
4. Pool/Glide/Eddy Quality[d]	Complex cover/&/or depth > 1.5 m; both deep (> .5 m)/shallows (< .2 m) present	Deep (>0.5 m) areas present; but only moderate cover	Shallows (<0.2 m) prevalent in pool/glide/eddy habitat; little cover	Max depth <0.2 m in pool/glide/eddy habitat; or absent completely
5. Riffle/Run Quality[e]	Riffle/run depth generally >10 cm, with maximum depth greater than 50 cm (maximum score); substrate stable (e.g. cobble, boulder) & variety of current velocities	Riffle/run depth generally 5-10 cm, variety of current velocities	Riffle/run depth generally 1-5 cm; primarily a single current velocity	Riffle/run depth < 1 cm; or riffle/run substrates concreted
6. Embeddedness[f]	Percentage that gravel, cobble, and boulder particles are surrounded by line sediment or flocculent material.			
7. Shading[g]	Percentage of segment that is shaded (duration is considered in scoring). 0% = fully exposed to sunlight all day in summer; 100% = fully and densely shaded all day in summer			
8. Trash Rating [h]	Little or no human refuse visible from stream channel or riparian zone	Refuse present in minor amounts	Refuse present in moderate amounts	Refuse abundant and unsightly

MBSS Summer Habitat

Instream Habitat - Habitat quality as it relates to fishes

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
1. Instream Habitat[a]	Greater than 50% of a variety of cobble, boulder, submerged logs, undercut banks, snags, rootwads, aquatic plants, or other stable habitat	30-50% of stable habitat. Adequate habitat	10-30% mix of stable habitat. Habitat availability less than desirable	Less than 10% stable habitat. Lack of habitat is obvious

MBSS Summer Habitat

Instream Habitat

Optimal 16-20
Greater than 50% of a variety of cobble, boulder, submerged logs, undercut banks, snags, rootwads, aquatic plants, or other stable habitat

Score = 20

Sub-Optimal 11-15
30-50% of stable habitat. Adequate habitat

Score = 14

Instream Habitat

Marginal 6-10
10-30% mix of stable habitat. Habitat availability less than desirable

Score = 8

Poor 0-5
Less than 10% stable habitat. Lack of habitat is obvious

Score = 4

MBSS Summer Habitat

Epifaunal Substrate - Habitat quality as it relates to benthic macroinvertebrates

MBSS Stream Habitat Assessment Guidance Sheet

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
2. Epifaunal Substrate[(b)]	Preferred substrate abundant, stable, and at full colonization potential (riffles well developed and dominated by cobble; and/or woody debris prevalent, not new, and not transient)	Abund. of cobble with gravel &/or boulders common; or woody de-bris, aquatic veg., under-cut banks, or other pro-ductive surfaces common but not prevalent /suited for full colonization	Large boulders and/or bedrock prevalent; cobble, woody debris, or other preferred surfaces uncommon	Stable substrate lacking; or particles are over 75% surrounded by fine sediment or flocculent material

Epifaunal Substrate

Preferred substrate abundant, stable, and at full colonization potential (riffles well developed and dominated by cobble; and/or woody debris prevalent, not new, and not transient)

Optimal

Score = 19

Abund. of cobble with gravel &/or boulders common; or woody de-bris, aquatic veg., under-cut banks, or other pro-ductive surfaces common but not prevalent /suited for full colonization

Sub-optimal
Score = 14

Epifaunal Substrate

Large boulders and/or bedrock prevalent; cobble, woody debris, or other preferred surfaces uncommon

Marginal
Score = 8

Stable substrate lacking; or particles are over 75% surrounded by fine sediment or flocculent material

Poor
Score = 2

MBSS Summer Habitat

Velocity/Depth Diversity – Based on the variety of velocity/depth regimes present at a site

MBSS Stream Habitat Assessment Guidance Sheet

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
3. Velocity/Depth Diversity[(c)]	Slow (<0.3 m/s), deep (>0.5 m); slow, shallow (<0.5 m); fast (>0.3 m/s), deep; fast, shallow habitats all present	Only 3 of the 4 habitat categories present	Only 2 of the 4 habitat categories present	Dominated by 1 velocity/depth category (usually pools)

MBSS Summer Habitat

Pool/Glide/Eddy Quality – Based on the depth and spatial complexity of slow water habitat present at site

MBSS Stream Habitat Assessment Guidance Sheet

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
4. Pool/Glide/Eddy Quality[(d)]	Complex cover/&/or depth > 1.5 m; both deep (> .5 m)/shallows (< .2 m) present	Deep (>0.5 m) areas present; but only moderate cover	Shallows (<0.2 m) prevalent in pool/glide/eddy habitat; little cover	Max depth <0.2 m in pool/glide/eddy habitat; or absent completely

MBSS Summer Habitat

Riffle/Run Quality – Based on the depth,complexity, and functional importance of riffle/run habitat present at site

MBSS Stream Habitat Assessment Guidance Sheet

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
5. Riffle/Run Quality[e]	Riffle/run depth generally >10 cm, with maximum depth greater than 50 cm (maximum score); substrate stable (e.g. cobble, boulder) & variety of current velocities	Riffle/run depth generally 5-10 cm, variety of current velocities	Riffle/run depth generally 1-5 cm; primarily a single current velocity	Riffle/run depth < 1 cm; or riffle/run substrates concreted

MBSS Summer Habitat

Embeddedness – Measured at fastest flowing section in the 75 m site

6. Embeddedness[f]	Percentage that gravel, cobble, and boulder particles are surrounded by line sediment or flocculent material.

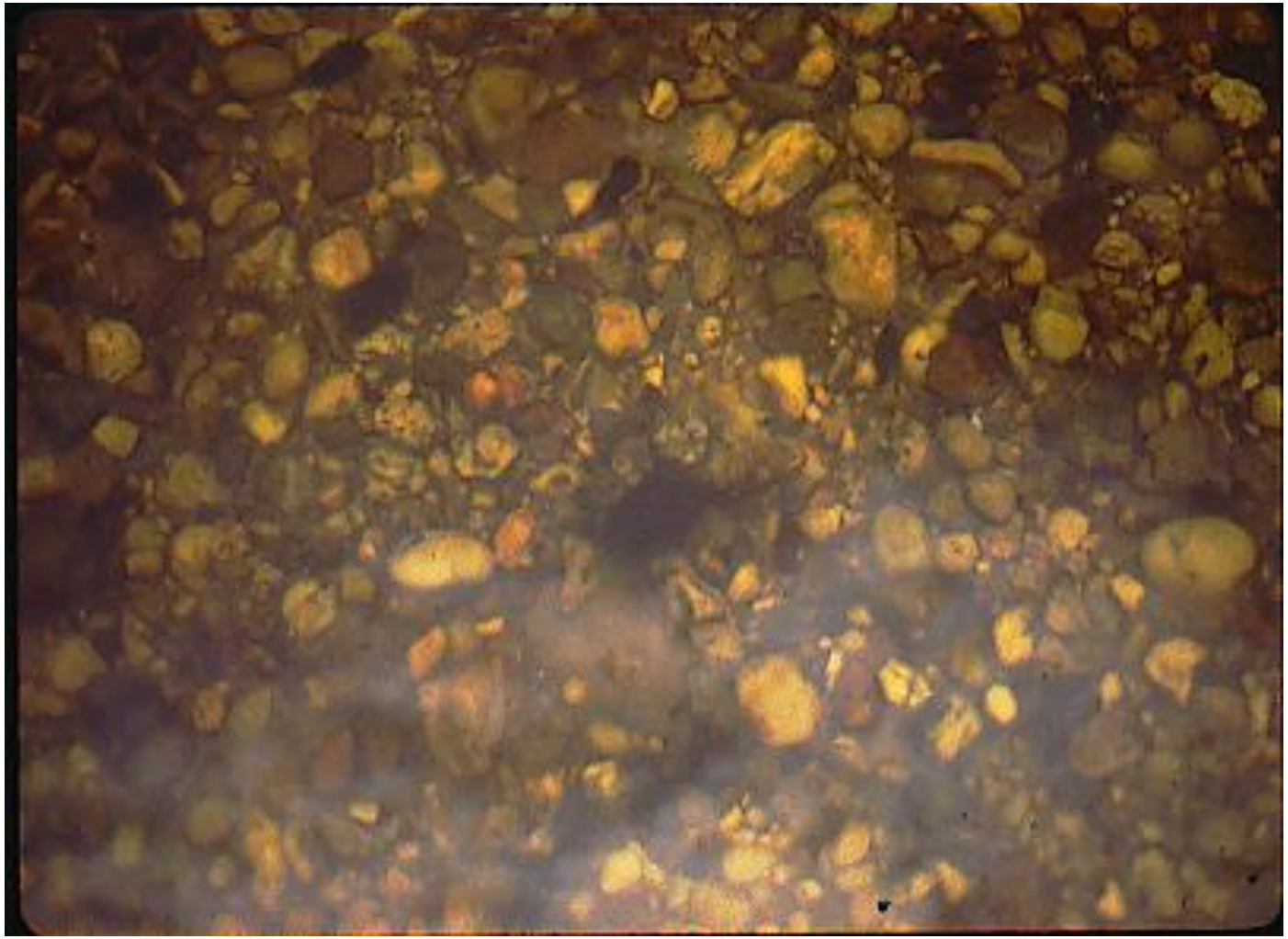
MBSS Summer Habitat

0%

MBSS Summer Habitat

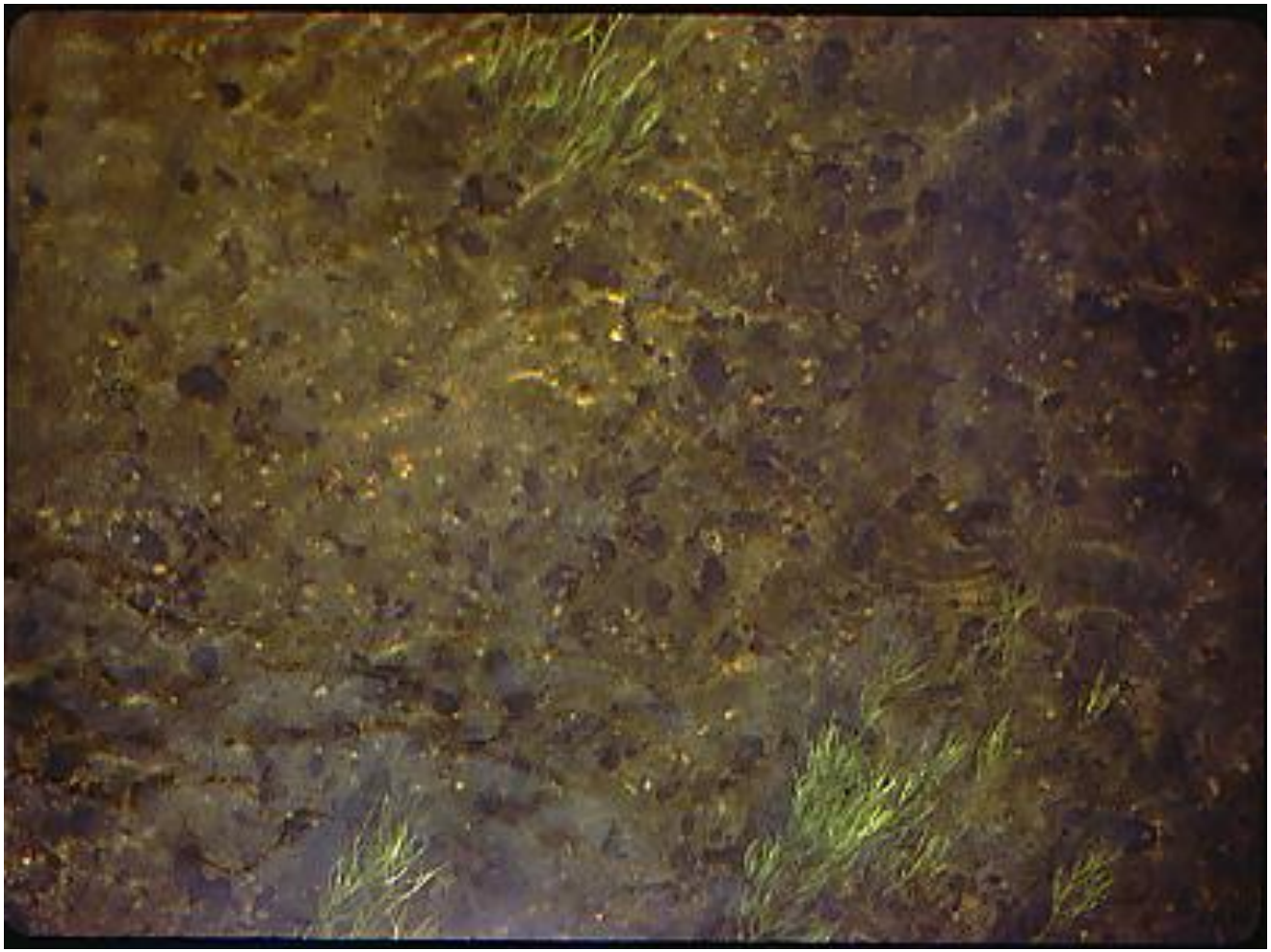
20%

MBSS Summer Habitat



50%

MBSS Summer Habitat



85%

MBSS Summer Habitat

100%

MBSS Summer Habitat

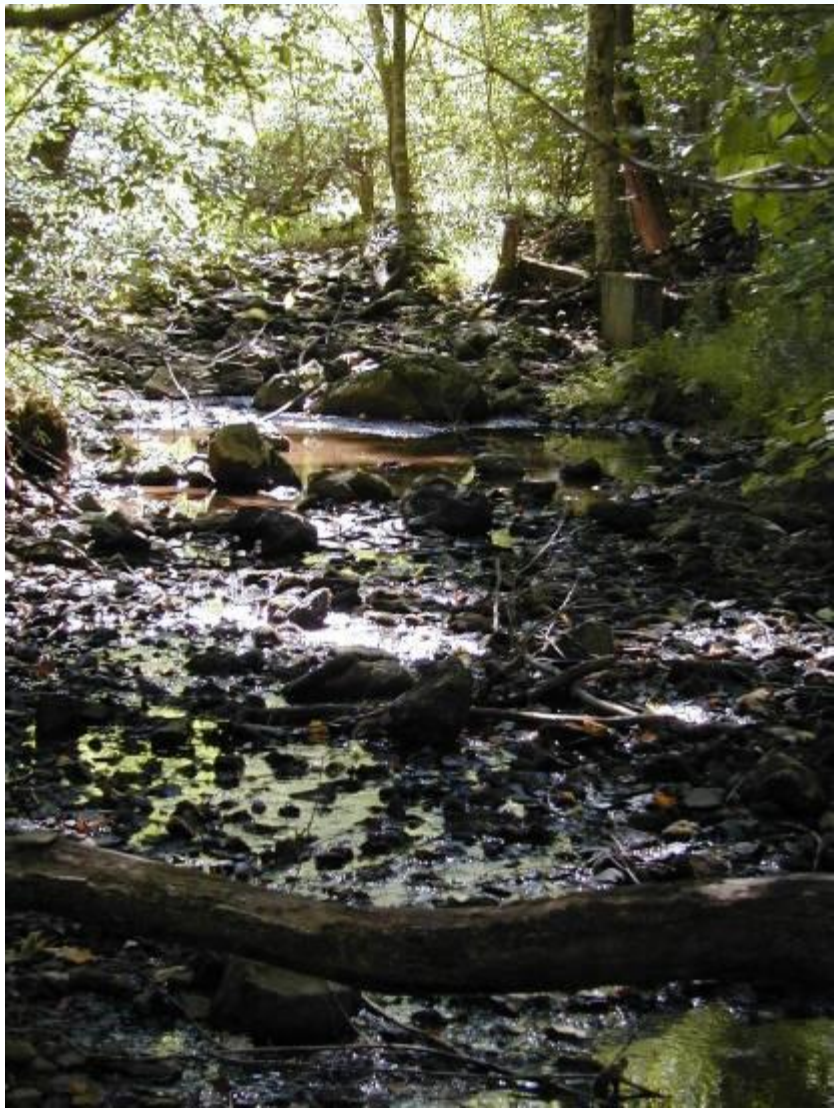
Percent Shading – Rated based on degree and duration of shading at a site throughout the day

7.	Shading[g]	Percentage of segment that is shaded (duration is considered in scoring). 0% = fully exposed to sunlight all day in summer; 100% = fully and densely shaded all day in summer

MBSS Summer Habitat

100%

MBSS Summer Habitat

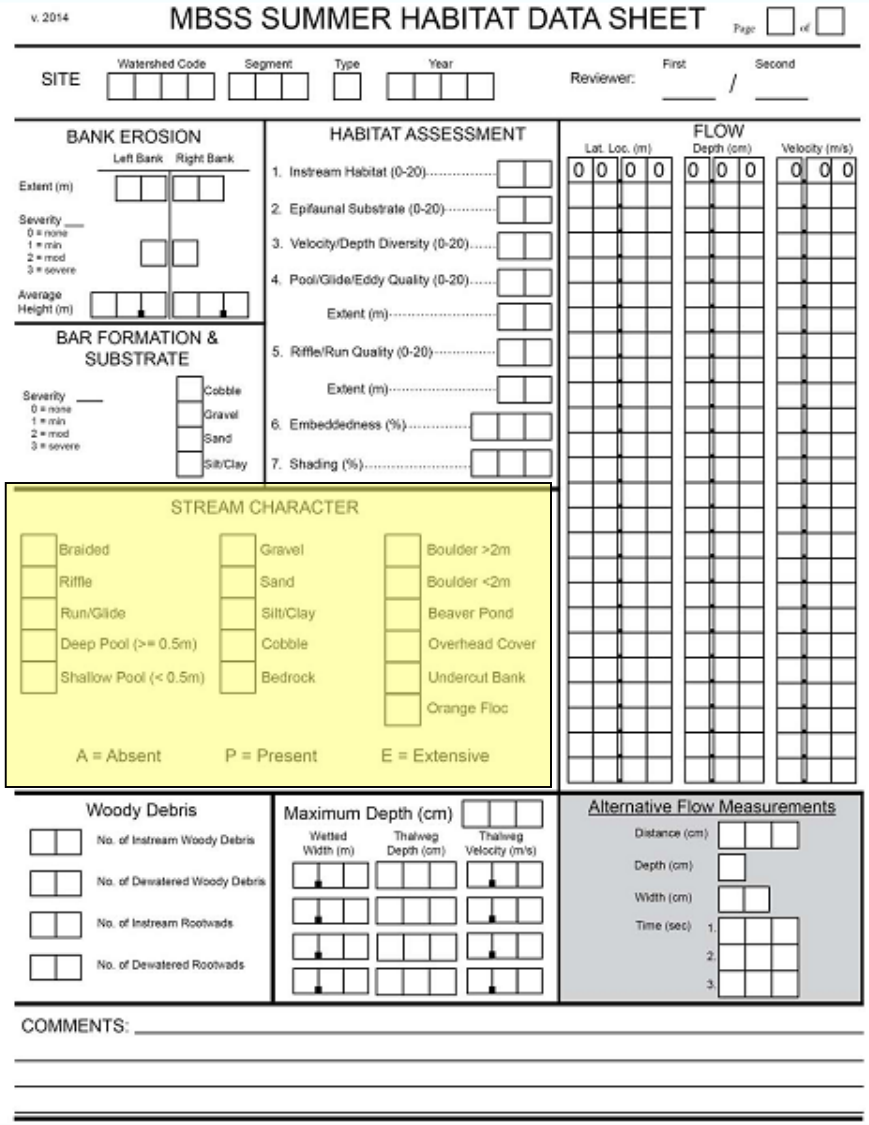


75%

MBSS Summer Habitat

0%

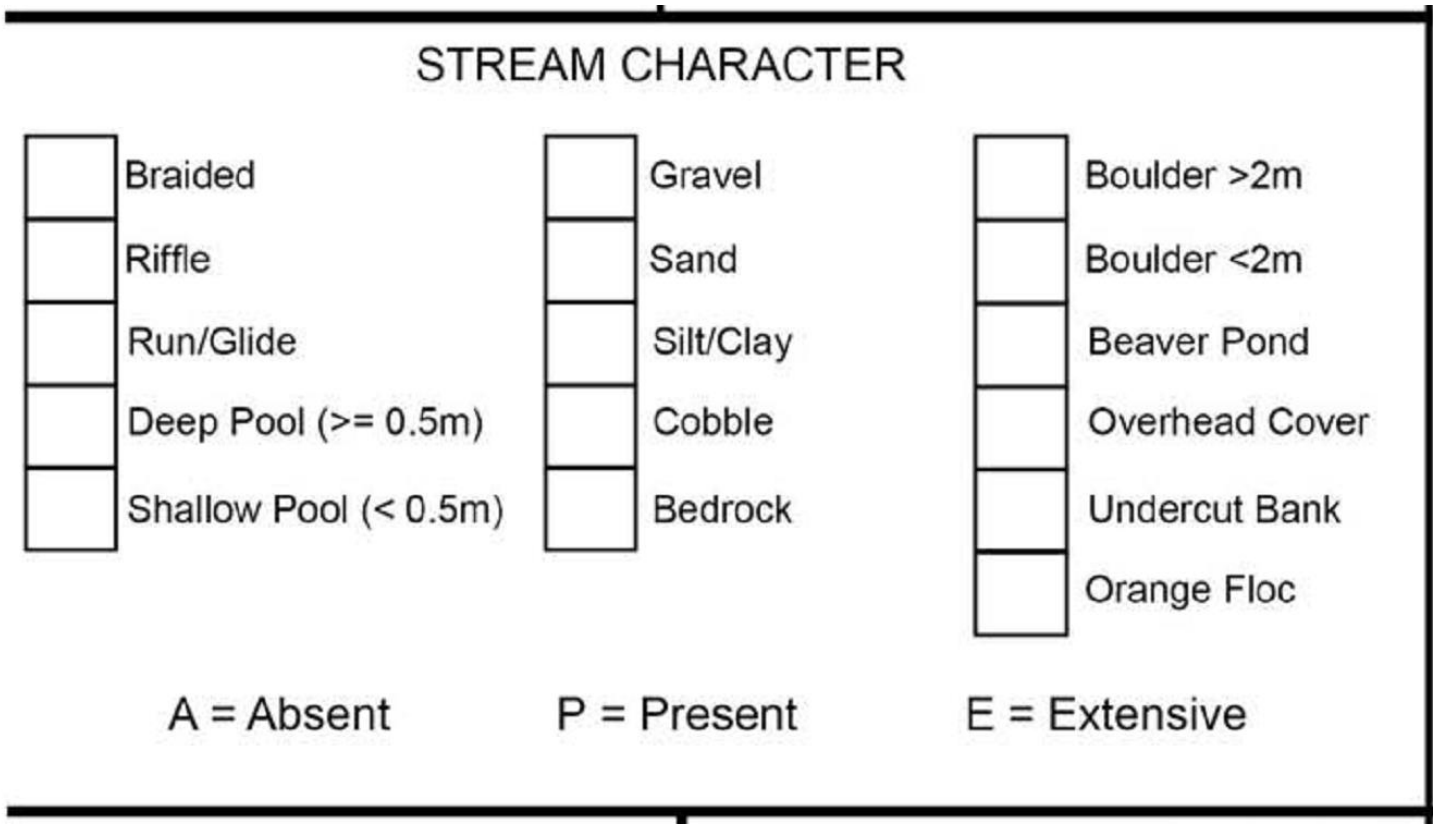
MBSS Summer Habitat



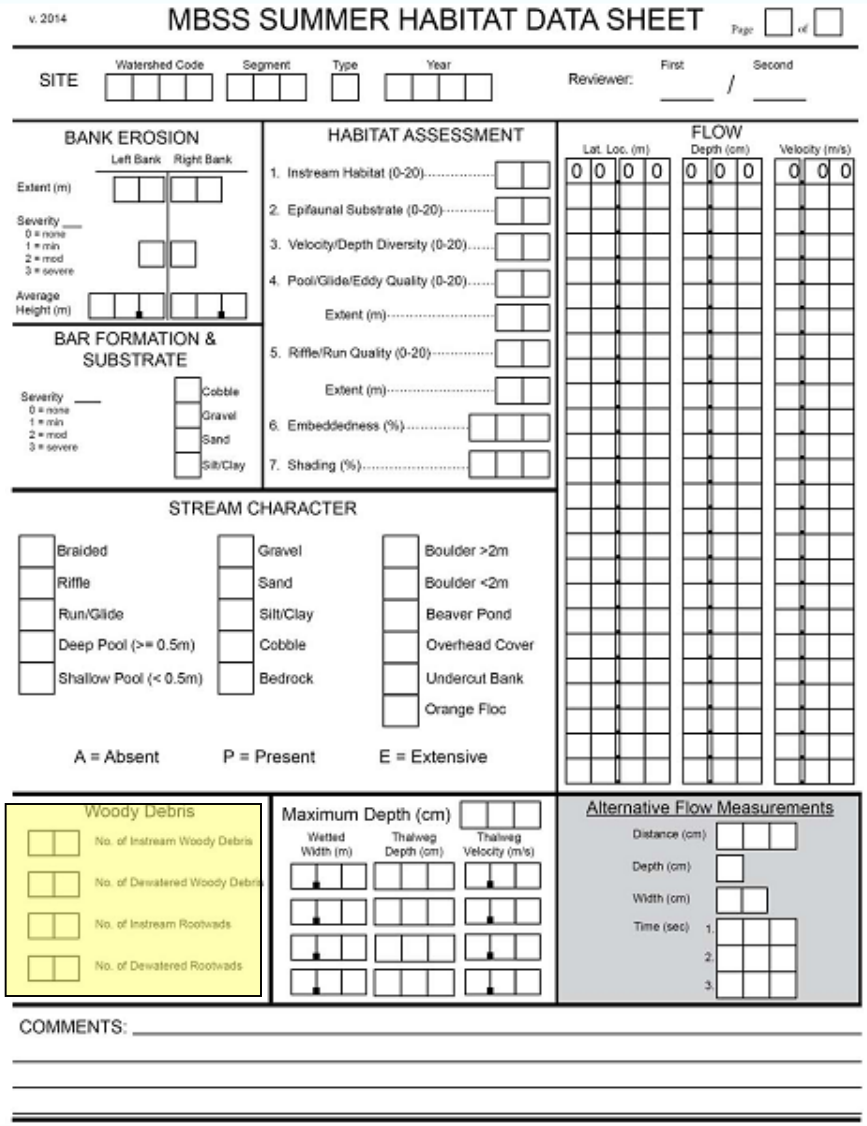
MBSS Summer Habitat Data Sheet

- Bank Erosion
- Bar Formation
- Habitat Assessment
- **Stream Character**
- Woody Debris
- Transect Measurements
- Stream Flow

MBSS Summer Habitat



MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET

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SITE — Watershed Code | Segment | Type | Year — Reviewer: First / Second

BANK EROSION

Left Bank | Right Bank

Extent (m)

Severity ___
0 = none
1 = min
2 = mod
3 = severe

Average Height (m)

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

☐ Cobble
☐ Gravel
☐ Sand
☐ Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m) | Depth (cm) | Velocity (m/s)

0 0 | 0 0 | 0 0 | 0 0 0

STREAM CHARACTER

☐ Braided
☐ Riffle
☐ Run/Glide
☐ Deep Pool (>= 0.5m)
☐ Shallow Pool (< 0.5m)

☐ Gravel
☐ Sand
☐ Silt/Clay
☐ Cobble
☐ Bedrock

☐ Boulder >2m
☐ Boulder <2m
☐ Beaver Pond
☐ Overhead Cover
☐ Undercut Bank
☐ Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

No. of Instream Woody Debris
No. of Dewatered Woody Debris
No. of Instream Rootwads
No. of Dewatered Rootwads

Maximum Depth (cm) ☐☐☐

Wetted Width (m) | Thalweg Depth (cm) | Thalweg Velocity (m/s)

Alternative Flow Measurements

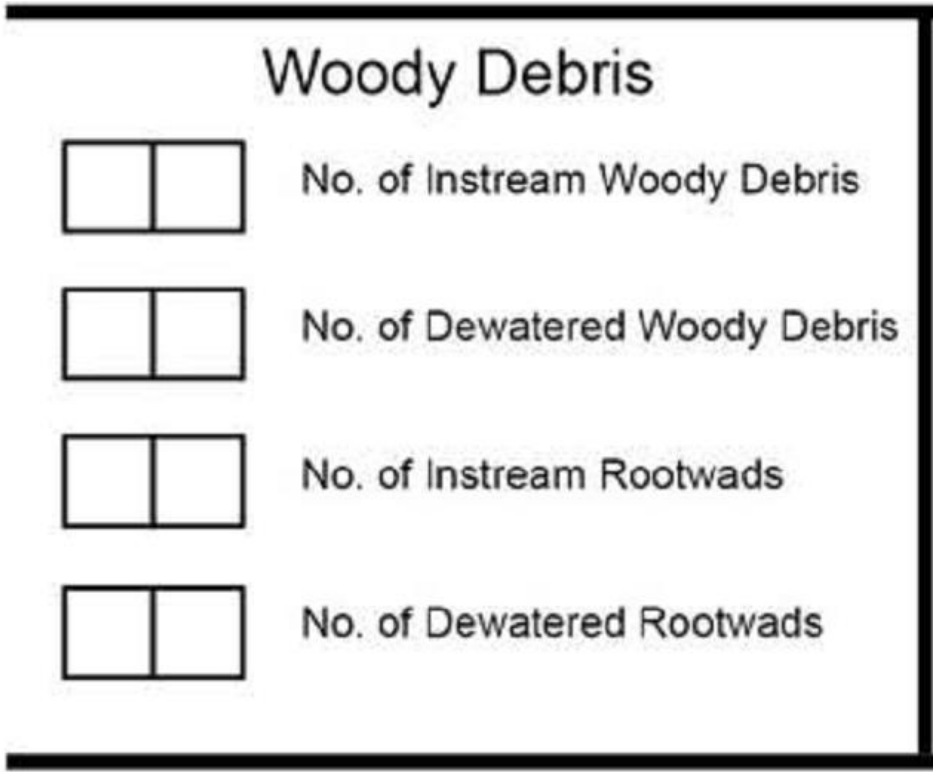
Distance (cm) ☐☐☐
Depth (cm) ☐
Width (cm) ☐☐
Time (sec) 1. ☐☐☐ 2. ☐☐☐ 3. ☐☐☐

COMMENTS: _____

MBSS Summer Habitat Data Sheet

- Bank Erosion
- Bar Formation
- Habitat Assessment
- Stream Character
- **Woody Debris**
- Transect Measurements
- Stream Flow

MBSS Summer Habitat



Large Woody Debris

- 10 cm diameter
- 1.5 m long

Rootwads

- 15 cm DBH

Instream

- In direct contact with water

Dewatered

- Potential to enter stream

MBSS Summer Habitat

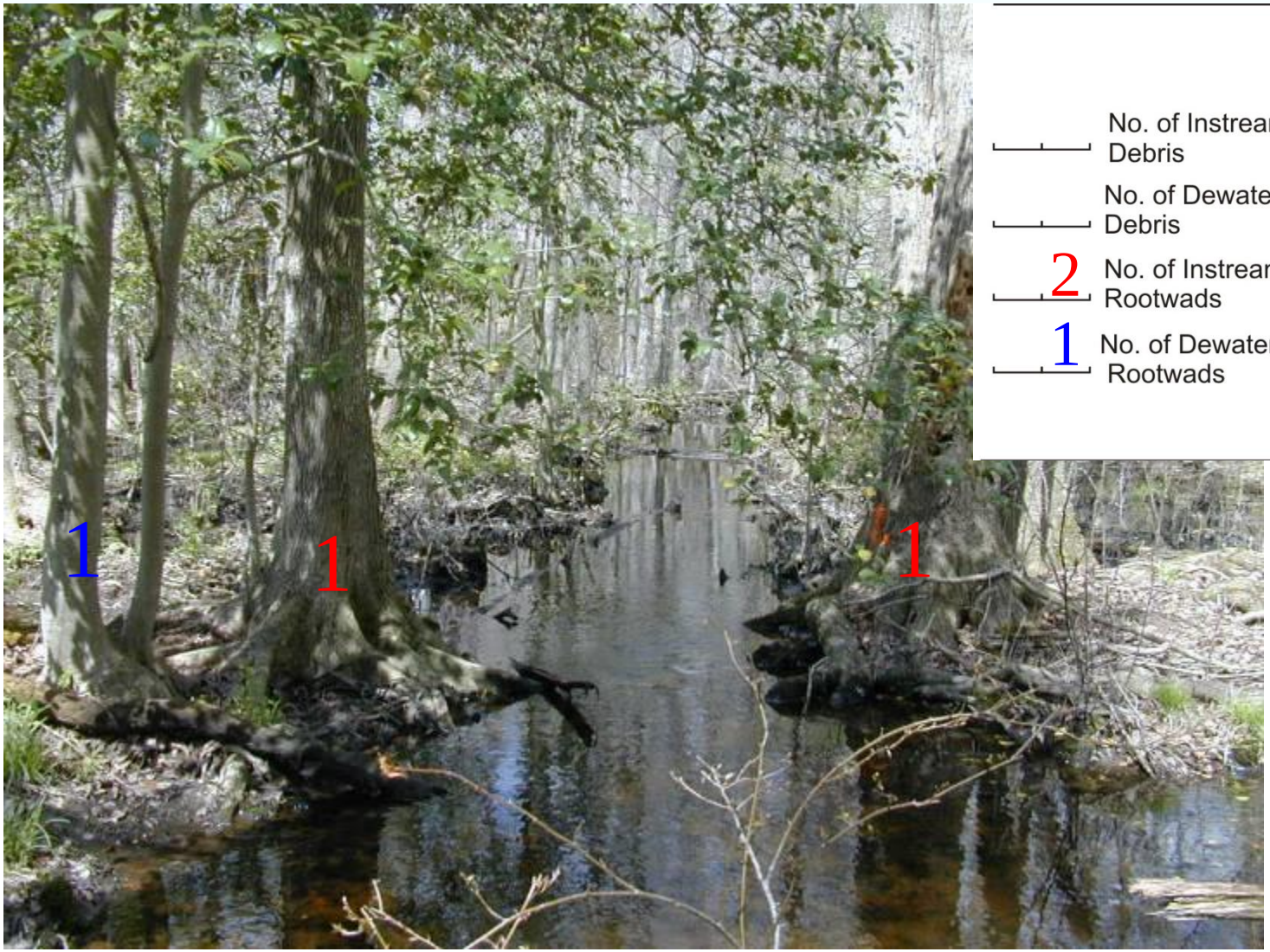
2 No. of Instream Woody Debris

1 No. of Dewatered Woody Debris

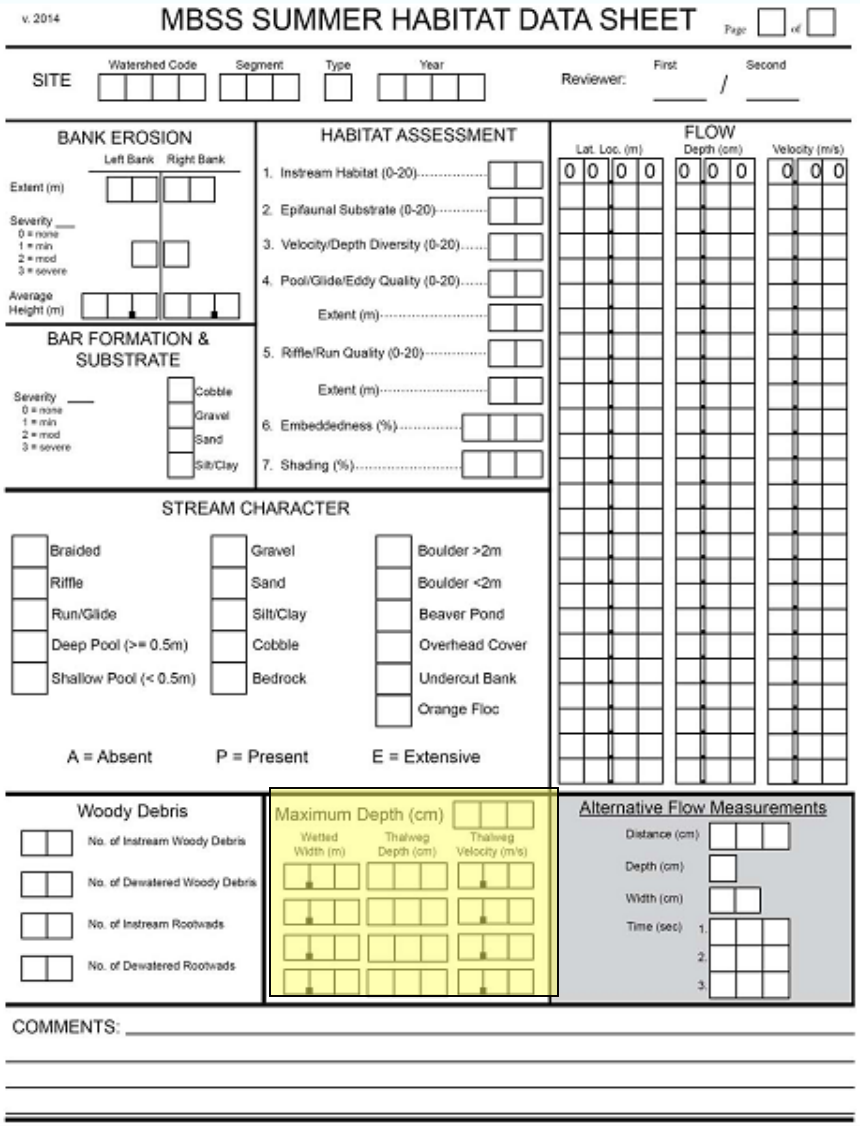
No. of Instream Rootwads

No. of Dewatered Rootwads

MBSS Summer Habitat



MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET

Page ___ of ___

SITE — Watershed Code | Segment | Type | Year — Reviewer: First / Second

BANK EROSION

Left Bank | Right Bank

Extent (m)

Severity ___
0 = none
1 = min
2 = mod
3 = severe

Average Height (m)

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

Cobble
Gravel
Sand
Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20)
2. Epifaunal Substrate (0-20)
3. Velocity/Depth Diversity (0-20)
4. Pool/Glide/Eddy Quality (0-20)
   Extent (m)
5. Riffle/Run Quality (0-20)
   Extent (m)
6. Embeddedness (%)
7. Shading (%)

FLOW

Lat. Loc. (m) | Depth (cm) | Velocity (m/s)

STREAM CHARACTER

- Braided
- Riffle
- Run/Glide
- Deep Pool (>= 0.5m)
- Shallow Pool (< 0.5m)
- Gravel
- Sand
- Silt/Clay
- Cobble
- Bedrock
- Boulder >2m
- Boulder <2m
- Beaver Pond
- Overhead Cover
- Undercut Bank
- Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

- No. of Instream Woody Debris
- No. of Dewatered Woody Debris
- No. of Instream Rootwads
- No. of Dewatered Rootwads

Maximum Depth (cm)

Wetted Width (m) | Thalweg Depth (cm) | Thalweg Velocity (m/s)

Alternative Flow Measurements

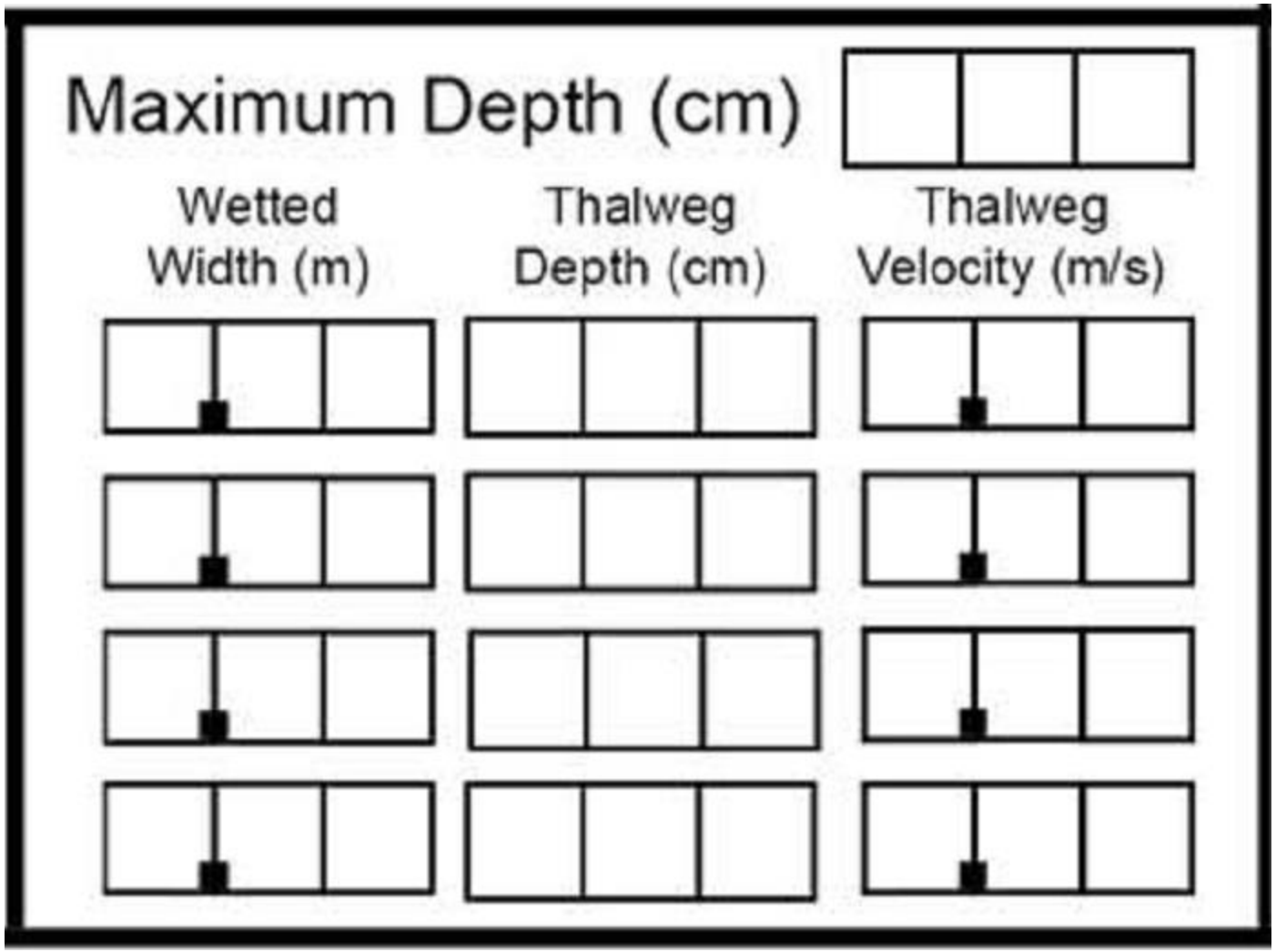
- Distance (cm)
- Depth (cm)
- Width (cm)
- Time (sec) 1. 2. 3.

COMMENTS: _____

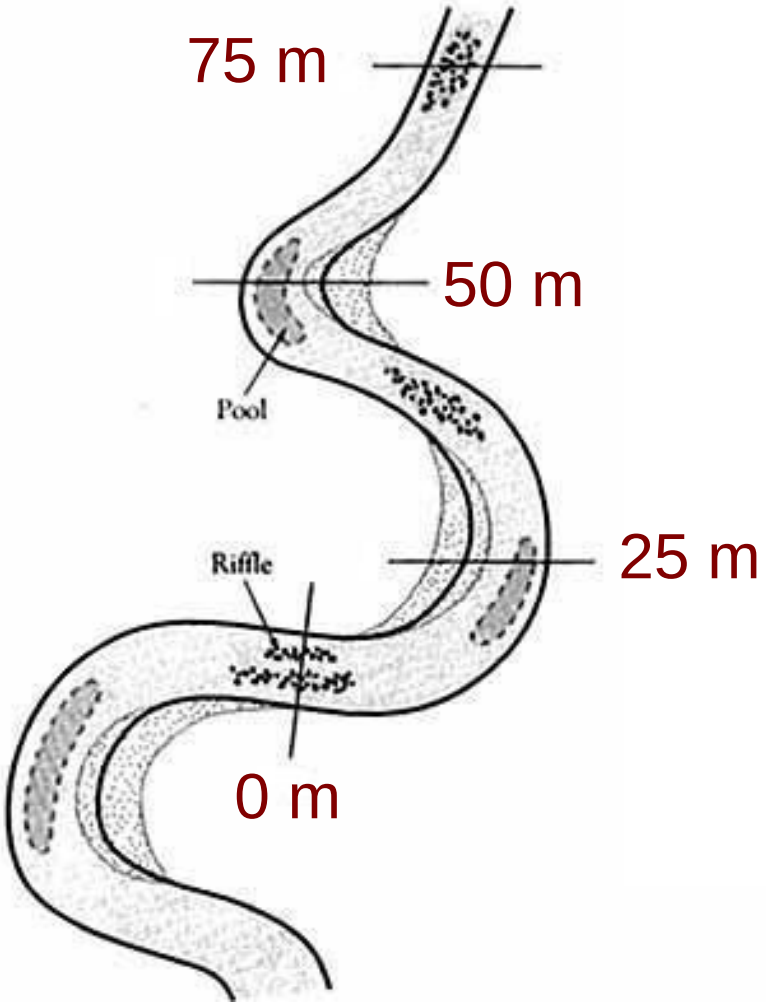
MBSS Summer Habitat Data Sheet

- Bank Erosion
- Bar Formation
- Habitat Assessment
- Stream Character
- Woody Debris
- **Transect Measurements**
- Stream Flow

MBSS Summer Habitat



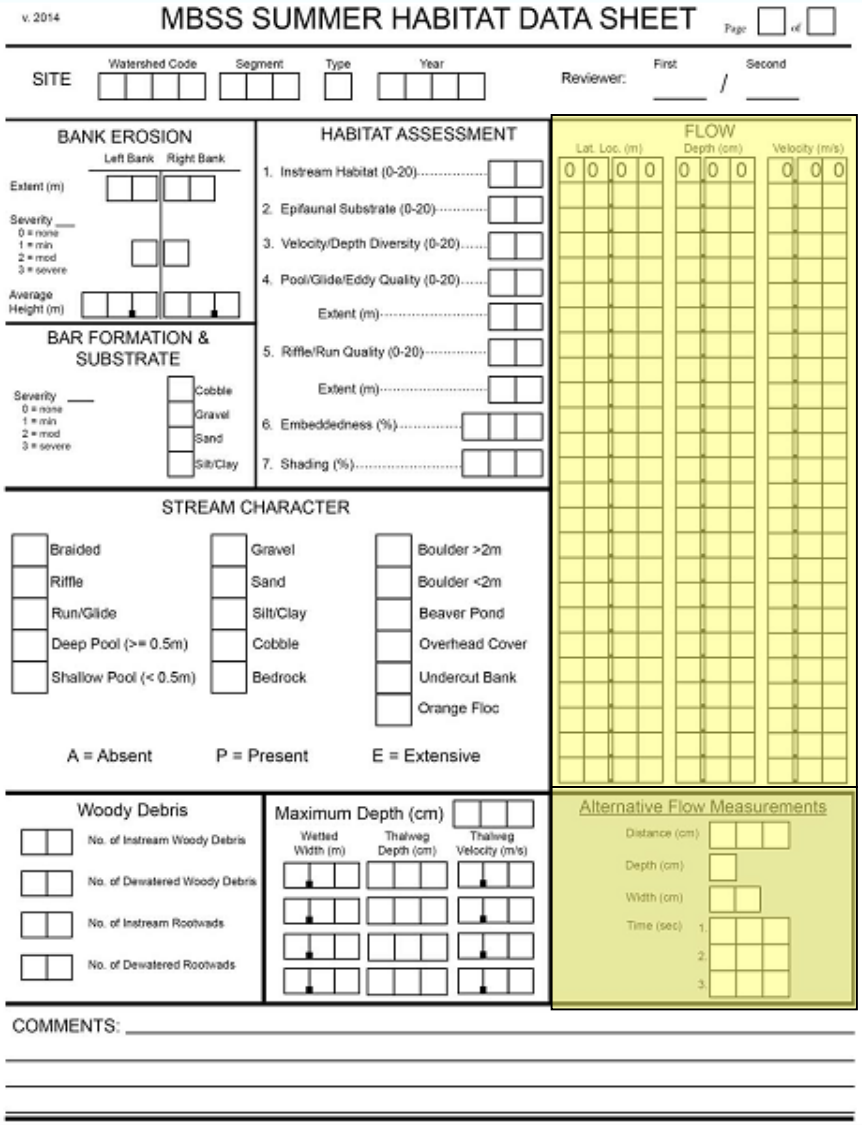
MBSS Summer Habitat



Wet Width (m)

Thalweg Depth (cm)

MBSS Summer Habitat



MBSS Summer Habitat Data Sheet

- Bank Erosion
- Bar Formation
- Habitat Assessment
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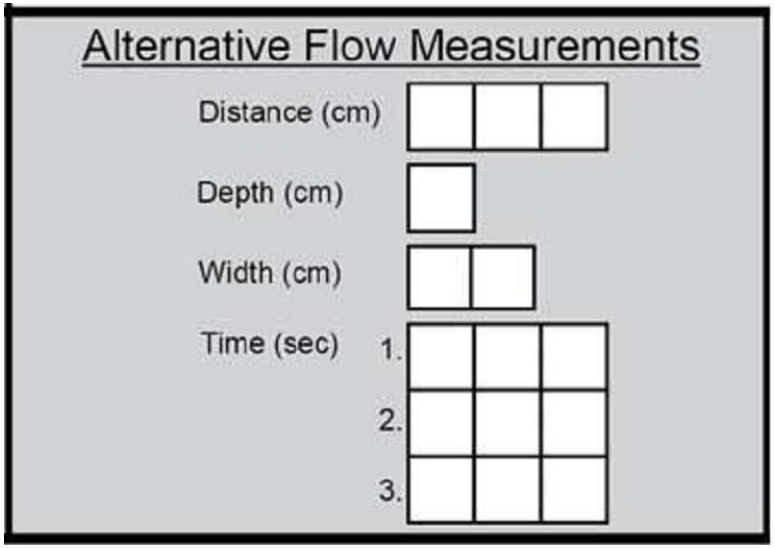
- Woody Debris
- Transect Measurements
- **Stream Flow**

MBSS Summer Habitat

Velocity measurements should be taken:

- Measured at 0.6 depth with sensor oriented parallel to flow
- Stand downstream to avoid deflection of flows!

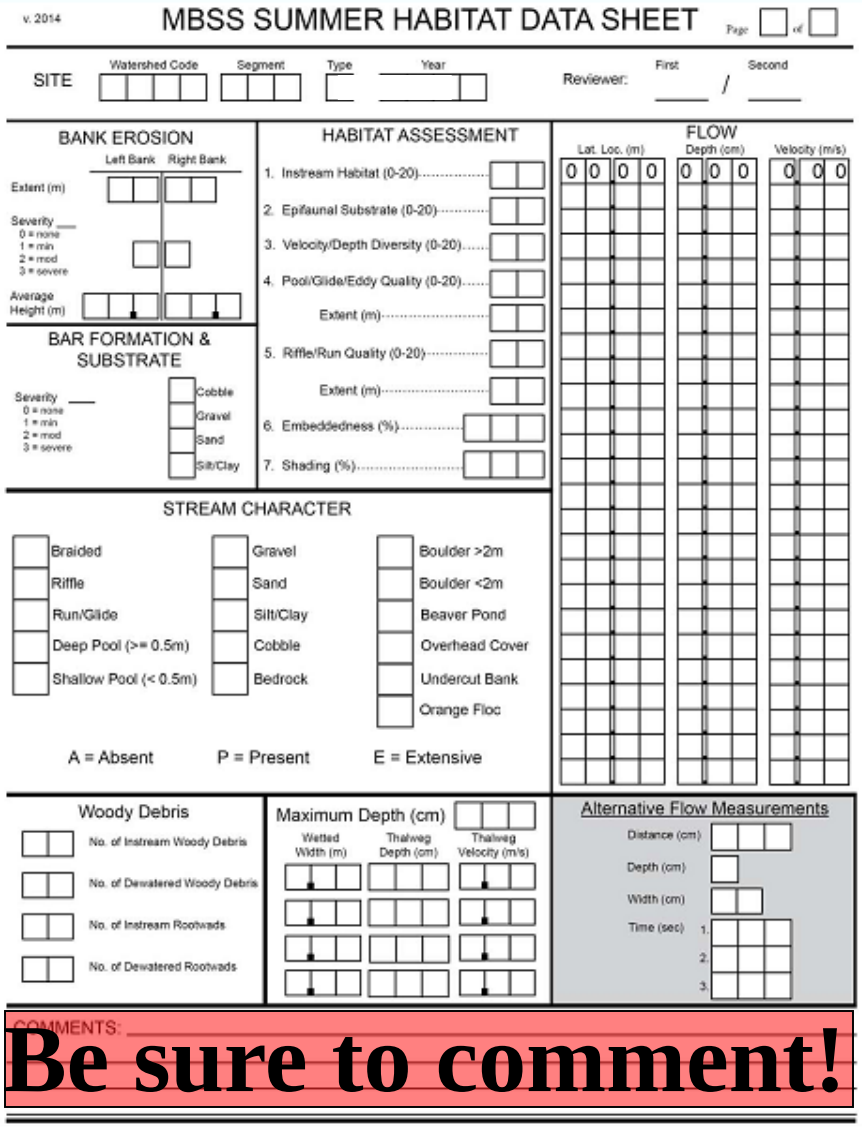
MBSS Summer Habitat



- Constrict stream in a one meter section of uniform depth and width
- Record speed of floating object (e.g. leaf, stick, or trash) over a one meter distance

- Repeat three times

MBSS Summer Habitat



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MBSS SUMMER HABITAT DATA SHEET Page ☐ of ☐

SITE Watershed Code ☐☐☐☐ Segment ☐☐☐ Type ☐ Year ☐☐☐☐ Reviewer: First ____ / Second ____

BANK EROSION

Left Bank Right Bank

Extent (m) ☐☐ ☐☐

Severity ___
0 = none
1 = min
2 = mod
3 = severe

☐ ☐

Average Height (m) ☐☐☐ ☐☐☐

BAR FORMATION & SUBSTRATE

Severity ___
0 = none
1 = min
2 = mod
3 = severe

☐ Cobble
☐ Gravel
☐ Sand
☐ Silt/Clay

HABITAT ASSESSMENT

1. Instream Habitat (0-20) ☐☐
2. Epifaunal Substrate (0-20) ☐☐
3. Velocity/Depth Diversity (0-20) ☐☐
4. Pool/Glide/Eddy Quality (0-20) ☐☐
   Extent (m) ☐☐
5. Riffle/Run Quality (0-20) ☐☐
   Extent (m) ☐☐
6. Embeddedness (%) ☐☐☐
7. Shading (%) ☐☐☐

FLOW

Lat. Loc. (m)				Depth (cm)			Velocity (m/s)		
0	0	0	0	0	0	0	0	0	0

STREAM CHARACTER

☐ Braided
☐ Riffle
☐ Run/Glide
☐ Deep Pool (>= 0.5m)
☐ Shallow Pool (< 0.5m)

☐ Gravel
☐ Sand
☐ Silt/Clay
☐ Cobble
☐ Bedrock

☐ Boulder >2m
☐ Boulder <2m
☐ Beaver Pond
☐ Overhead Cover
☐ Undercut Bank
☐ Orange Floc

A = Absent P = Present E = Extensive

Woody Debris

☐☐ No. of Instream Woody Debris
☐☐ No. of Dewatered Woody Debris
☐☐ No. of Instream Rootwads
☐☐ No. of Dewatered Rootwads

Maximum Depth (cm) ☐☐☐

Wetted Width (m)	Thalweg Depth (cm)	Thalweg Velocity (m/s)
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐
☐☐☐	☐☐☐	☐☐☐

Alternative Flow Measurements

Distance (cm) ☐☐☐
Depth (cm) ☐
Width (cm) ☐☐
Time (sec) 1. ☐☐☐
2. ☐☐☐
3. ☐☐☐

COMMENTS: _____

Be sure to comment!

Any impacts associated with habitat conditions at a site should be documented in the comments section