MBSS Spring Sampling

Physical Habitat Assessment

Morgan State University

February 21, 2020

MARYLAND DEPARTMENT OF NATURAL RESOURCES

v. 2014

MBSS SPRING HABITAT DATA SHEET

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

DATE — Year ☐☐ Month ☐☐ Day ☐☐

☐☐☐☐ Dist. from Nearest Road to Site (m)

☐☐ Trash Rating 0 - 20

LANDUSE (Y/N)

- ☐ Old Field
- ☐ Deciduous Forest
- ☐ Coniferous Forest
- ☐ Wetland
- ☐ Surface Mine
- ☐ Landfill
- ☐ Residential
- ☐ Commercial/Industrial
- ☐ Cropland
- ☐ Pasture
- ☐ Orchard/Vineyard/Nursery
- ☐ Golf Course

RIPARIAN VEGETATION
(facing upstream)

	LEFT BANK	RIGHT BANK
Width (50m max)	☐☐	☐☐
Adj. Land Cover	☐☐	☐☐
Veg Type	☐☐☐☐	☐☐☐☐
Buffer Breaks (Y/N)	☐	☐

ROAD CULVERT

- Present in Segment? (Y/N) ☐
- Sampleable? (Y/N) ☐
- Width of Culvert (m) ☐☐
- Length of Culvert (m) ☐☐

STREAM GRADIENT

	Location (m)	Height (m)
1	☐☐	☐☐.☐
	☐☐	☐☐.☐
2	☐☐	☐☐.☐
	☐☐	☐☐.☐
3	☐☐	☐☐.☐
	☐☐	☐☐.☐

BUFFER BREAKS

	LEFT BANK	RIGHT BANK
Storm Drain	☐	☐
Tile Drain	☐	☐
Imperv. Drainage	☐	☐
New Construction	☐	☐
Orchard	☐	☐
Crop	☐	☐
Pasture	☐	☐
Gully	☐	☐
Dirt Road	☐	☐
Gravel Road	☐	☐
Raw Sewage	☐	☐
Railroad	☐	☐

Buffer Break Types (M = Minor; S = Severe)

CHANNELIZATION

☐ Evidence of Channel Straightening or Dredging (Y/N)

TYPE	EXTENT (m) LEFT BANK	BOTTOM	RIGHT BANK
Concrete	☐☐	☐☐	☐☐
Gabion	☐☐	☐☐	☐☐
Rip-Rap	☐☐	☐☐	☐☐
Earthen Berm	☐☐	XX	☐☐
Dredge Spoil Off Channel	☐☐	XX	☐☐
Pipe Culvert	☐☐	☐☐	☐☐

Actual Site Midpoint Coordinates
(Taken at Time of Sampling)

Lat ☐☐☐.☐☐☐☐☐

Long ☐☐☐.☐☐☐☐☐

Stream Blockages

Stream Block Ht. (m) ☐☐.☐

Stream Block Type ☐☐

Lat ☐☐☐.☐☐☐☐☐

Long ☐☐☐.☐☐☐☐☐

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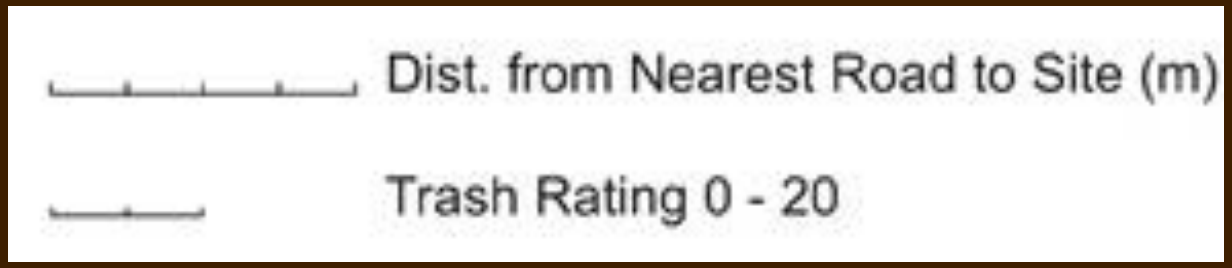

Distance : Measure (or estimate if appropriate) distance from nearest road, parking lot, or other access point.

Trash Rating: Scored on scale from 0-20; based on criteria on Stream Habitat Assessment Guidance Sheet

Count …trash, tires, railroad ties, and industrial refuse

Do Not Count…bare soil, AMD discoloration, iron bacteria, rip rap, gabion baskets, concrete trapezoid, etc.

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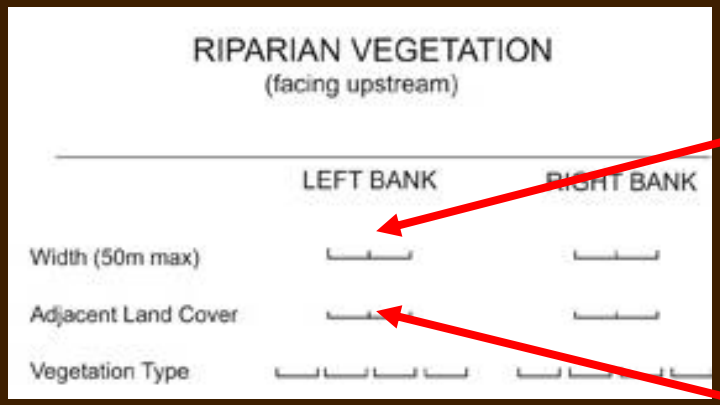
Trash Rating

Habitat Parameter	Optimal 16-20	Sub-Optimal 11-15	Marginal 6-10	Poor 0-5
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

Surrounding Land Use

• Record any land use type that can be observed while in or alongside the site.

Riparian Vegetation Characterization



Measure width of vegetated riparian buffer on each side of stream. (Max width = 50m)

No vegetation = No Buffer

Record the dominant type of land cover directly adjacent to the riparian buffer.

Riparian Buffer vegetation

Adjacent land cover

Riparian Buffer Zone / Adjacent Land Cover Types

FR = Forest
OF = Old Field
EM = Emergent Vegetation
LN = Mowed Lawn
TG = Tall Grass
LO = Logged Area
SL = Bare Soil
RR = Railroad
PV = Paved Road
PK = Parking Lot/ Industrial/ Commerical
GR = Gravel Road
DI = Dirt Road
PA = Pasture
OR = Orchard
CP = Cropland
HO = Housing

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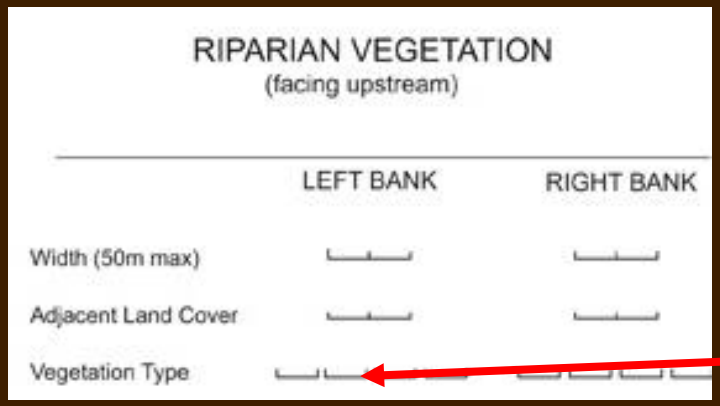
Buffer Vegetation Type



- Record the dominant vegetation in the buffer
- List vegetation type in order of dominance
- Dominance based on combination of stem density and canopy density.

VEGETATION TYPES

G= Grasses/Forbes
R= Regen Deciduous/Shrubs (<4"dbh)
Y= Young Deciduous (4-12" DBH)
M= Mature Deciduous (12-24" DBH
O= Old Deciduous (>24" DBH)
A= Regen Coniferous (<4" DBH)
B= Young Coniferous (4-12" DBH)
C= Mature Coniferous (12-24" DBH
D= Old Coniferous (>24" DBH)
L= Lawn

03/08/2018

Riparian Buffer Zone / Adjacent Land Cover Types

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RIPARIAN VEGETATION
(facing upstream)

	LEFT BANK	RIGHT BANK
Width (50m max)	50	50
Adjacent Land Cover	FR	FR
Vegetation Type	RYM	YMR

VEGETATION TYPES

G= Grasses/Forbes
R= Regen Deciduous/Shrubs (<4"dbh)
Y= Young Deciduous (4-12" DBH)
M= Mature Deciduous (12-24" DBH
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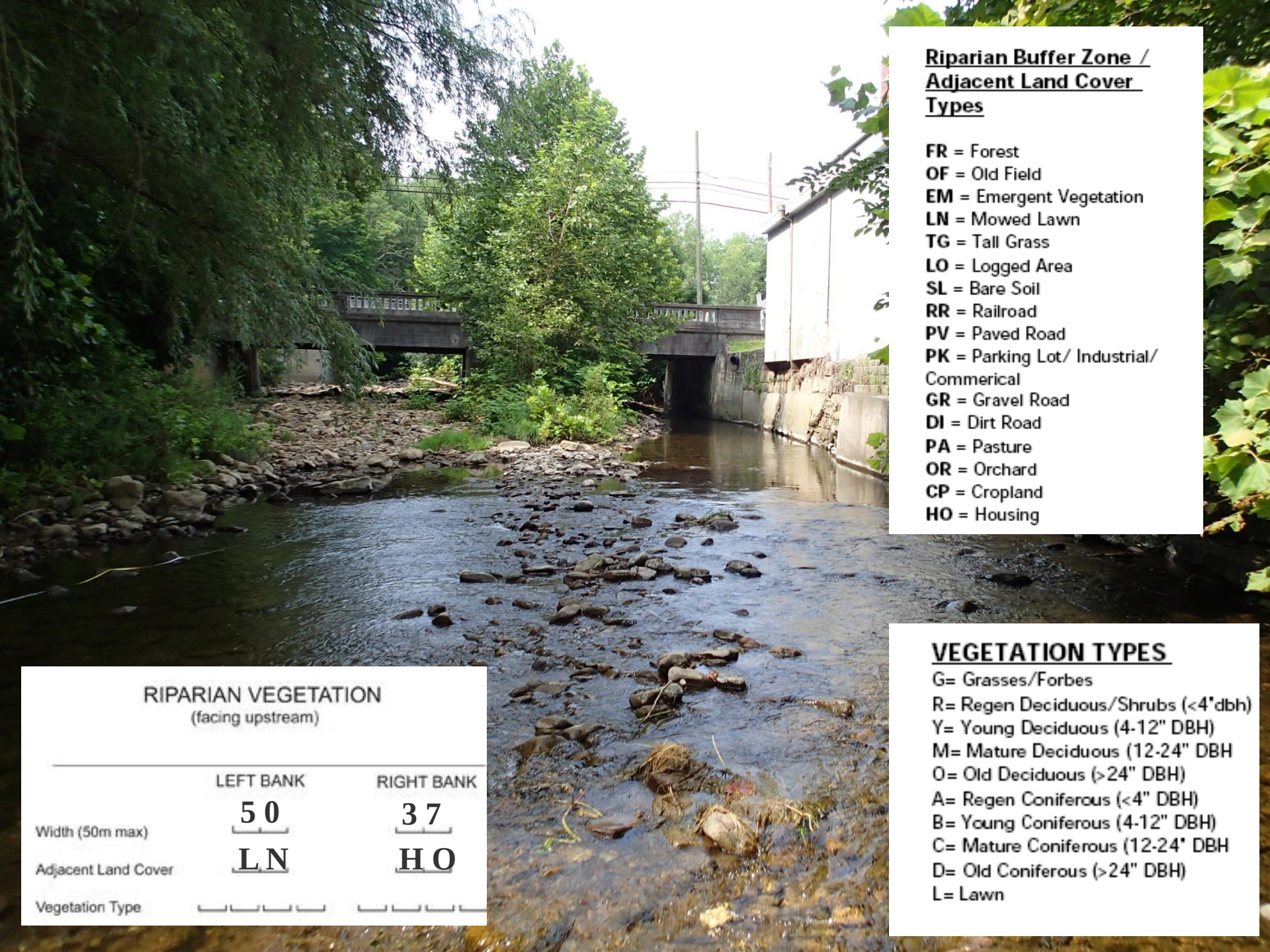
L= Lawn

07/29/2015



Riparian Buffer Zone / Adjacent Land Cover Types

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RR = Railroad
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DI = Dirt Road
PA = Pasture
OR = Orchard
CP = Cropland
HO = Housing

RIPARIAN VEGETATION

(facing upstream)

	LEFT BANK	RIGHT BANK
Width (50m max)	50	37
Adjacent Land Cover	LN	HO
Vegetation Type		

VEGETATION TYPES

G= Grasses/Forbes
R= Regen Deciduous/Shrubs (<4"dbh)
Y= Young Deciduous (4-12" DBH)
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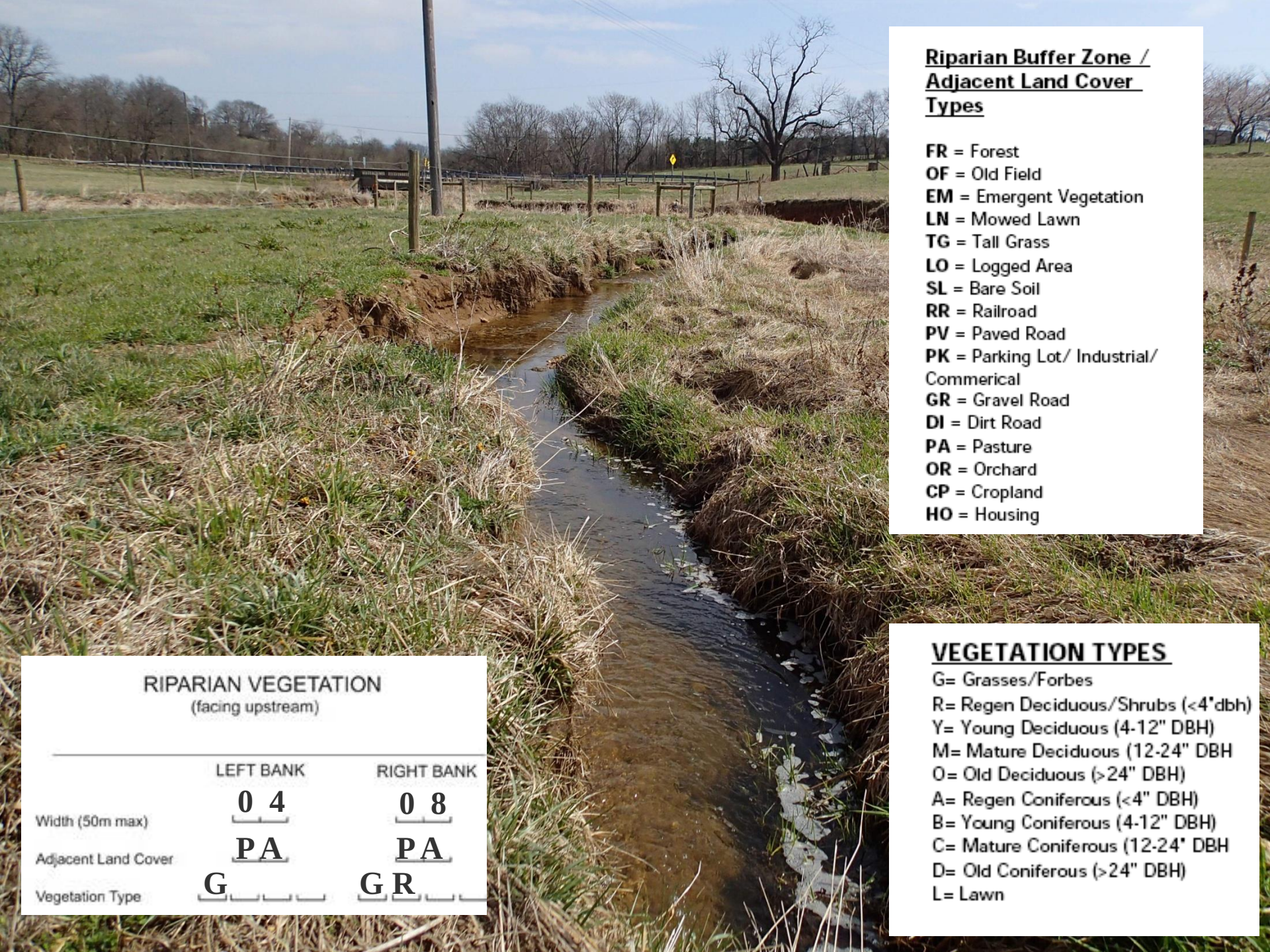
A= Regen Coniferous (<4" DBH)
B= Young Coniferous (4-12" DBH)
C= Mature Coniferous (12-24" DBH
D= Old Coniferous (>24" DBH)
L= Lawn

03/27/2017



Riparian Buffer Zone / Adjacent Land Cover Types

FR = Forest
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PA = Pasture
OR = Orchard
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HO = Housing

RIPARIAN VEGETATION

(facing upstream)

	LEFT BANK	RIGHT BANK
Width (50m max)	04	08
Adjacent Land Cover	PA	PA
Vegetation Type	G	GR

VEGETATION TYPES

G= Grasses/Forbes
R= Regen Deciduous/Shrubs (<4"dbh)
Y= Young Deciduous (4-12" DBH)
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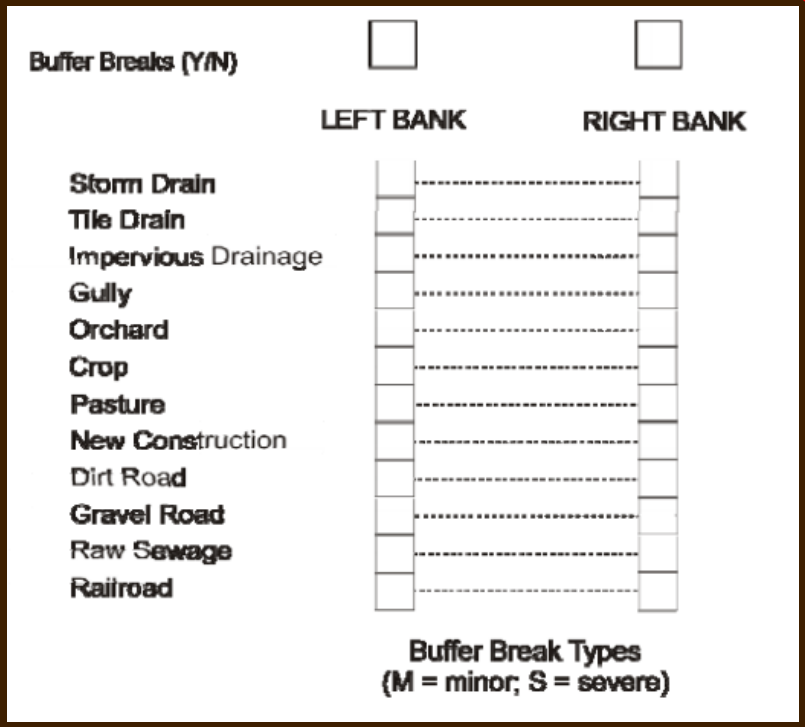
C= Mature Coniferous (12-24" DBH
D= Old Coniferous (>24" DBH)
L= Lawn

RIPARIAN VEGETATION
(facing upstream)

	LEFT BANK	RIGHT BANK
Width (50m max)	0 0	0 0
Adjacent Land Cover	P A	P A
Vegetation Type		

Buffer Breaks



Note any functional breaks in the riparian buffer on each side of the stream.

Indicate the type and severity of break.

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04/24/2019

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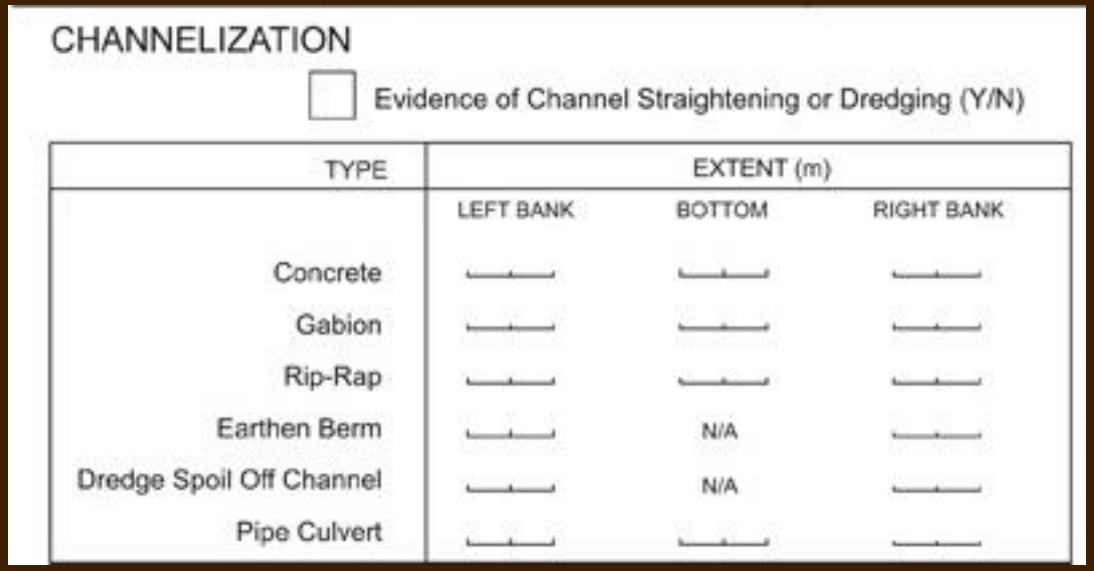
Stream Channelization



CHANNELIZATION

☐ Evidence of Channel Straightening or Dredging (Y/N)

TYPE	EXTENT (m)		
	LEFT BANK	BOTTOM	RIGHT BANK
Concrete	____	____	____
Gabion	____	____	____
Rip-Rap	____	____	____
Earthen Berm	____	N/A	____
Dredge Spoil Off Channel	____	N/A	____
Pipe Culvert	____	____	____

- Survey site for evidence of channel dredging or straightening and
- Indicate presence (Y) or absence (N).
- Indicate the type and linear extent in meters for each bank and for the stream bottom.

Dredge Spoils

Concrete Channel

Gabion

Rip rap

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Stone / Imbricated Wall

Culvert

Road Culvert

ROAD CULVERT

Present in Segment? (Y/N) ☐

Sampleable? (Y/N) ☐

Width of Culvert? (m) ☐☐

Length of Culvert? (m) ☐☐

If the road culvert is NOT sampleable,…

1) measure the linear length of culvert
2) add the measured distance to whichever end of the site is closer.

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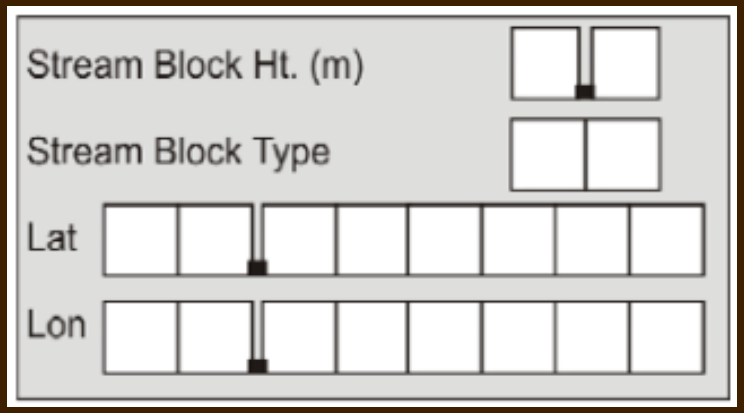
Sampleable

Not Sampleable

Bring it all together

Stream Blockages

- Note on the data sheet the lat/long of any man-made migration barrier near the site.
- Also note height and type of blockage



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Vernal Pools

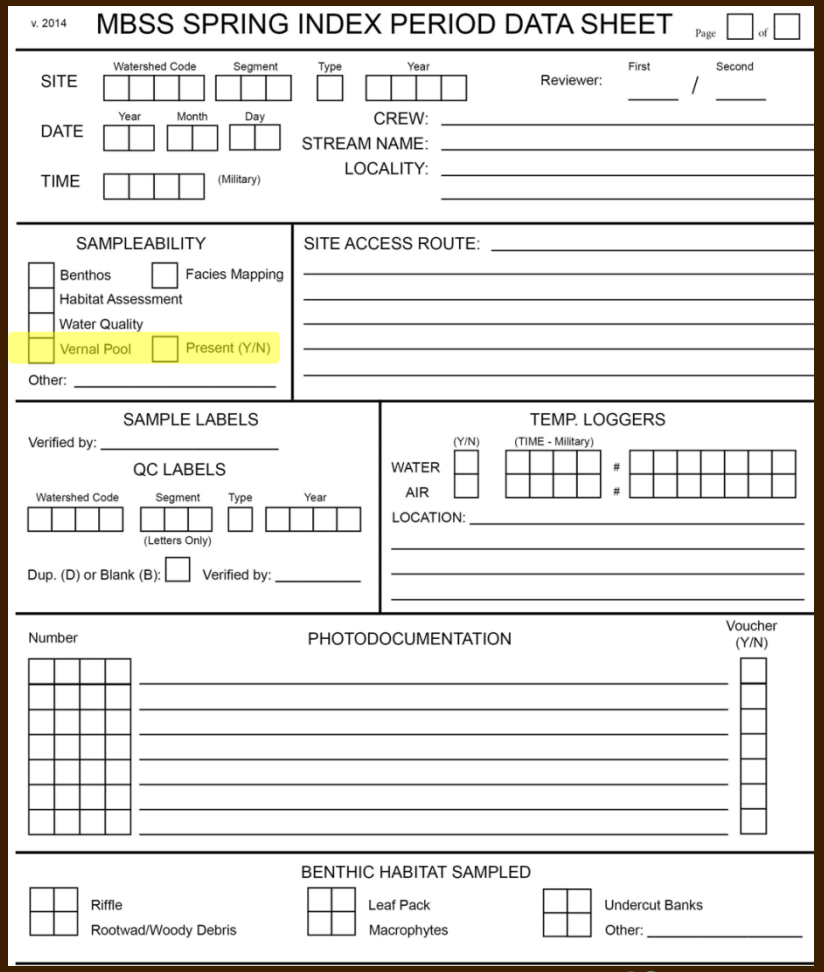
We also record presence/absence of vernal pools at every site

- Recorded on Spring Index Period Data Sheet

Definition:

Any well established seasonal/ephemeral pool, pond, or wetland

1. Small size
   - 1 m^2 to 4000 m^2 (1 acre)
2. No permanent surface water connections
3. Subject to seasonal drying
4. Supports a distinctive biological community



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SITE Watershed Code Segment Type Year Reviewer: First / Second

DATE Year Month Day CREW:

STREAM NAME:

TIME (Military) LOCALITY:

SAMPLEABILITY

☐ Benthos ☐ Facies Mapping

☐ Habitat Assessment

☐ Water Quality

☐ Vernal Pool ☐ Present (Y/N)

Other:

SITE ACCESS ROUTE:

SAMPLE LABELS

Verified by:

QC LABELS

Watershed Code Segment (Letters Only) Type Year

Dup. (D) or Blank (B): ☐ Verified by:

TEMP. LOGGERS

(Y/N) (TIME - Military)

WATER ☐ # ☐

AIR ☐ # ☐

LOCATION:

Number PHOTODOCUMENTATION Voucher (Y/N)

BENTHIC HABITAT SAMPLED

☐ Riffle ☐ Leaf Pack ☐ Undercut Banks

Rootwad/Woody Debris Macrophytes Other:

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04/01/2015

03/12/2015

03/06/2014

03/26/2014

04/03/2014

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Questions?

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