

CHANNEL CONSTRAINT AND FIELD CHEMISTRY - STREAMS/RIVERS

Reviewed by (Initial):

SITE ID: <u>19</u>	DATE: <u>06/19/2013</u>	
IN SITU MEASUREMENTS		Station ID: (Assume X-site unless marked)
STREAM/RIVER DO mg/l: (optional)		
STREAM RIVER TEMP. (°C):		
TIME OF DAY:		
CHANNEL CONSTRAINT		
CHANNEL PATTERN (Check One) <input checked="" type="checkbox"/> One channel <input type="checkbox"/> Anastomosing (complex) channel - (Relatively long major and minor channels branching and rejoining.) <input type="checkbox"/> Braided channel - (Multiple short channels branching and rejoining - mainly one channel broken up by numerous mid-channel bars.)		
CHANNEL CONSTRAINT (Check One) <input type="checkbox"/> Channel very constrained in V-shaped valley (i.e. it is very unlikely to spread out over valley or erode a new channel during flood) <input checked="" type="checkbox"/> Channel is in Broad Valley but channel movement by erosion during floods is constrained by incision (Flood flows do not commonly spread over valley floor or into multiple channels.) <input type="checkbox"/> Channel is in Narrow Valley but is not very constrained, but limited in movement by relatively narrow valley floor (< ~10 x bankfull width) <input type="checkbox"/> Channel is Unconstrained in Broad Valley (i.e. during flood it can fill off-channel areas and side channels, spread out over flood plain, or easily cut new channels by erosion)		
CONSTRAINING FEATURES (Check One) <input type="checkbox"/> Bedrock (i.e. channel is a bedrock-dominated gorge) <input type="checkbox"/> Hillslope (i.e. channel constrained in narrow V-shaped valley) <input checked="" type="checkbox"/> Terrace (i.e. channel is constrained by its own incision into river/stream gravel/soil deposits) <input type="checkbox"/> Human Bank Alterations (i.e. constrained by rip-rap, landfill, dike, road, etc.) <input type="checkbox"/> No constraining features		
Percent of channel length with margin in contact with constraining feature: <u>750'</u>		Percent of Channel Margin Examples

RAPID HABITAT ASSESSMENT FORM: RIFFLE/RUN - STREAM

SITE ID: Tryon Creek 19

DATE: 06/19/2013

HABITAT PARAMETER	CONDITION CATEGORY			
	OPTIMAL	SUB-OPTIMAL	MARGINAL	POOR
1. Epifaunal Substrate/ Available Cover Score: <input style="width: 50px;" type="text"/>	Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential; (i.e., logs/snags that are NOT new fall and NOT transient.) 20 19 18 17 16	40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale). 15 14 13 12 11	20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed. 10 9 8 7 6	Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking. 5 4 3 2 1 0
2. Embeddedness Score: <input style="width: 50px;" type="text"/>	Gravel, cobble, and boulder particles are 0-25% surrounded by fine sediment. Layering of cobble provides diversity of niche space. 20 19 18 17 16	Gravel, cobble, and boulder particles are 25-50% surrounded by fine sediment. 15 14 13 12 11	Gravel, cobble, and boulder particles are 50-75% surrounded by fine sediment. 10 9 8 7 6	Gravel, cobble, and boulder particles are more than 75% surrounded by fine sediment. 5 4 3 2 1 0
3. Velocity/Depth Regime Score: <input style="width: 50px;" type="text"/>	All four velocity/depth regimes present (slow-deep, slow-shallow, fast-deep, fast-shallow). (Slow is less than 0.3 m/s, deep is greater than 0.5 m.) 20 19 18 17 16	Only 3 of the 4 regimes present (if fast-shallow is missing, score lower than if missing other regimes). 15 14 13 12 11	Only 2 of the 4 habitat regimes present (if fast-shallow or slow-shallow are missing, score low). 10 9 8 7 6	Dominated by 1 velocity/depth regime (usually slow-deep). 5 4 3 2 1 0
4. Sediment Deposition Score: <input style="width: 50px;" type="text"/>	Little or no enlargement of islands or point bars and less than 5% of the bottom affected by sediment deposition. 20 19 18 17 16	Some new increases in bar formation, mostly from gravel, sand or fine sediment; 5-30% of the bottom affected; slight deposition in pools. 15 14 13 12 11	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 30-50% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent. 10 9 8 7 6	Heavy deposits of fine material; increased bar development; more than 50% of the bottom changing frequently; pools almost absent due to substantial sediment deposition. 5 4 3 2 1 0
5. Channel Flow Status Score: <input style="width: 50px;" type="text"/>	Water reaches base of both lower banks, and minimal amount of channel substrate is exposed. 20 19 18 17 16	Water fills over 75% of the available channel; or less than 25% of channel substrate is exposed. 15 14 13 12 11	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed. 10 9 8 7 6	Very little water in channel and mostly present as standing pools. 5 4 3 2 1 0
6. Channel Alteration Score: <input style="width: 50px;" type="text"/>	Channelization or dredging absent or minimal; stream with normal pattern. 20 19 18 17 16	Some channelization present, usually in areas of bridge abutments; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present. 15 14 13 12 11	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted. 10 9 8 7 6	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely. 5 4 3 2 1 0



RAPID HABITAT ASSESSMENT FORM: RIFFLE/RUN (continued) - STREAM

SITE ID: Tryon Creek 19

DATE: 06/19/2013

HABITAT PARAMETER	CONDITION CATEGORY			
	OPTIMAL	SUB-OPTIMAL	MARGINAL	POOR
7. Frequency of Riffles (or bends) Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream greater than 7:1 (generally 5 to 7); variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by width of stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by width of stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by width of stream is a ratio of over 25.	
Score: <input type="text"/>	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) NOTE: Determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. Less than 5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion; high erosion potential during floods.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
Left Bank Score: <input type="text"/>	Left Bank: 10 9	8 7 6	5 4 3	2 1 0
Right Bank Score: <input type="text"/>	Right Bank: 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank) More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% if the streambank surfaces covered by native vegetation; but one class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruptions obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.	
Left Bank Score: <input type="text"/>	Left Bank: 10 9	8 7 6	5 4 3	2 1 0
Right Bank Score: <input type="text"/>	Right Bank: 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank) Width of riparian zone greater than 18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, or crops) have not impacted the zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone less than 6 meters; little or no riparian vegetation due to human activities.	
Left Bank Score: <input type="text"/>	Left Bank: 10 9	8 7 6	5 4 3	2 1 0
Right Bank Score: <input type="text"/>	Right Bank: 10 9	8 7 6	5 4 3	2 1 0



Classification of Stream Channels¹

VALLEY TYPE:	Colluvial	Bedrock	Alluvial					
CHARACTERISTIC			Cascade	Step-pool	Plane-bed	Pool-riffle	Regime	Braided
Predominant bed material	Variable	Bedrock	Boulder	Cobble/ boulder	Gravel/ cobble	Gravel	Sand	Variable
Bedform pattern	Variable	Variable	None	Vertical oscillatory	None	Laterally oscillatory	Multilayered	Laterally oscillatory
Dominant roughness elements	Boulders , large woody debris	Streambed , banks	Boulders , banks	Bedforms (steps, pools), boulders, large woody debris, banks	Boulders and cobbles, banks	Bedforms (bars, pools) boulders and cobbles, large woody debris, sinuosity, banks	Sinuosity, bedforms (dunes, riffles, bars), banks	Bedforms (bars, pools)
Dominant sediment sources	Hillslope, debris flows	Fluvial, hillslope, debris flows	Fluvial, hillslope, debris flows	Fluvial, hillslope, debris flows	Fluvial, bank erosion, debris flows	Fluvial, bank erosion, inactive channels, debris flows	Fluvial, bank erosion, inactive channels	Fluvial, bank erosion, debris flows
Typical slope (%)	>20	Variable	8 - 30	4 - 8	1 - 4	0.1 - 2	<0.1	<3
Typical confinement	Strongly confined	Strongly confined	Strongly confined	Moderately confined	Variable	Unconfined	Unconfined	Unconfined
Pool spacing (channel widths)	Variable	Variable	<1	1- 4	None	5 - 7	5 - 7	Variable

¹Adapted from Montgomery and Buffington, 1993, *Channel classification, prediction of channel response, and assessment of channel condition*, Report TFW-SH10-93-002, Washington State Timber/Fish/Wildlife.

EROSIONAL HABITAT DESCRIPTIONS

Name	Code	Description
Rapid	RA	Gradient >4% with swiftly flowing water and considerable surface turbulence. Rapids tend to have larger substrate sizes than riffles.
Riffle	RI	Gradient <4% and shallow with moderate velocity and moderate surface turbulence.
Run	RU	Runs are long, usually straight, low-gradient stream units without flow obstructions. The stream bottom is usually even and the water does not "pool".
Step-Run	SR	Step-runs are a series of runs that are separated by short (<3m) riffles or flow obstructions.

DEPOSITIONAL HABITAT DESCRIPTIONS

Name	Code	Description
Lateral	LAT	As streams go around bends they scour laterally and lateral scour pools are created along the banks. The deepest portion is the stream margin.
Scour	SCO	Pool shape is often like a bowl. The deepest part of pool is in the center of the channel.
Plunge	PLU	Plunge pools are formed as water drops over an object. The deepest portion of the pool is directly underneath the falling point.
Dammed	DAM	Water backs up against an obstruction in the stream channel. The deepest portion will be against the object forming the obstruction.

STREAM DISCHARGE FORM

Reviewed by (Initials): _____

SITE ID: 19

DATE: 06/19/2013

<input type="checkbox"/> Velocity Area				
Distance Units		Depth Units		Velocity Units
<input checked="" type="checkbox"/> ft <input type="checkbox"/> cm		<input checked="" type="checkbox"/> ft <input type="checkbox"/> cm		<input type="checkbox"/> ft/s XX.X <input checked="" type="checkbox"/> m/s X.XX
(Final measurement should be left bank.)				
	Dist. from Bank	Depth	Velocity	Flag
1	0	0	0	
2	6"	6.5"	2	
3	1'	8"	2	
4	1'6"	8.75"	1	
5	2'	9"	4	
6	2'6"	1"	2	
7	3'	9.5"	1	
8	3'6"	7.75"	2	
9	4'	8.5"	1	
10	4'6"	9"	2	
11	5'	8.25"	1	
12	5'6"	8.5"	1	
13	6'	9"	1	
14	6'6"	8.75"	1	
15	7'	9.5"	1	
16	7'6"	9.5"	1	
17	8'	8"	1	
18	8'6"	8.5"	1	
19	9'	8.25"	1	
20	9'6"	7.25"	2	

<input type="checkbox"/> Timed Filling			
Repeat	Volume (L)	Time (s)	Flag
1	_____	_____	_____
2	_____	_____	_____
3	_____	_____	_____
4	_____	_____	_____
5	_____	_____	_____

<input type="checkbox"/> Neutral Bouyant Object			
	Float 1	Float 2	Float 3
Float Dist. <input type="checkbox"/> ft <input type="checkbox"/> m	_____	_____	_____
Float Time (s)	_____	_____	_____
Flag	_____	_____	_____
Cross Sections on Float Reach			
	Upper Section	Middle Section	Lower Section
Width <input type="checkbox"/> ft <input type="checkbox"/> m	_____	_____	_____
Depth 1 <input type="checkbox"/> ft <input type="checkbox"/> cm	_____	_____	_____
Depth 2	_____	_____	_____
Depth 3	_____	_____	_____
Depth 4	_____	_____	_____
Depth 5	_____	_____	_____

Q Value If discharge is determined directly in field, record value here: Q = _____ cfs m³/s FLAG

Flag	Comments

Flag Codes: K = No measurement or observation made; U = Suspect measurement or observation; Q = Unacceptable QC check associated with measurement; Z = Last station measured (if not Station 20); F1, F2, etc. = Miscellaneous flags assigned by each field crew. Explain all flags in comments section.



	Depth	Velocity
10'	6.75"	5
10' 6"	6.25"	1
11'	5.5"	1
11' 6"	5"	1
12	4"	2

PHab: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/12/2013 TRANSECT: 06/12/2013

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist. LB. XX.XX m	Depth . . . Size Class. XXX cm	Embed. Code	Flag
Left	0	FN	100
Lctr	4.5'	GF	90
Ctr	8'	GF	90
RCtr	14'	GF	90
Right	18.4"	FN	

SUBSTRATE SIZE CLASS CODES		Embed. (%)
RS = Bedrock (Smooth) - (Larger than a car)		0
RR = Bedrock (Rough) - (Larger than a car)		0
RC = Concrete/Asphalt		
XB = Large Boulder (1000 to 4000 mm) - (Meterstick to car)		
SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)		
CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)		
GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)		
GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)		100
SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)		100
FN = Silt / Clay / Muck - (Not Gritty)		0
HP = Hardpan - (Firm, Consolidated Fine Substrate)		
WD = Wood - (Any Size)		
OT = Other (Write comment below)		

FISH COVER/ OTHER

	Cover in Channel (%)				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. =<1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN VEGETATION COVER ESTIMATES

Vegetation Type	Left Bank (>5 m high)				Right Bank				Flag	
	D	C	E	M	N	D	C	E		M
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)										
Vegetation Type	D	C	E	M	N	D	C	E	M	N
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)										
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4
Barren, Bare Dirt or Duff	0	1	2	3	4	0	1	2	3	4

VEGETATION COVER ESTIMATES

0 = Absent (0%)		1 = Sparse (<10%)		2 = Moderate (10-40%)		3 = Heavy (40-75%)		4 = Very Heavy (>75%)	
D	C	E	M	N	D	C	E	M	N

BANK MEASUREMENTS

Bank Angle 0-360	Undercut Dist. (m)	Flag
Left 90	5"	
Right 45	0	
Wetted Width XXX.X m	18.4"	
Bar Width XX.X m	NA	
Bankfull Width XXX.X m	*	
Bankfull Height XX.X m		
Incised Height XX.X m	0	

CANOPY COVER MEASUREMENTS

DENSIOMETER (0-17Max)				Flag
CanUp	CanR	CanL	CanDwn	Flag
16	7			
17	Left			
15	Right	10		

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Comments

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19

DATE: 06/12/2013

TRANSECT: 03

A B C D E F X-tra Side Channel
 G H I J K

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist.LB. XX.XX m.	Depth. XXX cm	Size Class Code	Embed. 0-100%	Flag
Left	0	CB	20	
LCtr	4'10"	6C	0	
Ctr	9'10"	SA	30	
RCtr	14'10"	SA	60	
Right	18'6"	SA/PN	100	

SUBSTRATE SIZE CLASS CODES

Code	Description	Embed. (%)
RS	Bedrock (Smooth) - (Larger than a car)	0
RR	Bedrock (Rough) - (Larger than a car)	0
RC	Concrete/Asphalt	
SB	Small Boulder (250 to 1000 mm) - (Basketball to meterstick)	
CB	Cobble (64 to 250 mm) - (Tennis ball to Basketball)	
GC	Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)	
GF	Fine Gravel (2 to 16 mm) - (Ladybug to marble)	100
SA	Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)	100
FN	Silt / Clay / Muck - (Not Grity)	0
HP	Hardpan - (Firm, Consolidated Fine Substrate)	
WD	Wood - (Any Size)	
OT	Other (Write comment below)	

FISH COVER/ OTHER

Category	Cover in Channel	Flag
Filamentous Algae	0	1 2 3 4
Macrophytes	0	1 2 3 4
Woody Debris >0.3 m (BIG)	0	1 2 3 4
Brush/Woody Debris <0.3 m (SMALL)	0	1 2 3 4
Live Trees or Roots	0	1 2 3 4
Overhanging Veg. =<1 m of Surface	0	1 2 3 4
Undercut Banks	0	1 2 3 4
Boulders	0	1 2 3 4
Artificial Structures	0	1 2 3 4

5m up 2 down

VISUAL RIPARIAN ESTIMATES

Category	Left Bank	Right Bank	Flag
Vegetation Type	D C E M N	D C E M N	
BIG Trees (Trunk >0.3 m DBH)	0 1 2 3 4	0 1 2 3 4	
SMALL Trees (Trunk <0.3 m DBH)	0 1 2 3 4	0 1 2 3 4	

Category	Left Bank	Right Bank	Flag
Vegetation Type	D C E M N	D C E M N	
Woody Shrubs & Saplings	0 1 2 3 4	0 1 2 3 4	
Non-Woody Herbs, Grasses, & Forbs	0 1 2 3 4	0 1 2 3 4	

Category	Left Bank	Right Bank	Flag
Woody Shrubs & Saplings	0 1 2 3 4	0 1 2 3 4	
Non-Woody Herbs, Grasses and Forbs	0 1 2 3 4	0 1 2 3 4	
Barren, Bare Dirt or Duff	0 1 2 3 4	0 1 2 3 4	

0 = Not Present P = >10 m C = Within 10 m B = On Bank

BANK MEASUREMENTS

Bank Angle	Undercut Dist. (m)	Flag
Left 10°	0	
Right 5°	0	
Wetted Width XXX.X m	18'6"	
Bar Width XX.X m	NA	
Bankfull Width XXX.X m	56'	
Bankfull Height XX.X m	4'	
Incised Height XX.X m	0	

CANOPY COVER MEASUREMENTS

Densimeter Flag	CanR	Left	Right	Flag
10	11			
15		7		
17			17	

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Flag	Comments

27697

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19

DATE: 06/12/2013

TRANSECT: 06/12/2013

A B C D E F X-tra Side Channel
 G H I J K

Switched
L-R

SUBSTRATE CROSS-SECTIONAL INFORMATION			
Dist: LB XX-XX m	Depth XXX cm	Size-Class Code	Embed. 0-100% Flag
Left	0	SA	100%
Lctr	4'	CB	20%
Ctr	8'	CB	20%
Rctr	12'	CB	20%
Right	15.6"	FN	100%

SUBSTRATE SIZE CLASS CODES

RS = Bedrock (Smooth) - (Larger than a car)
 RR = Bedrock (Rough) - (Larger than a car)
 RC = Concrete/Asphalt
 SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)
 CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)
 GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)
 GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)
 SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)
 FN = Silt / Clay / Muck / (Not Grity)
 HP = Hardpan - (Firm, Consolidated Fine Substrate)
 WD = Wood - (Any Size)
 OT = Other (Write comment below)

FISH COVER/ OTHER	Cover in Channel				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. <1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN VEGETATION COVER	Left Bank (>5 m high)				Right Bank				Flag	
	D	C	E	M	N	D	C	E		M
Vegetation Type	D	C	E	M	N	D	C	E	M	N
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)										
Vegetation Type	D	C	E	M	N	D	C	E	M	N
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)										
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4
Bare, Bare Dirt or Buff	0	1	2	3	4	0	1	2	3	4

HUMAN INFLUENCE	Left Bank				Right Bank				Flag
	0	P	C	B	0	P	C	B	
Wall/Dike/Revetment/Riprap/Dam	0	P	C	B	0	P	C	B	
Buildings	0	P	C	B	0	P	C	B	
Pavement/Cleared Lot	0	P	C	B	0	P	C	B	
Road/Railroad	0	P	C	B	0	P	C	B	
Pipes (Inlet/Outlet)	0	P	C	B	0	P	C	B	
Landfill/Trash	0	P	C	B	0	P	C	B	
Park/Lawn	0	P	C	B	0	P	C	B	
Row Crops	0	P	C	B	0	P	C	B	
Pasture/Rangeland/Hay Field	0	P	C	B	0	P	C	B	
Logging Operations	0	P	C	B	0	P	C	B	
Mining Activity	0	P	C	B	0	P	C	B	

CANOPY COVER MEASUREMENTS			
Densimeter (0-17Max)	Flag		
	CanR	Left	Right
13	13		
15		17	
17			15

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

BANK MEASUREMENTS		
Bank Angle 0-360	Undercut Dist. (m)	Flag
Left 20°	N	
Right 80°	7"	
Wetted Width XXX.X m	15.6"	
Bar Width XX.X m	N	
Bankfull Width XXX.X m	4.7'	
Bankfull Height XX.X m	3.7'	
Incised Height XX.X m	N	

Comments	
Flag	

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

TRANSECT: A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

DATE: 06/12/2013

SITE ID: 19

Total Reach Length (m): 10

For Transect A-B ONLY:

Increment (m) X.X: 1.0

THALWEG PROFILE

STATION	THALWEG DEPTH (cm) (XXX)	WETTED WIDTH (m) (XXX.X)	BAR WIDTH ¹		SOFT /SMALL SEDI-MENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
			Present	XXX							
0	3.5"	18'6"	Y (N)		Y (N)	GL	N	Y (N)			
1	6.5"		Y (N)		Y (N)	GL	N	Y (N)			
2	1'5"		Y (N)		Y (N)	GL	N	Y (N)			
3	1'5"		Y (N)		Y (N)	GL	N	Y (N)			
4	1'6"		Y (N)		Y (N)	GL	N	Y (N)			
*5	1'7"	26'6"	Y (N)		Y (N)	PT	N	Y (N)			
6	2'		Y (N)		Y (N)	PT	N	Y (N)			
*7	2'	29'	Y (N)		Y (N)	PT	N	Y (N)			
8	2'8"		Y (N)		Y (N)	PT	N	Y (N)			
9	1'7"		Y (N)		Y (N)	PT	N	Y (N)			
10			Y (N)		Y (N)			Y (N)			
11			Y (N)		Y (N)			Y (N)			
12			Y (N)		Y (N)			Y (N)			
13			Y (N)		Y (N)			Y (N)			
14			Y (N)		Y (N)			Y (N)			

SUBSTRATE	Station (5 or 7)							LARGE WOODY/DEBRIS (≥10 cm small end diameter, ≥1.5 m length)	CHECK IF UNMARKED BOXES ARE ZERO	FLAG	
	LFT	LOTR	CTR	RCTR	RGT	FLG	FN				
* 7	FN	FN	FN	GF	FN						
17021	Comments (for SUBSTRATE and LWD): larger messy jam										
DIAMETER	LARGE END							PIECES ALL/PART IN BANKFULL CHANNEL		PIECES BRIDGE ABOVE BANKFULL CHANNEL	
0.1-<0.3 m	30'							>15m		5-15m	
0.3-0.6 m	3							>15m		5-15m	
0.6-0.8 m	11'							>15m		5-15m	
>0.8 m	0							>15m		5-15m	

SUBSTRATE SIZE CLASS CODES	POOL FORM CODES	CHANNEL UNIT CODES
RS = BEDROCK (SMOOTHER) - (LARGER THAN A CAR) RR = BEDROCK (ROUGH) - (LARGER THAN A CAR) RC = CONCRETE/ASPHALT XB = 1.5 G BOULDER (1000 TO 4000 mm) - METERSTOCK TO CAR) SB = 1.5 M BOULDER (250 TO 1000 mm) - BASKETBALL TO CAR) CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL) GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL) GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE) SA = SAND (100 TO 2 mm) - (GRITTY - UP TO LADYBUG SIZE) FN = SILTY CLAY/MUCK - (NOT GRITTY) HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE) WD = WOOD - (ANY SIZE) OT = OTHER (COMMENT ON OTHER SIDE)	N = Not a pool W = Large Woody Debris R = Boulder of Bedrock B = Boulder of Bedrock F = Unknown, Rubble COMBINATIONS: sp. WR, BR, WRB	PP = Pool, Plunge PL = Pool, Trench PL = Pool, Lateral Scour PB = Pool, Backwater PD = Pool, Impoundment GL = Gravel RI = Riffle RA = Rapid CA = Cascade FA = Falls DR = Dry Channel

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, etc. = flags assigned by each field crew; G1, G2, etc. = flags not specific to one station. Explain.

all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

TRANSECT: A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

DATE: 0.6 / 1.2 / 20.1.3

SITE ID: 19 Teyon - stud at rope survey

THALWEG PROFILE		For Transect A-B ONLY:				Increment (m) X.X:		Total Reach Length (m):		
STATION	THALWEG DEPTH (m) (XXX)	BAR WIDTH1		SOFT / SMALL SEDIMENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
		Present	XX.X							
0	1'5"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
1	1'4.5"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
2	1'2"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
3	1'3"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
4	1'1.5"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
*5	1'2"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
6	7"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
*7	5"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
8	4"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
9	3"	Y (N)		Y (N)	GL	N	Y (N)	Y (N)		
10		Y (N)		Y (N)			Y (N)	Y (N)		
11		Y (N)		Y (N)			Y (N)	Y (N)		
12		Y (N)		Y (N)			Y (N)	Y (N)		
13		Y (N)		Y (N)			Y (N)	Y (N)		
14		Y (N)		Y (N)			Y (N)	Y (N)		

SUBSTRATE	Station (5 or 7)		LFT	LCTR	CTR	RCTR	RGT	FLAG	LARGE WOODY DEBRIS (>10 cm small end diameter; >1.5 m length)		CHECK IF UNMARKED BOXES ARE ZERO	FLAG
	*								Length 1.5-5m	Length 5-15m		
	5		FN	FN	RR	RR	CB					
FLAG												
									0.1-0.3 m			
									0.3-0.6 m			
									0.6-0.8 m			
									>0.8 m			

SUBSTRATE SIZE CLASS CODES
 BS = BEDROCK (SMOOTH) - (LARGER THAN A CAR)
 RR = BEDROCK (ROUGH) - (LARGER THAN A CAR)
 RC = CONCRETE/ASPHALT
 XB = L.G. BOULDER (1000 TO 4000 mm) - METERSTOCK TO CAR
 SB = S.M. BOULDER (250 TO 1000 mm) - BASKETBALL TO METERSTOCK
 CB = COBBLE (64 TO 250 mm) - TENNIS BALL TO BASKETBALL
 GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL)
 GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE)
 SA = SAND (606 TO 2 mm) - (GRITTY - UP TO LADYBUG SIZE)
 FN = SILTY CLAY / MUCK - (NOT GRITTY)
 HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE)
 WD = WOOD - (ANY SIZE)
 OT = OTHER (COMMENT ON OTHER SIDE)

POOL FORM CODES/CHANNEL UNIT CODES
 N = Not a pool
 PP = Pool, Puddle
 PT = Pool, Trench
 PL = Pool, Lateral Scour
 PB = Pool, Backwater
 PD = Pool, Impoundment
 GL = Gully
 RI = Riffle
 RA = Rapid
 CA = Cascade
 FA = Falls
 DR = Dry Channel

COMBINATIONS:
 es- WR, BR, WRB

COMMENTS (for SUBSTRATE and LWD)

PHab: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: 06 A B C D E F X-tra Side Channel K

SUBSTRATE CROSS-SECTIONAL INFORMATION			
Dist. LB. XX.XX m	Depth XXX cm	Size Class Code	Embed. (%)
0	0	FN	100
Lctr	4'6"	CB	95
Ctr	8'4"	SA	100
Rctr	12'5"	SA	100
Right	17'	SA	100

SUBSTRATE SIZE CLASS CODES		Embed. (%)
RS = Bedrock (Smooth) - (Larger than a car)		0
RR = Bedrock (Rough) - (Larger than a car)		0
RC = Concrete/Asphalt		
XB = Large Boulder (1000 to 4000 mm) - (Meterstick to car)		
SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)		
CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)		
GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)		
GF = Fine Gravel (2 to 16 mm) - (Laobug to marble)		100
SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)		100
FN = Silt / Clay / Muck - (Not Gritty)		0
HP = Hardpan - (Firm, Consolidated Fine Substrate)		
WD = Wood - (Any Size)		
OT = Other (Write comment below)		

FISH COVER/ OTHER	Cover in Channel				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. <=1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES		Left Bank				Right Bank				Flag	
VEGETATION COVER		Canopy (>5 m high)				Canopy (>5 m high)					
Vegetation Type		D	C	E	M	N	D	C	E	M	N
BIG Trees (Trunk >0.3 m DBH)		0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)		0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)											
Vegetation Type		D	C	E	M	N	D	C	E	M	N
Woody Shrubs & Saplings		0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs		0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)											
Woody Shrubs & Saplings		0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs		0	1	2	3	4	0	1	2	3	4
Barren, Bare Dirt or Duff		0	1	2	3	4	0	1	2	3	4

BANK MEASUREMENTS		
Bank Angle	Undercut	Flag
Left 70°	2'	
Right 10°	0	
Wetted Width XXX.X m	17'	
Bar Width XX.X m	-	
Bankfull Width XXX.X m	19' bed	
Bankfull Height XX.X m	5'	
Incised Height XX.X m	2'	

CANOPY COVER MEASUREMENTS			
DENSIOMETER (0-17Max)	Flag		Flag
	CanR	CanL	
16	9		
17	17	Left	
7	16	Right	

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

HUMAN INFLUENCE		Left Bank				Right Bank				Flag
Wall/Dike/Revetment /Riprap/Dam		0	P	C	B	0	P	C	B	
Buildings		0	P	C	B	0	P	C	B	
Pavement/Cleared Lot		0	P	C	B	0	P	C	B	
Road/Railroad		0	P	C	B	0	P	C	B	
Pipes (Inlet/Outlet)		0	P	C	B	0	P	C	B	
Landfill/Trash		0	P	C	B	0	P	C	B	
Park/Lawn		0	P	C	B	0	P	C	B	
Row Crops		0	P	C	B	0	P	C	B	
Pasture/Ranger/Hay Field		0	P	C	B	0	P	C	B	
Logging Operations		0	P	C	B	0	P	C	B	
Mining Activity		0	P	C	B	0	P	C	B	

Comments	
Flag	

27657

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: G H I J K A B C D E F X-tra Side Channel

SUBSTRATE CROSS-SECTIONAL INFORMATION			
Dist/LB XX.XX m	Depth XXX cm	Size-Class Code	Embed. 0-100% Flag
Left	0	RR	5%
Lctr	2'8"	RR	0
Ctr	5'5"	GF	30%
Rctr	7'7"	CB	50%
Right	11'	GF	50%

SUBSTRATE SIZE CLASS CODES		Embed. (%)
RS = Bedrock (Smooth) - (Larger than a car)		0
RR = Bedrock (Rough) - (Larger than a car)		0
RC = Concrete/Asphalt		
XS = Large Boulder (1000 to 4000 mm) - (Meterstick to car)		
SB = Small Boulder (250 to 1000 mm) - (Basketball to metersstick)		
CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)		
GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)		100
GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)		100
SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)		0
FN = Silt / Clay / Muck - (Not Gritty)		
HP = Hardpan - (Firm, Consolidated Fine Substrate)		
WD = Wood - (Any Size)		
OT = Other (Write comment below)		

FISH COVER/ OTHER	Cover in Channel (%)				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. =<1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES		Left Bank (>5 m high)				Right Bank				Flag			
RIPARIAN VEGETATION COVER		D	C	E	M	N	D	C	E	M	N	Flag	
Vegetation Type	BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4		
Vegetation Type	SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4		
Understory (0.5 to 5 m high)													
Vegetation Type	Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4		
Vegetation Type	Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4		
Ground Cover (<0.5 m high)													
Vegetation Type	Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4		
Vegetation Type	Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4		
Vegetation Type	Barren, Bare Dirt or Duff	0	1	2	3	4	0	1	2	3	4		
0 = Not Present P = >10 m C = Within 10 m B = On Bank													
HUMAN INFLUENCE		Left Bank				Right Bank				Flag			
Wall/Dike/Revetment /Riprap/Dam		0	P	C	B	0	P	C	B	0	P	C	B
Buildings		0	P	C	B	0	P	C	B	0	P	C	B
Pavement/Cleared Lot		0	P	C	B	0	P	C	B	0	P	C	B
Road/Railroad		0	P	C	B	0	P	C	B	0	P	C	B
Pipes (Inlet/Outlet)		0	P	C	B	0	P	C	B	0	P	C	B
Landfill/Trash		0	P	C	B	0	P	C	B	0	P	C	B
Park/Lawn		0	P	C	B	0	P	C	B	0	P	C	B
Row Crops		0	P	C	B	0	P	C	B	0	P	C	B
Pasture/Range/Hay Field		0	P	C	B	0	P	C	B	0	P	C	B
Logging Operations		0	P	C	B	0	P	C	B	0	P	C	B
Mining Activity		0	P	C	B	0	P	C	B	0	P	C	B

CANOPY COVER MEASUREMENTS			
DENSIOMETER (0-17Max)			
Flag		Flag	
CanUp	CanR	Left	Right
17	11	17	12
17			
15			

BANK MEASUREMENTS		
Bank Angle 0-360	Undercut Dist. (m)	Flag
Left 10°	0	
Right 10°	0	
Wetted Width XXX.X m	11'	
Bar Width XX.X m	NA	
Bankfull Width XXX.X m		
Bankfull Height XX.X m	7'	
Incised Height XX.X m		

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Comments	
Flag	

27657

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: A B C D E F X-tra Side Channel
 G H I J K

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist.LB XX.XX m	Depth XXX cm	Size Class Code	Embed. 0-100%	Flag
Left	0	GC	90%	
Lctr	2"	GC	90%	
Ctr	4"	GC	90%	
Rctr	5.5"	GC	90%	
Right	8"	SA	100%	

SUBSTRATE SIZE CLASS CODES

RS = Bedrock (Smooth) - (Larger than a car)
 RR = Bedrock (Rough) - (Larger than a car)
 RC = Concrete/Asphalt
 XB = Large Boulder (1000 to 4000 mm) - (Meterstick to car)
 SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)
 CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)
 GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)
 GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)
 SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)
 FN = Silt / Clay / Muck - (Not Grity)
 HP = Hardpan - (Firm, Consolidated Fine Substrate)
 WD = Wood - (Any Size)
 OT = Other (Write comment below)

FISH COVER/ OTHER

Cover in Channel	Flag				
	0	1	2	3	4
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. <1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES

RIPARIAN VEGETATION COVER	Left Bank (>5 m high)				Right Bank				Flag	
	D	C	E	M	N	D	C	E		M
Vegetation Type	0	1	2	3	4	0	1	2	3	4
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)										
Vegetation Type	0	1	2	3	4	0	1	2	3	4
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)										
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4
Barren, Bare Dirt or Drift	0	1	2	3	4	0	1	2	3	4

BANK MEASUREMENTS

Bank Angle	Undercut	Flag
Left 5°		
Right 90°		
Wetted Width XXX.X m	8'	
Bar Width XX.X m	NA	
Bankfull Width XXX.X m		
Bankfull Height XX.X m	3.0'	
Incised Height XX.X m		

CANOPY COVER MEASUREMENTS

DENSIMETER (0-17Max)		Flag	
CentUp	CentR	CentL	CentDwn
17	17	17	17

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

HUMAN INFLUENCE

Left Bank	Right Bank	Flag						
			0	1	2	3	4	
Wall/Dike/Retreatment /Riprap/Dam	0	P	C	B	0	P	C	B
Buildings	0	P	C	B	0	P	C	B
Pavement/Cleared Lot	0	P	C	B	0	P	C	B
Road/Railroad	0	P	C	B	0	P	C	B
Pipes (Inlet/Outlet)	0	P	C	B	0	P	C	B
Landfill/Trash	0	P	C	B	0	P	C	B
Park/Lawn	0	P	C	B	0	P	C	B
Row Crops	0	P	C	B	0	P	C	B
Pasture/Range/Hay Field	0	P	C	B	0	P	C	B
Logging Operations	0	P	C	B	0	P	C	B
Mining Activity	0	P	C	B	0	P	C	B

Comments

Flag	

27657

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: A B C D E F X-tra Side Channel
 G H J K

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist LB XX.XX m	Depth XXX cm	Size-Class Code	Embed. 0-100%	Flag
Left	0	GC	100	
Lctr	4.5'	GC	90	
Ctr	8.5'	GF	100	
Rctr	12.5'	GF	100	
Right	19'	GC	90	

SUBSTRATE SIZE CLASS CODES

Embed. (%)

- RS = Bedrock (Smooth) - (Larger than a car)
- RR = Bedrock (Rough) - (Larger than a car)
- RC = Concrete/Asphalt
- XB = Large Boulder (1000 to 4000 mm) - (Meterstick to car)
- SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)
- CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)
- GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)
- GF = Fine Gravel (2 to 16 mm) - (Lobbying to marble)
- SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)
- FN = Silt / Clay / Muck - (Not Grity)
- HP = Horizon - (Firm, Consolidated Fine Substrate)
- WD = Wood - (Any Size)
- OT = Other (Write comment below)

FISH COVER/ OTHER

	Cover in Channel (%)				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. >1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES

RIPARIAN VEGETATION COVER	Left Bank (>5 m high)				Right Bank				Flag	
	D	C	E	M	N	D	C	E		M
Vegetation Type										
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)										
Vegetation Type	D	C	E	M	N	D	C	E	M	N
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)										
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4
Barren, Bare Dirt or Duff	0	1	2	3	4	0	1	2	3	4

BANK MEASUREMENTS

Bank Angle 0-360	Undercut Dist. (m)	Flag
Left 5°	/	
Right 80°	/	
Wetted Width XXX.X m	19'	
Bar Width XX.X m	N/A	
Bankfull Width XXX.X m		
Bankfull Height XX.X m	4'2"	
Incised Height XX.X m		

CANOPY COVER MEASUREMENTS

DENSIMETER (0-17Max)			Flag		
CentUp	CanR	CentDown	Left	Right	Flag
12	14	15			
15	16	17			

Flag codes: K = Sample not collected; U = Suspect sampler; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Comments

Flag	Comments

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: 06/19/2013

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist.LB. XX.XX m	Depth XXX cm	Size Class Code	Embed. 0-100%	Flag
Left	0	GC	90	
Lctr	3'	GC	90	
Ctr	6'	GC	90	
RCtr	9'	CB	90	
Right	15'	GF	90	

SUBSTRATE SIZE CLASS CODES Embed. (%)

FS = Bedrock (Smooth) - (Larger than a car)
 RR = Bedrock (Rough) - (Larger than a car)
 RC = Concrete/Asphalt
 XB = Large Boulder (1000 to 4000 mm) - (Meterstick to car)
 SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)
 CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)
 GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)
 GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)
 SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)
 FN = Silt / Clay / Muck - (Not Gritty)
 HP = Hardpan - (Firm, Consolidated Fine Substrate)
 WD = Wood - (Any Size)
 OT = Other (Write comment below)

FISH COVER/ OTHER

	Cover in Channel				Flag
	0	1	2	3	
Filamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. <1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES

RIPARIAN VEGETATION COVER	Left Bank				Right Bank				Flag	
	D	C	E	M	N	D	C	E		M
Vegetation Type	D	C	E	M	N	D	C	E	M	N
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
Understory (0.5 to 5 m high)										
Vegetation Type	D	C	E	M	N	D	C	E	M	N
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses, & Forbs	0	1	2	3	4	0	1	2	3	4
Ground Cover (<0.5 m high)										
Woody Shrubs & Saplings	0	1	2	3	4	0	1	2	3	4
Non-Woody Herbs, Grasses and Forbs	0	1	2	3	4	0	1	2	3	4
Barren, Bare Dirt or Duff	0	1	2	3	4	0	1	2	3	4

0 = Absent (0%)
 1 = Sparse (<10%)
 2 = Moderate (10-40%)
 3 = Heavy (40-75%)
 4 = Very Heavy (>75%)

D = Deciduous
 C = Coniferous
 E = Broadleaf Evergreen
 M = Mixed
 N = None

BANK MEASUREMENTS

Bank Angle 0-360	Undercut Dist. (m)	Flag
Left 5°	0	
Right 85°	5'	
Wetted Width XXX.X m	15'	
Bar Width XX.X m	via	
Bankfull Width XXX.X m	3.0m	
Bankfull Height XX.X m	9'	
Incised Height XX.X m	-	

CANOPY COVER MEASUREMENTS

DENSIOMETER (0-17Max)			Flag
CentUp	CentR	CentL	CentDwn
17	17	8	17
10			
10			

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Flag

Flag	Comments

27657

PHAB: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: 06 A B C D E F X-tra Side Channel

SUBSTRATE CROSS-SECTIONAL INFORMATION			
Dist.LB XX.XX m	Depth XXX cm	Size Class Code	Embed. (%) Flag
Left	0	GC	100
LCtr	2.5"	CB	50
Ctr	5'	CB	50
RCtr	7.5'	CB	50
Right	10'	FN	100

SUBSTRATE SIZE CLASS CODES

RS = Bedrock (Smooth) - (Larger than a car)
 RR = Bedrock (Rough) - (Larger than a car)
 RC = Concrete/Asphalt
 XB = Large Boulder (250 to 1000 mm) - (Meterstick to meterstick)
 SB = Small Boulder (100 to 250 mm) - (Basketball to meterstick)
 CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)
 GB = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)
 GF = Fine Gravel (2 to 16 mm) - (Ladbug to marble)
 SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladbug size)
 FN = Silt / Clay / Muck - (Not Gritty)
 HP = Hardpan - (Firm, Consolidated Fine Substrate)
 WD = Wood - (Any Size)
 OT = Other (Write comment below)

FISH COVER/ OTHER	Cover in Channel (%)				Flag
	0	1	2	3	
Flamentous Algae	0	1	2	3	4
Macrophytes	0	1	2	3	4
Woody Debris >0.3 m (BIG)	0	1	2	3	4
Brush/Woody Debris <0.3 m (SMALL)	0	1	2	3	4
Live Trees or Roots	0	1	2	3	4
Overhanging Veg. <1 m of Surface	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Boulders	0	1	2	3	4
Artificial Structures	0	1	2	3	4

VISUAL RIPARIAN ESTIMATES	Cover (%)				Flag
	0	1	2	3	
Vegetation Type	0	1	2	3	4
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4

RIPARIAN VEGETATION COVER	Left Bank				Right Bank				Flag	
	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)	Canopy (>5 m high)		
Vegetation Type	D	C	E	M	N	D	C	E	M	N
BIG Trees (Trunk >0.3 m DBH)	0	1	2	3	4	0	1	2	3	4
SMALL Trees (Trunk <0.3 m DBH)	0	1	2	3	4	0	1	2	3	4

HUMAN INFLUENCE	Left Bank				Right Bank				Flag	
	0	1	2	3	4	0	1	2		3
Wall/Dike/Retement /Ri/rap/Dam	0	1	2	3	4	0	1	2	3	4
Buildings	0	1	2	3	4	0	1	2	3	4
Pavement/Cleared Lot	0	1	2	3	4	0	1	2	3	4
Road/Railroad	0	1	2	3	4	0	1	2	3	4
Pipes (Inlet/Outlet)	0	1	2	3	4	0	1	2	3	4
Landfill/Trash	0	1	2	3	4	0	1	2	3	4
Park/Lawn	0	1	2	3	4	0	1	2	3	4
Row Crops	0	1	2	3	4	0	1	2	3	4
Pasture/Range/Hay Field	0	1	2	3	4	0	1	2	3	4
Logging Operations	0	1	2	3	4	0	1	2	3	4
Mining Activity	0	1	2	3	4	0	1	2	3	4

CANOPY COVER MEASUREMENTS			
DENSIOMETER (0-17Max)			
Flag	CenR	Left	Right
17	17	12	17
11			
15			

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

BANK MEASUREMENTS		
Bank Angle 0 - 360	Undercut Dist. (m)	Flag
Left 85°	0	
Right 5°	2'	
Wetted Width XXX.X m	10'	
Bar Width XX.X m	NA	
Bankfull Width XXX.X m	7.5'	
Bankfull Height XX.X m	5'	
Incised Height XX.X m		

Comments	
Flag	

PHab: CHANNEL/RIPARIAN CROSS-SECTION FORM - STREAMS

Reviewed by (Initials):

SITE ID: _____ DATE: _____ / _____ / _____

TRANSECT: A B C D E F X-tra Side Channel

G H I J K

SUBSTRATE CROSS-SECTIONAL INFORMATION

Dist.LB XX.XX m	Depth XXX cm	Size Class Code	Embed. 0-100%	Flag
Left				
Lctr				
Ctr				
RCtr				
Right				

SUBSTRATE SIZE CLASS CODES

RS = Bedrock (Smooth) - (Larger than a car)	Embed. (%)	0
RR = Bedrock (Rough) - (Larger than a car)		0
RC = Concrete/Asphalt		
SB = Small Boulder (250 to 1000 mm) - (Basketball to meterstick)		
CB = Cobble (64 to 250 mm) - (Tennis ball to Basketball)		
GC = Coarse Gravel (16 to 64 mm) - (Marble to Tennis ball)		
GF = Fine Gravel (2 to 16 mm) - (Ladybug to marble)		100
SA = Sand (0.06 to 2 mm) - (Gritty - up to Ladybug size)		100
FN = Silt / Clay / Muck - (Not Gritty)		0
FP = Hardpan - (Firm, Consolidated Fine Substrate)		
WD = Wood - (Any Size)		
OT = Other (Write comment below)		

FISH COVER/ OTHER

FISH COVER/ OTHER	Cover in Channel	Flag
Filamentous Algae	0 1 2 3 4	
Macrophytes	0 1 2 3 4	
Woody Debris >0.3 m (BIG)	0 1 2 3 4	
Brush/Woody Debris <0.3 m (SMALL)	0 1 2 3 4	
Live Trees or Roots	0 1 2 3 4	
Overhanging Veg. <1 m of Surface	0 1 2 3 4	
Undercut Banks	0 1 2 3 4	
Boulders	0 1 2 3 4	
Artificial Structures	0 1 2 3 4	

VISUAL RIPARIAN ESTIMATES

Left Bank	Right Bank	Flag
Canopy (>5 m high)	D C E M N	D C E M N
Vegetation Type	D C E M N	D C E M N
BIG Trees (Trunk >0.3 m DBH)	0 1 2 3 4	0 1 2 3 4
SMALL Trees (Trunk <0.3 m DBH)	0 1 2 3 4	0 1 2 3 4
Understory (0.5 to 5 m high)		
Vegetation Type	D C E M N	D C E M N
Woody Shrubs & Saplings	0 1 2 3 4	0 1 2 3 4
Non-Woody Herbs, Grasses, & Forbs	0 1 2 3 4	0 1 2 3 4
Ground Cover (<0.5 m high)		
Woody Shrubs & Saplings	0 1 2 3 4	0 1 2 3 4
Non-Woody Herbs, Grasses and Forbs	0 1 2 3 4	0 1 2 3 4
Bare, Bare Dirt or Duff	0 1 2 3 4	0 1 2 3 4

0 = Absent (0%)
 1 = Sparse (<10%)
 2 = Moderate (10-40%)
 3 = Heavy (40-75%)
 4 = Very Heavy (>75%)

D = Deciduous
 C = Coniferous
 E = Broadleaf Evergreen
 M = Mixed
 N = None

BANK MEASUREMENTS

Bank Angle 0 - 360	Undercut Dist. (m)	Flag
Left		
Right		
Wetted Width XXX.X m		
Bar Width XX.X m		
Bankfull Width XXX.X m		
Bankfull Height XX.X m		
Inclined Height XX.X m		

CANOPY COVER MEASUREMENTS

DENSIOMETER (0-17Max)			Flag
CanUp	CentR		
CanL	Left		
CanDwn	Right		

Flag codes: K = Sample not collected; U = Suspect sample; F1, F2, etc. = misc. flag assigned by field crew. Explain all flags in comment sections.

Comments

Flag _____

Comments _____

27697

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (initial):

TRANSECT: A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

DATE: 06/12/2013

SITE ID: 19

STATION		THALWEG DEPTH (cm) (XXX)	WETTED WIDTH (m) (XXXX)	BAR WIDTH ¹		SOFT /SMALL SEDIMENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	Increment (m) XX:	Total Reach Length (m):
				Present	XX.X								
0	1'3"	18'4"		Y (N)		(Y) N	PT	N	Y (N)	Y (N)			
1	1'			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
2	1'4"			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
3	1'6"			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
4	2'1"			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
*5	2'7"			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
6	3'2"			Y (N)		(Y) N	GL	N	Y (N)	Y (N)			
*7	2'9"	14'10"		Y (N)		(Y) N	PT	N	Y (N)	Y (N)			
8	2'4"			Y (N)		(Y) N	W/PT	WF	Y (N)	Y (N)			
9	2'1"			Y (N)		(Y) N	PT	F	Y (N)	Y (N)			
10				Y (N)		Y (N)			Y (N)	Y (N)			
11				Y (N)		Y (N)			Y (N)	Y (N)			
12				Y (N)		Y (N)			Y (N)	Y (N)			
13				Y (N)		Y (N)			Y (N)	Y (N)			
14				Y (N)		Y (N)			Y (N)	Y (N)			

SUBSTRATE	Station (5 or 7)	LFT	LCTR	CTR	RCTR	RGT	FLAG	LARGE WOODY DEBRIS (≥10 cm small end diameter; ≥1.5 m length)		CHECK IF UNMARKED BOXES ARE ZERO		FLAG
								DIAMETER LARGE END	PIECES ALL/PART IN BANKFULL CHANNEL Length 1.5-5m	PIECES BRIDGE ABOVE BANKFULL CHANNEL Length 1.5-5m	PIECES ABOVE BANKFULL CHANNEL Length >15m	
	* 7	FN	FN	RR	CB	CB		0.1-0.3 m	>15m			
								0.3-0.6 m				
								0.6-0.8 m				
								>0.8 m				

SUBSTRATE SIZE CLASS CODES	POOL FORM CODES	CHANNEL UNIT CODES
RS = BEDROCK (SMOOTH) - (LARGER THAN A CAR) RR = BEDROCK (ROUGH) - (LARGER THAN A CAR) RC = CONCRETE/ASPHALT XB = L.G. BOULDER (1000 TO 4000 mm) - (METERSTICK TO CAR) SB = SUB. BOULDER (250 TO 1000 mm) - (BASKETBALL TO METERSTICK) CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL) GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL) GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE) SA = SAND (0.06 TO 2 mm) - (GRITTY - UP TO LADYBUG SIZE) FN = SILTY CLAY / MUCK (NOT GRITTY) HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE) WD = WOOD - (ANY SIZE) OT = OTHER COMMENT ON OTHER SIDE	N = Not a pool W = Large Woody Debris R = Rootwad B = Boulder or Bedrock U = Unknown, Riprap COMBINATIONS: eg. WS, BR, WRB	PP = Pool, Plugage PT = Pool, Trench PL = Pool, Lateral Scour PB = Pool, Backwater PD = Pool, top/pondment GL = Glide RI = Riffle RA = Rapid CA = Cascade FA = Falls DR = Dry Channel

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (initial):

A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

TRANSECT: _____

DATE: 06/12/2013

SITE ID: 19

THALWEG PROFILE		For Transect A-B ONLY:		Increment (m) X.X:		Total Reach Length (m):				
STA-TION	THALWEG DEPTH (cm) (XXX)	BAR WIDTH ¹		SOFT /SMALL SEDI-MENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
		Present	XX.X							
0	2'6"	Y	N	Y	N	GL	Y	N		
1	1'4"	Y	N	Y	N	R1	Y	N		
2	6"	Y	N	Y	N	R1	Y	N		
3	6"	Y	N	Y	N	R1	Y	N		
4	6"	Y	N	Y	N	R1	Y	N		
*5	6"	Y	N	Y	N	GL	Y	N		
6	8"	Y	N	Y	N	GL	Y	N		
*7	8"	Y	N	Y	N	GL	Y	N		
8	9"	Y	N	Y	N	GL	Y	N		
9	1'5"	Y	N	Y	N	GL	Y	N		
10		Y	N	Y	N		Y	N		
11		Y	N	Y	N		Y	N		
12		Y	N	Y	N		Y	N		
13		Y	N	Y	N		Y	N		
14		Y	N	Y	N		Y	N		

SUBSTRATE	Station (5 or 7)	LFT	LCTR	CTR	RCTR	RGT	FLAG	LARGE WOODY DEBRIS (<10 cm small end diameter; >1.5 m length)		CHECK IF UNMARKED BOXES ARE ZERO	FLAG
								DIAMETER LARGE END	PIECES ALL/PART IN BANKFULL CHANNEL		
	*7	SA	CB	CB	CB	CB		0.1-<0.3 m	>15m	<input checked="" type="checkbox"/>	>15m
								0.3-0.6 m	>15m		5-15m
								0.6-0.8 m	>15m		>15m
								>0.8 m	>15m		>15m

COMMENTS (for SUBSTRATE and LWD)

SUBSTRATE SIZE CLASS CODES	POOL FORM CODES	CHANNEL UNIT CODES
RS = BEDROCK (SMOOTH) - (LARGER THAN A CAR) RR = BEDROCK (ROUGH) - (LARGER THAN A CAR) RC = CONCRETE/ASPHALT XB = LG BOULDER (1000 TO 4000 mm) - METERSTICK TO CAR CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL) GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL) GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE) SA = SAND (0.66 TO 2 mm) - (GRITTY - UP TO LADYBUG SIZE) FN = SILTY CLAY / MUCK - (NOT GRITTY) HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE) WD = WOOD - (ANY SIZE) OT = OTHER (COMMENT ON OTHER SIDE)	N = Not a pool W = Large Woody Debris R = Rootwad B = Boulder or Bedrock F = Unknown, typical COMBINATIONS: eg. WR, BR, WRB	PP = Pool, Plunge PT = Pool, Trench PL = Pool, Lateral Scour PB = Pool, Backwater PD = Pool, Impoundment GL = Grilla RA = Rapid CA = Cataract FA = Falls DR = Dry Channel

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, ect. = flags assigned by each field crew; G1, G2, ect. for flags not specific to one station. Explain all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

SITE ID: 19

DATE: 06/12/2013

TRANSECT: 13

A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

THALWEG PROFILE		For Transect A-B ONLY:		Increment (m) X.X:		Total Reach Length (m):				
STA-TION	THALWEG DEPTH (cm) (XXX)	BAR WIDTH ¹		SOFT /SMALL SEDIMENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
		Present	XX.X							
0	1'2"	Y	N	Y (N)	GL		Y	N		
1	1'3"	Y	N	Y (N)	GL		Y	N		
2	1'7"	Y	N	Y (N)	"		Y	N		
3	1'9"	Y	N	Y (N)	"		Y	N		
4	2'2"	Y	N	Y (N)	"		Y	N		
*5	2'5"	Y	N	Y (N)	"		Y	N		
6	2'5"	Y	N	Y (N)	"		Y	N		
*7	2'2"	Y	N	Y (N)	"		Y	N		
8	2'3"	Y	N	Y (N)	"		Y	N		
9	2'6"	Y	N	Y (N)	"		Y	N		
10		Y	N	Y			Y	N		
11		Y	N	Y			Y	N		
12		Y	N	Y			Y	N		
13		Y	N	Y			Y	N		
14		Y	N	Y			Y	N		

SUBSTRATE	Station (5 or 7)	LFT	LCTR	CTR	RCTR	RGT	FLAG	LARGE WOODY DEBRIS (>10 cm small end diameter > 1.5 m length)		CHECK IF UNMARKED BOXES ARE ZERO		FLAG
								DIAMETER LARGE END	PIECES ALL/PART IN BANKFULL CHANNEL Length 1.5-5m	PIECES ALL/PART IN BANKFULL CHANNEL Length 1.5-5m	PIECES BRIDGE ABOVE BANKFULL CHANNEL Length 1.5-5m	
	*7	SA	CB	GF	SA	SA		0.1-0.3 m	20			
								0.3-0.6 m		20		
								0.6-0.8 m				
								>0.8 m				

COMMENTS (for SUBSTRATE and LWD)

SUBSTRATE SIZE CLASS CODES

RS = BEDROCK (SMOOTH - (LARGER THAN A CAR))
 RR = BEDROCK (ROUGH) - (LARGER THAN A CAR)
 RC = CONCRETE/ASPHALT
 XB = L.G. BOULDER (250 TO 1000 mm) - BASKETBALL TO METERSTICK)
 SB = SM. BOULDER (100 TO 4000 mm) - METERSTICK TO CAR)
 CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL)
 GC = COARSE GRAVEL (16 TO 84 mm) - (MARBLE TO TENNIS BALL)
 GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE)
 SA = SAND (606 TO 2 mm) - (GRITTY - LP TO LADYBUG SIZE)
 FN = SILTY CLAY / MUCK - (NOT GRITTY)
 HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE)
 WD = WOOD - (ANY SIZE)
 OT = OTHER COMMENT ON OTHER SIDE

POOL FORM CODES

N = Not a pool
 W = Large Woody Debris
 R = Rootwad
 B = Boulder or Bedrock
 F = Unknown, fluvial
 COMBINATIONS:
 eg. WR, BR, WRB

CHANNEL UNIT CODES

PP = Pool, Plunge
 PT = Pool, Trench
 PL = Pool, Lateral Scour
 PB = Pool, Backwater
 PD = Pool, Impoundment
 GL = Glide
 RI = Riff
 RA = Rapid
 CA = Cascade
 FA = Falls
 DR = Dry Channel

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, ed. = flags assigned by each field crew; G1, G2, etc. for flags not specific to one station. Explain all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (initial):

A-B B-C C-D D-E E-F
 F-G G-H H-I J-K

TRANSECT: 06/19/2013

DATE: 06/19/2013

SITE ID: 19

THALWEG PROFILE		For Transect A-B ONLY:		Increment (m) X.X:		Total Reach Length (m):				
STA-TION	THALWEG DEPTH (cm) (XXX)	WETTED WIDTH (m) (XXX.X)	BAR WIDTH ¹ Present XX.X	SOFT / SMALL SEDIMENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
0	2'5"	17'	Y <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
1	2'3"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
2	2'1"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
3	1'9"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
4	1'6"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
*5	1'		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
6	6"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
*7	6"	10'	Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	GL		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
8	6"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	RI		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
9	5"		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N	RI		Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
10			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
11			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
12			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
13			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		
14			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N			Y <input checked="" type="checkbox"/> N	Y <input checked="" type="checkbox"/> N		

SUBSTRATE	Station (5 or 7)	LFT	LCTR	CTR	RCTR	RGT	FLAG	LARGE WOODY DEBRIS (≥10 cm small end diameter > 1.5 m length)			CHECK IF UNMARKED BOXES ARE ZERO	FLAG	
								DIAMETER LARGE END	PIECES ALL-PART IN BANKFULL CHANNEL Length 1.5-5m	PIECES BRIDGE ABOVE BANKFULL CHANNEL Length 1.5-5m			PIECES BRIDGE ABOVE BANKFULL CHANNEL Length >15m
	*7	RR	RR	CB	CB	GL		0.1-0.3 m					
								0.3-0.6 m					
								0.6-0.8 m					
								>0.8 m					

SUBSTRATE SIZE CLASS CODES	POOL FORM CODES/CHANNEL UNIT CODES
RS = BEDROCK (SMOOTH) - (LARGER THAN A CAR) RR = BEDROCK (ROUGH) - (LARGER THAN A CAR) RC = CONCRETE/ASPHALT XB = L.G. BOULDER (1000 TO 4000 mm) - METERSTICK TO CAR SB = S.M. BOULDER (200 TO 1000 mm) - BASKETBALL TO METERSTICK CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL) GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL) GF = FINE GRAVEL (2 TO 16 mm) - (LADYBUG TO MARBLE) SA = SAND (100 TO 2 mm) - (GRITTY - UP TO LADYBUG SIZE) FN = SILT/CLAY/MUCK - (NOT GRITTY) HP = HARPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE) WD = WOOD - (ANY SIZE) OT = OTHER (COMMENT ON OTHER SIDE)	N = Not a pool W = Large Woody Debris R = Rockward B = Boulder or Bedrock F = Unknown, fluvial PP = Pool, Plunge PT = Pool, Trench PL = Pool, Lateral Scour PB = Pool, Backwater PD = Pool, Impoundment GL = Gully RI = Riffle RA = Rapid CA = Cascade FA = Falls DR = Dry Channel

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, ect. = flags assigned by each field crew; G1, G2, etc. for flags not specific to one station. Explain. all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).



PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

SITE ID: 19 DATE: 06/19/2013 TRANSECT: A-B B-C C-D D-E E-F F-G G-H H-I J-K

THALWEG PROFILE				For Transect A-B ONLY:				Increment (m) X.X:		Total Reach Length (m):	
STATION	THALWEG DEPTH (cm) (XXX)	BAR WIDTH1		SOFT /SMALL SEDI-MENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS	
		Present	XX.X								
0	3.75"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
1	9"	Y (N)		Y (N)	GL		Y (N)	Y (N)			
2	1'2"	Y (N)		Y (N)	GL*		Y (N)	Y (N)			
3	1'2"	Y (N)		Y (N)	GL*		Y (N)	Y (N)			
4	1'1"	Y (N)		Y (N)	GL*		Y (N)	Y (N)			
*5	1'7"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
6	3"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
*7	9"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
8	3"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
9	4"	Y (N)		Y (N)	RI		Y (N)	Y (N)			
10		Y (N)		Y (N)			Y (N)	Y (N)			
11		Y (N)		Y (N)			Y (N)	Y (N)			
12		Y (N)		Y (N)			Y (N)	Y (N)			
13		Y (N)		Y (N)			Y (N)	Y (N)			
14		Y (N)		Y (N)			Y (N)	Y (N)			

SUBSTRATE	Station (5 of 7)							LARGE WOODY DEBRIS (>10 cm small end diameter, ≥1.5 m length)	CHECK IF UNMARKED BOXES ARE ZERO			FLAG
	LFT	LCTR	CTR	RCTR	RGRT	FLAG	DIAMETER LARGE END		PIECES ALL/PART IN BANKFULL CHANNEL	PIECES BRIDGE ABOVE BANKFULL CHANNEL		
	GC	CB	CB	CB	GC	SA		Length 1.5-5m	>15m	5-15m	>15m	
	7						2	Length 1.5-5m	>15m	5-15m	>15m	
							0.1-<0.3 m					
							0.3-0.6 m					
							0.6-0.8 m					
							>0.8 m					

COMMENTS (for SUBSTRATE and LWD)

SUBSTRATE SIZE CLASS CODES
 RS = BEDROCK (SMOOTH) - (LARGER THAN A CAR)
 RR = BEDROCK (ROUGH) - (LARGER THAN A CAR)
 RC = CONCRETE/ASPHALT
 SB = L.S. BOULDER (100 TO 1000 mm) - METERSTICK TO CAR
 SB = S.M. BOULDER (250 TO 1000 mm) - BASKETBALL TO METERSTICK
 CB = COBBLE (64 TO 250 mm) - (TENNIS BALL TO BASKETBALL)
 GC = COARSE GRAVEL (16 TO 64 mm) - (MARBLE TO TENNIS BALL)
 SA = SAND (0.06 TO 2 mm) - (LADYBUG TO MARBLE)
 FN = SILTY CLAY / MUCK - (NOT GRITTY) - UP TO LADYBUG SIZE
 HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE)
 WD = WOOD - (ANY SIZE)
 OT = OTHER (COMMENT ON OTHER SIDE)

POOL FORM CODES CHANNEL UNIT CODES
 N = Not a pool
 W = Large Woody Debris
 R = Footwall
 B = Boulder or Bedrock
 F = Unknown, Fossil
 COMBINATIONS:
 eg. WR, BR, WRS
 CA = Cascade
 FA = Falls
 DR = Dry Channel!

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

TRANSECT: A-B B-C C-D D-E E-F
 F-G G-H H-I I-J J-K

DATE: 06/19/2013

THALWEG PROFILE		For Transect A-B ONLY:		Increment (m) X.X:		Total Reach Length (m):				
STA-TION	THALWEG DEPTH (cm) (XXX)	BAR WIDTH 1		SOFT /SMALL SED/MENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	COMMENTS
		WETTED WIDTH (m) (XXX.X)	Present							
0	6"		Y N	Y N	GL		Y N	Y N		
1	7"		Y N	Y N	GL*		Y N	Y N		
2	8"		Y N	Y N	R1		Y N	Y N		
3	7"		Y N	Y N	GL		Y N	Y N		
4	8"		Y N	Y N			Y N	Y N		
*5	6"		Y N	Y N			Y N	Y N		
6	7"		Y N	Y N			Y N	Y N		
*7	7"	16'10"	Y N	Y N			Y N	Y N		
8	7"		Y N	Y N			Y N	Y N		
9	7"		Y N	Y N			Y N	Y N		
10			Y N	Y N			Y N	Y N		
11			Y N	Y N			Y N	Y N		
12			Y N	Y N			Y N	Y N		
13			Y N	Y N			Y N	Y N		
14			Y N	Y N			Y N	Y N		

SUBSTRATE	Station (5 or 7)							LFT	LCTR	CTR	RCTR	RGT	FLAG
	* 7	GL	FN	GF	GL	GL	GL						
FLAG	COMMENTS (for SUBSTRATE and LWD)												
	SUBSTRATE SIZE CLASS CODES												
	POOL FORM CODES CHANNEL UNIT CODES												

DIAMETER LARGE END	LARGE WOODY DEBRIS (≥20 cm small end diameter; ≥1.5 m length)			CHECK IF UNMARKED BOXES ARE ZERO			FLAG
	Length 1.5-5m	5-15m	>15m	Length 1.5-5m	5-15m	>15m	
0.1-<0.3 m							
0.3-0.6 m	1						
0.6-0.8 m							
>0.8 m							



17021

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, etc. = flags assigned by each field crew; G1, G2, etc. for flags not specific to one station. Explain all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).

PHAB: THALWEG PROFILE & WOODY DEBRIS FORM STREAMS

Reviewed by (Initial):

SITE ID: 19

DATE: 06/19/2013

TRANSECT: A-B B-C C-D D-E E-F F-G G-H H-I I-J J-K

STATION		THALWEG PROFILE		For Transect A-B ONLY:										Total Reach Length (m):
		THALWEG DEPTH (cm) (XXX)	WETTED WIDTH (m) (XXX.X)	BAR WIDTH 1 Present	XX.X	SOFT /SMALL SEDIMENT	CHANNEL UNIT CODE	POOL FORM CODE	SIDE CHANNEL	BACK WATER	FLAG	INCREMENT (m) X.X:	COMMENTS	
0		8"	19'	Y N		Y M	GL		Y N	Y N				
1		8"		Y N		Y N	GL		Y N	Y N				
2		9"		Y N		Y N	GL		Y N	Y N				
3		1'		Y N		Y N	GL		Y N	Y N				
4		1'1"		Y N		Y N	GL		Y N	Y N				
*5		1'5"		Y N		Y N	GL		Y N	Y N				
6		1'5"		Y N		Y N	GL		Y N	Y N				
*7		1'6"	13'6"	Y N		Y N	GL		Y N	Y N				
8		1'5"		Y N		Y N	GL		Y N	Y N				
9		1'1"		Y N		Y N	GL		Y N	Y N				
10				Y N		Y N			Y N	Y N				
11				Y N		Y N			Y N	Y N				
12				Y N		Y N			Y N	Y N				
13				Y N		Y N			Y N	Y N				
14				Y N		Y N			Y N	Y N				

SUBSTRATE	Station (5 or 7)					LARGE WOODY DEBRIS (>10 cm small end diameter; ≥ 1.5 m length)	CHECK IF UNMARKED BOXES ARE ZERO			FLAG
	LFT	LCR	CTR	RCR	RGT		PIECES ALL/PART IN BANKFULL CHANNEL	PIECES BRIDGE ABOVE BANKFULL CHANNEL	PIECES BRIDGE ABOVE BANKFULL CHANNEL	
*7	FN	GC	GC	GC	GC					
COMMENTS (for SUBSTRATE and LWD)										
DIAMETER LARGE END: 0.1-0.3 m										
DIAMETER LARGE END: 0.3-0.6 m										
DIAMETER LARGE END: 0.6-0.8 m										
DIAMETER LARGE END: >0.8 m										

SUBSTRATE SIZE CLASS CODES	POOL FORM CODES	CHANNEL UNIT CODES
RS = BEDROCK (SMOOTH) - (LARGER THAN A CAR) RB = BEDROCK (ROUGH) - (LARGER THAN A CAR) RC = CONCRETE/ASPHALT XB = LG. BOULDER (1000 TO 4000 mm) - METERSTICK TO CAP SB = SM. BOULDER (250 TO 1000 mm) - BASKETBALL TO METERSTICK CB = COBBLE (65 TO 250 mm) - (TENNIS BALL TO BASKETBALL) GC = COARSE GRAVEL (15 TO 64 mm) - (MARBLE TO TENNIS BALL) SA = SAND (0.075 TO 2 mm) - (LADYBUG TO MARBLE) FN = SFT. CLAY / MUCK - (NOT GRITTY) HP = HARDPAN - (FIRM, CONSOLIDATED FINE SUBSTRATE) WD = WOOD - (ANY SIZE) OT = OTHER (COMMENT ON OTHER SIDE)	N = Not a pool W = Large Woody Debris R = Rootwad B = Boulder or Bedrock F = Unicorm, Nupia COMBINATIONS: eg: WR, BR, WRE	PP = Pool, Plunge PT = Pool, Trench PL = Pool, Lateral Scour PB = Pool, Backwater PD = Pool, Impoundment GL = Glide RI = Riffle RA = Rapid CA = Cascade FA = Falls DR = Dry Channel

Flag Codes: K = no measurement made; U = suspect measurement; F1, F2, etc. = flags assigned by each field crew; G1, G2, etc. = flags assigned by one station. Explain all flags in comments. 1 = Measure Bar Width at Station 0 and Mid-Station (5 or 7).

RIPARIAN "LEGACY" TREES AND INVASIVE ALIEN PLANTS

Reviewed by (initial):

22977

SITE ID: 19

DATE: 06/18/2013

LARGEST POTENTIAL LEGACY TREE VISIBLE FROM THIS STATION		ALIEN PLANT SPECIES PRESENT IN LEFT AND RIGHT RIPARIAN PLOTS					
Tran	Trees not Visible	DBH (m)	Height (m)	Dist. from wetted margin (m)	Type	Taxonomic Category	Check all that are present
D	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input checked="" type="checkbox"/> >2	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input type="checkbox"/> 15-30 <input checked="" type="checkbox"/> >30	10'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	Red Alder	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced ^{1 knot} <input checked="" type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis ^{2 knot} <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This ^{3 knot} <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
E	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input checked="" type="checkbox"/> >2	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input type="checkbox"/> 15-30 <input checked="" type="checkbox"/> >30	20'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	Red Alder	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced ^{1 knot} <input checked="" type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis ^{2 knot} <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This ^{3 knot} <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
F	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input checked="" type="checkbox"/> .75-2 <input type="checkbox"/> >2	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input checked="" type="checkbox"/> 15-30 <input type="checkbox"/> >30	30'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	Red Alder	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
G	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input checked="" type="checkbox"/> .75-2 <input type="checkbox"/> >2	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input checked="" type="checkbox"/> 15-30 <input type="checkbox"/> >30	2'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	Red Alder	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
H	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input checked="" type="checkbox"/> >2	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input type="checkbox"/> 15-30 <input checked="" type="checkbox"/> >30	12'	<input type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	Red Alder	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
I	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input type="checkbox"/> >2 <input checked="" type="checkbox"/> >30	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input checked="" type="checkbox"/> 15-30 <input type="checkbox"/> >30	7'	<input type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	"	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
J	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input type="checkbox"/> >2 <input checked="" type="checkbox"/> >30	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input type="checkbox"/> 15-30 <input checked="" type="checkbox"/> >30	3'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	"	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd
K	<input type="checkbox"/>	<input type="checkbox"/> 0-0.1 <input type="checkbox"/> .75-2 <input checked="" type="checkbox"/> >2 <input type="checkbox"/> >30	<input type="checkbox"/> <5 <input type="checkbox"/> 5-15 <input type="checkbox"/> 15-30 <input checked="" type="checkbox"/> >30	2'	<input checked="" type="checkbox"/> Deciduous <input type="checkbox"/> Coniferous <input type="checkbox"/> Broadleaf <input type="checkbox"/> Evergreen	"	<input type="checkbox"/> NONE <input checked="" type="checkbox"/> RC Grass <input type="checkbox"/> Salt Ced <input type="checkbox"/> Engl Ivy <input type="checkbox"/> CanThis <input type="checkbox"/> Ch Grass <input type="checkbox"/> M This <input type="checkbox"/> Hblack <input type="checkbox"/> Teasel <input type="checkbox"/> Spurge <input type="checkbox"/> Rus Oi <input type="checkbox"/> G Reed <input type="checkbox"/> C Burd