SWA	NMP Stream Ha	abitat Cha	aracteriza	tion For	m	<u>FULL</u>	VERSIC	<u>N</u>	Rev	ision Da	ate: Ma	ay 2	9 th , 2	2008		
	REACH DOC	JMENTA	TION				ength (wet									
Proje	ct Name:						Date:						Time	e:		
Strea	m Name:					:	Site Nam	e/ Descri	ption:			1				
Site (Code:						Crew Mer	mbers:								
Latitu	ide (actual): °N						datum: NAD83									
Long	itude (actual): °\	N					other:									
Aı	MBIENT WATER	QUALITY I	MEASURE	MENTS	tui		d silica are on date red				F	REAC	CH LE	NGTH		
Temp	o (°C)	Alkalinity (mg/L)		Turbio (ntu	dity			ual Le								
	•	cal. date					cal. date	-		(500 76	at top o			ries		
	olved mg/L)	Specif Conduct (Salinity. (ppt)		Silic (mg/	-		Explan	ation:			-		
cal. date		cal. date	•		al. ate		cal. date									
ot	DISCHARGE						che	ck if di							ble _[7
	easurement = le				cal. date)	Tran	sect Wid		in in fiel				<i>'</i>	20 ONII)	
	VELOCITY AREA						(m):			BOUYANT OBJECT METHOD (use ONLY velocity area method not possible)				' ''		
	Distance from Left Bank (cm)	Depth (cm)	Velocit (ft/sec		Distand Left Bar		Depth (cm)	Velo	-		F	Floa	t 1	Float 2	Floa	ıt 3
1				11						Distan	ce					
2				12	_					Float Ti	me					
3				13										ss Sect		
4				14						width (m depth		pper ction		Middle Section	Lowe Section	
5				15						Width						
6				16						Depth '	l					
7				17						Depth 2	2					
8				18						Depth 3	3					
9				19						Depth 4	l					
10				20						Depth 8	5					
			No ⁻	TABLE	FIELD C	ONDITIC	NS (che	ck one b	ox per t	topic)						
ı	Evidence of rec	ent rainfa	ll (enough	to incre	ease surf	ace run	off)	NC)		minim	al		>10% incre		
	Evidence of fir	es in read	h or imme	ediately	upstrean	n (<500 ı	m)	NC)		< 1 ye	ar		< 5 ye	ears	
Dominant landuse/ landcover in area surrounding rea								Agricu			Fores	t		Range	eland	
	Dominant Idi	ig reacii		Urba Indus		Su	burb/T	own		Oth	er					
	DITIONAL COBBI	_E 1	2	3	4	5	6	7	8	9	10)	11	12	1	13
	MBEDDEDNESS MEASURES															
	ry over from transe forms if needed; measure in mm)	ect 14	15	16	17	18	19	20	21	22	23	3	24	25		

Site Code:			Da	te: /	/								
			_	44	, ,							AUTOLEVE	
	SLOPE and	BEAR	ING FOR	RM (tran	sect ba	ased - f	or Full	PHAB	only)			HANDLEVE	
			_	EGMENT					SUPPLEMEN	_			
Starting				ect distance egments are		gment	(re		nt of inter-trans upplemental s				ment
Transect	Stadia rod	EI	pe (%) or evation	Segment	Bearing	Percent of Total	Sta	dia rod	Slope or Elevation	Segm		Bearing	Percent of Total
	measurement	s Dif	ference %	Length (m)	(0°-359°)	Length (%)	meası	urements	Cm % (m		jth)	(0°-359°)	Length (%)
K													
J													
I													
Н													
G													
F													
E													
D													
С													
В													
Α													
additional calculation area													
	Addi	TIONAL	Навітат	CHARACT	ERIZATION	N		Н	ligh Gradie	nt 🗌	L	Low Gra	idient _
Para	meter		Optim		S	uboptim	al		Marginal			Poor	
•	l Substrate/ over	favorable and f gra- submer	ish cover (50 dient stream	al colonization 0% for low- s); mix of dercut banks,	50% for	nix of stable ha low-gradient s ted for full colo potential	treams);	30% in Io	ix of stable habita ow-gradient strean frequently disturbe removed	ns);	(10% ii lack	than 20% standard than 20% standard than 20% standard than 10% standard than 10% standard than 10% standard than 20% sta	nt streams); obvious;
Score: 20 19 18				17 16	15 1		12 11	10 9	8 7	6			2 1 0
Sediment Deposition or point the bo			bars and lestom affected	nent of islands as than 5% of by sediment low-gradient	formation sand, or for the bottom	e new increase on, mostly from ine sediment; om affected (20 -gradient strea	n gravel, 5-30% of 0-50% in	sand, or fin	eposition of new on the sediment on bare bottom affected ow-gradient stream	s; 30- (50 -	increa more chang	deposits of f ased bar dev than 50% of ging frequent w-gradient si	relopment; the bottom ly (>80% in
Sc	ore:	20 1	9 18	17 16	15 1		12 11	10 9	8 7	6			2 1 0
Channel	Alteration			edging absent with normal	(e.g., bridg of past c may b	hannelization ge abutments) hannelization e present but elization not p	; evidence (> 20yrs) recent	embankmer present on	ation may be exter nts or shoring stru both banks; 40 to am reach disrupte	ctures 80%	cement reach ch Instrea		of the stream nd disrupted. eatly altered
Sc	ore:	20 1	9 18	17 16	15 1		12 11	10 9	8 7	6			2 1 0

Pool

Dry

Revision Date: May 29th, 2008

Site Code:				Site iv	ame:										Date	e:	′		_'—-		—
Wetted Wid	dth (m):			Bar	nkfull Widti	h (m):					Ва	ankfull l	Height	(m):				Γra	nsect	Α	
Tr	ANSECT S	SUBST	RATES		Cobb Embe	d-		HUMAN						nt B = <50 m fro					nk and 10 m cord Yes or		hannel
Position		Depth (cm)	mm/ size class	СРО	M dedne (%)			(circle o	etted cl		nnel) Le			t Bank		Channel		Right Bank			¢
Left Bank				Р /	4			Walls/ R	tip-rap/	Da	ms	Р	С	В	0	Υ	N) В	С	Р
Left Center				Р /	4			Buildings	S			Р	С	В	0	Υ	N	() В	С	Р
Center				Р /	4			Paveme	nt/ Cle	are	d Lot	Р	С	В	0			() В	С	Р
Right Center				Р 4	4			Road/ R	ailroac	i		Р	С	В	0	Υ	N	() В	С	Р
Right Bank				Р 4	4			Pipes (In	nlet/ O	utlet	:)	Р	С	В	0	Υ	N	() В	С	Р
	IK STABILI	TY (score	e zone 5	m un a	and 5m			Landfill/	Trash			Р	С	В	0	Υ	N	() B	С	Р
	am of transe					1)		Park/ La	iwn			Р	С	В	0			() B	С	Р
Left Bank	.eft Bank eroded vulnerable si			otoblo			Row Cro	ps			Р	С	В	0			C) В	С	Р	
Leit Dalik	erodeo	1	vuirierab	ie	stable			Pasture/	Rang	е		Р	С	В	0			C) В	С	Р
Right	erodeo	1	vulnerab	ıle	stable			Logging Operations			Р	С	В	0			() В	С	Р	
Bank	0.000		Valiforab	.0				Mining A				Р	С	В	0	Υ	N	C		С	Р
							-	Vegetation/		_		P P	C C	<u>В</u> В	0	Y	N			C	<u>Р</u> Р
							-	Bridges/ Orchards				Р	С	В	0	ī	IN				P
							_	Ordinard	3/ VIIIC	,yarv		_	_		= Abse	nt (0%)		-		·
					= Very	He	(40-75% eavy>75 l e one				NSTRE HABIT OMPLE	AT	1 : 2 : 3 :	= Spars = Mode = Heav	se (erate (10	<10%) 0-40%) 0-75%)	П	READIN count co	NGS (0	0-17)	
			l eft	Bank		Rin	ıht	Bank		ı		ntous A		0	1		3 4	1	Center		
Vegetation Class Left Bank Upper Canopy (>5 m high)						ıvıg	,,,,	Bank		ł	Aquati	c Macro	phytes	s/ 0	1		3 4	┧╏	Left		
	and saplings 5 m high	0) 1 2	2 3	4	0 1		2 3	4		Boulde		jotation	0	1	2	3 4] [Center Upstrea		
	Le	ower Ca	nopy (0.	.5 m-5	m high)					-1	Woody	/ Debris	>0.3 n	m 0	1	2	3 4		Center		
	regetation m to 5 m	0) 1 2	2 3	4	0 1		2 3	4		Woody	/ Debris	<0.3 n	n 0	1	2	3 4	1	Downstre		
		Ground	Cover (<0.5 m	high)					ı	Under	cut Ban	ks	0	1	2	3 4	11	Center Ri	ght	
-	ubs and sapli <0.5 m	ngs 0) 1 2	2 3	4 (0 1		2 3	4		Overh	ang. Ve	getatio	n 0	1	2	3 4	11	Left Bar		
Herb	s/ grasses	0) 1 2	2 3	4 (0 1		2 3	4		Live T	ee Roo	ts	0	1	2	3 4	7		,	
Barren,	bare soil/ duf	f C) 1 2	2 3	4 (0 1		2 3	4		Artifici	al Struc	tures	0	1	2	3 4] [Right Ba (optiona		
	Ir	ter-t	rans	ect:	AB				•	We	tted W	idth (m)):								
(% bet	W HABITAT tween transe otal=100%)				R-TRANSI sure in mm						E	Cobbl mbedd	_				if tak	en a	OGRA nd record		
Chann	nel Type	%	Pos	ition	Dist from LB (m)	Dep		mm/ size class	CF	ON	4	ness (%		Downs	tream	(opti		ode)			
Casca	de/ Falls		Left	Bank					Р	Α	\										Ш
Ra	apid		Left (Center					Р	Α											
R	iffle		Ce	nter					Р	Α				Upstrea	am (r	equire	ed)				
R	Run	-	Right	Center					Р	Α											Ш
G	ilide		-	t Bank				1	Р	Α											
								1	1 -	-	1										

Note: Substrate sizes can be recorded either as direct measures of the median axis of each particle or one of size class categories listed on the supplemental page (direct measurements are preferred)

Site Code:	Site Name:		Date	:/
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):		Transect B

TR	TRANSECT SUBSTRATES											
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	ОМ	dedness (%)						
Left Bank				Р	Α							
Left Center				Р	Α							
Center				Р	Α							
Right Center				Р	Α							
Right Bank				Р	Α							

	BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)										
Left Bank eroded vulnerable stable											
Right Bank	eroded	vulnerable	stable								

HUMAN INFLUENCE		ot Presei 10 m + <	nt B = 50 m fro				en Bank ar el (record			annel	
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel		Right Bank			
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р	
Buildings	Р	С	В	0	Υ	N	0	В	С	Р	
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р	
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р	
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р	
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р	
Park/ Lawn	Р	С	В	0			0	В	С	Р	
Row Crops	Р	С	В	0			0	В	С	Р	
Pasture/ Range	Р	С	В	0			0	В	С	Р	
Logging Operations	Р	С	В	0			0	В	С	Р	
Mining Activity	Р	С	В	0	Υ	Ν	0	В	С	Р	
Vegetation Management	Р	С	В	0			0	В	С	Р	
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р	
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р	

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		Le	ft B	ank		Right Bank					
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower Canopy (0.5 m-5 m high)											
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0	.5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

INSTREAM HABITAT COMPLEXITY	0 = Absent (0%) 1 = Sparse (<10%) 2 = Moderate (10-40%) 3 = Heavy (40-75%) 4 = Very Heavy (>75%)					
Filamentous Algae	0	1	2	3	4	
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4	
Boulders	0	1	2	3	4	
Woody Debris >0.3 m	0	1	2	3	4	
Woody Debris <0.3 m	0	1	2	3	4	
Undercut Banks	0	1	2	3	4	
Overhang. Vegetation	0	1	2	3	4	
Live Tree Roots	0	1	2	3	4	
Artificial Structures	0	1	2	3	4	

<u> </u>	•
DENSIOMI READINGS count covered	(0-17)
Center Left	
Center Upstream	
Center Downstream	
Center Right	
Left Bank (optional)	
Right Bank (optional)	

lnt	er-tr	ansect:	BC			Wette	d Width (m):					
FLOW HABITATS (% between transect total=100%)			TRANSE				Cobble Embedded-					
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	ness (%)					
Cascade/ Falls		Left Bank				РА						
Rapid		Left Center				P A						
Riffle		Center				P A						
Run		Right Center				P A						
Glide		Right Bank				P A						
Pool		Note: Subs	Note: Substrate sizes can be recorded either as direct measures of the median axis of each particle or one of size									
Dry		class categories listed on the supplemental page (direct measurements are preferred)										

Site Code:	Site Name:	Date: _	
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transact C

TR	TRANSECT SUBSTRATES									
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	МО	dedness (%)				
Left Bank				Р	Α					
Left Center				Р	Α					
Center				Р	Α					
Right Center				Р	Α					
Right Bank				Р	Α					

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable						
Right Bank	eroded	vulnerable	stable						

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel Channel (record Yes or No)											
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel	Right Bank						
Walls/ Rip-rap/ Dams	P C B 0			Υ	N	0	В	С	Р				
Buildings	Р	С	В	0	Υ	N	0	В	С	Р			
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р			
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р			
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р			
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р			
Park/ Lawn	Р	С	В	0			0	В	С	Р			
Row Crops	Р	С	В	0			0	В	С	Р			
Pasture/ Range	Р	С	В	0			0	В	С	Р			
Logging Operations	Р	С	В	0			0	В	С	Р			
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р			
Vegetation Management	Ρ	С	В	0			0	В	С	Р			
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р			
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р			

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		(Right Bank								
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower	Lower Canopy (0.5 m-5 m high)										
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0).5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

Dry

INSTREAM HABITAT COMPLEXITY	0 = Absent (0%) 1 = Sparse (<10%) 2 = Moderate (10-40%) 3 = Heavy (40-75%) 4 = Very Heavy (>75%)						
Filamentous Algae	0	1	2	3	4		
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4		
Boulders	0	1	2	3	4		
Woody Debris >0.3 m	0	1	2	3	4		
Woody Debris <0.3 m	0	1	2	3	4		
Undercut Banks	0	1	2	3	4		
Overhang. Vegetation	0	1	2	3	4		
Live Tree Roots	0	1	2	3	4		
Artificial Structures	0	1	2	3	4		

О Б	C		٢
DEN REAL count	(0-	17)	
Cen Le			
Cen Upstre			
Cen			
Center	Right		
Left E			
Right I			

Int	ter-tr	ansect:	CD			W	ettec	d Width (m):			
FLOW HABITATS (% between transec total=100%)				TRANSECT SUBSTRAT				Cobble Embedded-			
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРС	MC	ness (%)			
Cascade/ Falls		Left Bank				Р	Α				
Rapid		Left Center				Р	РΑ				
Riffle		Center				Р	Α				
Run		Right Center				Р	Α				
Glide		Right Bank				Р	Α				
Pool		Note: Subs						direct measure			
Drv			class c	ategories	s listed c	on the s	suppl	lemental page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect D

TR	TRANSECT SUBSTRATES									
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	МО	dedness (%)				
Left Bank				Р	Α					
Left Center				Р	Α					
Center				Р	Α					
Right Center				Р	Α					
Right Bank				Р	Α					

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable						
Right Bank	eroded	vulnerable	stable						

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel Channel (record Yes or No)											
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel	Right Bank						
Walls/ Rip-rap/ Dams	P C B 0			Υ	N	0	В	С	Р				
Buildings	Р	С	В	0	Υ	N	0	В	С	Р			
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р			
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р			
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р			
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р			
Park/ Lawn	Р	С	В	0			0	В	С	Р			
Row Crops	Р	С	В	0			0	В	С	Р			
Pasture/ Range	Р	С	В	0			0	В	С	Р			
Logging Operations	Р	С	В	0			0	В	С	Р			
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р			
Vegetation Management	Ρ	С	В	0			0	В	С	Р			
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р			
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р			

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one											
Vegetation Class		Le	ft B	ank			Right Bank					
Upper Canopy (>5 m high)												
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4		
Lower Canopy (0.5 m-5 m high)												
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4		
Grou	ınd C	ove	r (<0).5 n	n high)							
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4		
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4		
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4		

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Spar Mod Heav	ent se erate (/y (Heav	(<10 10-40 40-75	0%) 0%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

U	В	C		Р
	DENSIC READING	GS	(O- ⁻	17)
	Center Left			
ι	Center Jpstream	l		
Do	Center ownstrea	m		
Ce	enter Rig	ht		
_	Left Bank (optional)	-		
	Right Ban (optional)			

Int	Inter-transect: DE					Wetted	d Width (m):			
FLOW HABITATS (% between transects, total=100%)			CT SUI or use si			Cobble Embedded-		Cobble		
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	ness (%)			
Cascade/ Falls		Left Bank				РΑ				
Rapid		Left Center				P A				
Riffle		Center				P A				
Run		Right Center				P A				
Glide		Right Bank				РΑ				
Pool		Note: Subs					direct measure			
Dmi			class ca	ategories	s listed o	n the supp	lemental page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transact E

TR	Cobble Embed-							
Position	Dist from LB (m)	CDAM						
Left Bank				Р	Α			
Left Center				Р	Α			
Center				P	Α			
Right Center				Р	Α			
Right Bank				Р	Α			

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)										
Left Bank	Left Bank eroded vulnerable stable									
Right Bank	eroded	vulnerable	stable							

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel (record Yes or No)								
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel		Right Bank		
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р
Buildings	Р	С	В	0	Υ	N	0	В	С	Р
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р
Park/ Lawn	Р	С	В	0			0	В	С	Р
Row Crops	Р	С	В	0			0	В	С	Р
Pasture/ Range	Р	С	В	0			0	В	С	Р
Logging Operations	Р	С	В	0			0	В	С	Р
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р
Vegetation Management	Р	С	В	0			0	В	С	Р
Bridges/ Abutments	Р	С	В	0	Υ	Ν	0	В	С	Р
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р

RIPARIAN VEGETATION (facing downstream)		Spa	rse	`(<	ĺ0%)	3 = Heavy (40-75%) 4 = Very Heavy>75%) 0%) circle one				
Vegetation Class		Le	ft B	ank	(-	Righ	nt B	ank	
Upper Canopy (>5 m high)										
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4
Lower	Lower Canopy (0.5 m-5 m high)									
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4
Grou	ınd C	ove	r (<0).5 n	n high)					
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Spar Mod Heav	ent se erate (/y (Heav	10-40 40-7	Ó%) O%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

	•									
DENSIOMETER READINGS (0-17) count covered dots										
Center Left										
Center Upstream										
Center Downstream										
Center Right										
Left Bank (optional)										
Right Bank (optional)										

Int	ter-tr	ransect:	EF			Wette	d Width (m):	
	FLOW HABITATS (% between transects, total=100%)			TRANSECT SUBSTRATE in mm or use size classes			Cobble Embedded-	
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	Embedded- ness (%)	
Cascade/ Falls		Left Bank				P A		
Rapid		Left Center				P A		
Riffle		Center				РА		
Run		Right Center				РА		
Glide		Right Bank				P A		
Pool		Note: Subs					direct measure	
_	1 /		class ca	ategories	s listed o	n the supp	lemental page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect F

TF	TRANSECT SUBSTRATES										
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	МО	dedness (%)					
Left Bank				Р	Α						
Left Center				Р	Α						
Center				Р	Α						
Right Center				Р	Α						
Right Bank				Р	Α						

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable						
Right Bank	eroded	vulnerable	stable						

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel (record Yes or No)										
(circle only the closest to wetted channel)	Left Bank				Cha	nnel	Right Bank					
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р		
Buildings	Р	С	В	0	Υ	N	0	В	С	Р		
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р		
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р		
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р		
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р		
Park/ Lawn	Р	С	В	0			0	В	С	Р		
Row Crops	Р	С	В	0			0	В	С	Р		
Pasture/ Range	Р	С	В	0			0	В	С	Р		
Logging Operations	Р	С	В	0			0	В	С	Р		
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р		
Vegetation Management	Р	С	В	0			0	В	С	Р		
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р		
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р		

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		ank	(Right Bank							
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower Canopy (0.5 m-5 m high)											
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0).5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

Dry

INSTREAM HABITAT COMPLEXITY	0 = Absent (0%) 1 = Sparse (<10%) 2 = Moderate (10-40%) 3 = Heavy (40-75%) 4 = Very Heavy (>75%)				
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

DENSIOMI READINGS count covered	(0-17)
Center Left	
Center Upstream	
Center Downstream	
Center Right	
Left Bank (optional)	
Right Bank (optional)	

Int	er-tr	ansect:	FG			Wette	d Width (m):	
FLOW HABITATS (% between transect total=100%)			TRANSE				Cobble Embedded-	TAKE PHOTOGRAPHS (check box if taken and record photo
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	ness (%)	code) Downstream (required)
Cascade/ Falls		Left Bank				P A		Ш
Rapid		Left Center				РА		
Riffle		Center				РА		Upstream (required)
Run		Right Center				РΑ		
Glide		Right Bank				РА		
Pool		Note: Subs						es of the median axis of each particle or one of size
Dry			class c	ategories	s listed o	n the supp	lemental page (direct measurements are preferred)

Site Code:	Site Name:		Date:///
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect G

Ī	TR		Cobble Embed-				
Ĭ	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	ОМ	dedness (%)
Ĭ	Left Bank				Р	Α	
Ĭ	Left Center				Р	Α	
	Center				P	Α	
Ĭ	Right Center				Р	Α	
I	Right Bank				Р	Α	

	BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable							
Right Bank	eroded	vulnerable	stable							

HUMAN INFLUENCE		ot Presei 10 m + <					en Bank a el (record			annel
(circle only the closest to wetted channel)	Left Bank Channel						Right Bank			
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р
Buildings	Р	С	В	0	Υ	N	0	В	С	Р
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р
Park/ Lawn	Р	С	В	0			0	В	С	Р
Row Crops	Р	С	В	0			0	В	С	Р
Pasture/ Range	Р	С	В	0			0	В	С	Р
Logging Operations	Р	С	В	0			0	В	С	Р
Mining Activity	Р	С	В	0	Υ	Ν	0	В	С	Р
Vegetation Management	Р	С	В	0			0	В	С	Р
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		Le	ft B	ank			Right Bank				
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower Canopy (0.5 m-5 m high)											
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0).5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

Dry

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Spar Mod Heav	ent se erate (/y (Heav	10-40 40-75	0%) 0%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

0 B	C	Р
DENS READI	NGS (0-17)
Cente Left	r	
Cente Upstrea		
Cente Downstre		
Center R	ight	
Left Ba (option		
Right Ba (optiona		

Int	er-tr	ansect:	GH			Wetted	d Width (m):		
FLOW HABITATS (% between transects, total=100%)			-TRANSE ure in mm				Cobble Embedded-		
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	ness (%)		
Cascade/ Falls		Left Bank				P A			
Rapid		Left Center				P A			
Riffle		Center				P A			
Run		Right Center				РΑ			
Glide		Right Bank				РΑ			
Pool		Note: Subs	strate size	es can be	recorde	ed either as	direct measure		
Drv			class ca	ategories	s listed c	corded either as direct measures of the median axis of each particle or one of size sted on the supplemental page (direct measurements are preferred)			

Site Code:	Site Name:	Date:	//
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transact H

TR	TRANSECT SUBSTRATES										
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	МО	dedness (%)					
Left Bank				Р	Α						
Left Center				Р	Α						
Center				Р	Α						
Right Center				Р	Α						
Right Bank				Р	Α						

	BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	Left Bank eroded vulnerable stable									
Right Bank	eroded	vulnerable	stable							

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel (record Yes or No)								
(circle only the closest to wetted channel)	Left Bank					nnel	Right Bank			
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р
Buildings	Р	С	В	0	Υ	N	0	В	С	Р
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р
Park/ Lawn	Р	С	В	0			0	В	С	Р
Row Crops	Р	С	В	0			0	В	С	Р
Pasture/ Range	Р	С	В	0			0	В	С	Р
Logging Operations	Р	С	В	0			0	В	С	Р
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р
Vegetation Management	Р	С	В	0			0	В	С	Р
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one									
Vegetation Class		Le	ft B	ank		ı	Righ	nt B	ank	
Upper Canopy (>5 m high)										
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4
Lower Canopy (0.5 m-5 m high)										
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4
Grou	ınd C	ove	r (<0).5 n	n high)	3				
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Mod Hea	ent se erate (vy (Heav	(10-40 (40-75	0%) 0%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

U	D	C		٢
	DENSIC READING	3S ((0-	17)
	Center Left			
U	Center Jpstream			
De	Center ownstrea	m		
C	enter Rigl	ht		
	Left Bank (optional)			
	Right Bani (optional)	k		

<u>In</u>	ter-t	ransect:	HI			Wet	ted Width	n (m):			
	FLOW HABITATS (% between transects, total=100%)			RANSECT SUBSTRATES			Cobble Embedded-				
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	CPOM		ness (%)		ness (%)	
Cascade/ Falls		Left Bank				РА					
Rapid		Left Center				P A					
Riffle		Center		·		P A					
Run		Right Center		·		P A					
Glide		Right Bank				P A					
Pool	Pool Note: Substrate sizes can be recorded either as direct measures of the median axis of each particle or one of										
D			class c	ategories	s listed c	on the su	pplement	tal page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect

TR	TRANSECT SUBSTRATES										
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	ОМ	dedness (%)					
Left Bank				Р	Α						
Left Center				Р	Α						
Center				Р	Α						
Right Center				Р	Α						
Right Bank				Р	Α						

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable						
Right Bank	eroded	vulnerable	stable						

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel (record Yes or No)										
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel	Right Bank					
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р		
Buildings	Р	С	В	0	Υ	N	0	В	С	Р		
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р		
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р		
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р		
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р		
Park/ Lawn	Р	С	В	0			0	В	С	Р		
Row Crops	Р	С	В	0			0	В	С	Р		
Pasture/ Range	Р	С	В	0			0	В	С	Р		
Logging Operations	Р	С	В	0			0	В	С	Р		
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р		
Vegetation Management	Р	С	В	0			0	В	С	Р		
Bridges/ Abutments	Р	С	В	0	Υ	Ν	0	В	С	Р		
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р		

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		Le	ft B	ank		Right Bank					
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower Canopy (0.5 m-5 m high)											
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0).5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

INSTREAM HABITAT COMPLEXITY	0 = Absent (0%) 1 = Sparse (<10%) 2 = Moderate (10-40%) 3 = Heavy (40-75%) 4 = Very Heavy (>75%)						
Filamentous Algae	0	1	2	3	4		
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4		
Boulders	0	1	2	3	4		
Woody Debris >0.3 m	0	1	2	3	4		
Woody Debris <0.3 m	0	1	2	3	4		
Undercut Banks	0	1	2	3	4		
Overhang. Vegetation	0	1	2	3	4		
Live Tree Roots	0	1	2	3	4		
Artificial Structures	0	1	2	3	4		

U	В	C		Ρ
R	DENSI EADIN ount co	(0-	17)	
	Center Left			
	Center pstrear	n		
	Center wnstrea	am		
Се	nter Ri	ght		
_	eft Ban optiona			
	ight Bai optiona			

In	ter-t	ransect:	IJ			Wetted	d Width (m):
FLOW HABITATS (% between transect total=100%)			-TRANSE ure in mm				Cobble Embedded-
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	ness (%)
Cascade/ Falls		Left Bank				P A	
Rapid		Left Center				P A	
Riffle		Center				P A	
Run		Right Center				P A	
Glide		Right Bank				P A	
Pool		Note: Subs					direct measure
Dry			class ca	ategories	s listed o	n the supp	lemental page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect .l

	TR		Cobble Embed-				
1	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	ОМ	dedness (%)
	Left Bank				Р	Α	
	Left Center				Р	Α	
	Center				Р	Α	
	Right Center				Р	Α	
	Right Bank				Р	Α	

BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)									
Left Bank	eroded	vulnerable	stable						
Right Bank	eroded	vulnerable	stable						

HUMAN INFLUENCE		0 = Not Present B = On Bank C = Between Bank and 10 m from Channel P = >10 m + <50 m from Channel (record Yes or No)										
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel	Right Bank					
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р		
Buildings	Р	С	В	0	Υ	N	0	В	С	Р		
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р		
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р		
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р		
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р		
Park/ Lawn	Р	С	В	0			0	В	С	Р		
Row Crops	Р	С	В	0			0	В	С	Р		
Pasture/ Range	Р	С	В	0			0	В	С	Р		
Logging Operations	Р	С	В	0			0	В	С	Р		
Mining Activity	Р	С	В	0	Υ	N	0	В	С	Р		
Vegetation Management	Р	С	В	0			0	В	С	Р		
Bridges/ Abutments	Р	С	В	0	Υ	Ν	0	В	С	Р		
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р		

RIPARIAN VEGETATION (facing downstream)	0 = Absent (0%) 3 = Heavy (40-75%) 1 = Sparse (<10%) 4 = Very Heavy>75%) 2 = Moderate (10-40%) circle one										
Vegetation Class		Le	ft B	ank		Right Bank					
Upper Canopy (>5 m high)											
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4	
Lower Canopy (0.5 m-5 m high)											
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4	
Grou	ınd C	ove	r (<0).5 n	n high)						
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4	
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4	
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4	

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Spar Mod Heav	ent se erate (/y (Heav	10-40 40-75	0%) 0%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

о в с	٢
DENSIOMI READINGS count covere	(0-17)
Center Left	
Center Upstream	
Center Downstream	
Center Right	
Left Bank (optional)	
Right Bank (optional)	

In	ter-tr	ransect:	JK			Wetted	d Width (m):
(% hetween transects			TRANSE				Cobble Embedded- ness (%)
Channel Type	%	Position	Dist from LB (m)	Depth (cm)	mm/ size class	СРОМ	
Cascade/ Falls		Left Bank				P A	
Rapid		Left Center				P A	
Riffle		Center				P A	
Run		Right Center				P A	
Glide		Right Bank				P A	
Pool		Note: Subs					direct measure
D		1	class ca	ategories	s listed o	n the supp	lemental page (

Site Code:	Site Name:		Date://
Wetted Width (m):	Bankfull Width (m):	Bankfull Height (m):	Transect K

TF	TRANSECT SUBSTRATES										
Position	Dist from LB (m)	Depth (cm)	mm/ size class	СР	МО	dedness (%)					
Left Bank				Р	Α						
Left Center				Р	Α						
Center				Р	Α						
Right Center				Р	Α						
Right Bank				Р	Α						

	BANK STABILITY (score zone 5m up and 5m downstream of transect between bankfull - wetted width)										
Left Bank	Left Bank eroded vulnerable stable										
Right Bank	eroded	vulnerable	stable								

HUMAN INFLUENCE		ot Presei 10 m + <					en Bank a el (record			annel
(circle only the closest to wetted channel)		Left l	Bank		Cha	nnel		Right Bank		
Walls/ Rip-rap/ Dams	Р	С	В	0	Υ	N	0	В	С	Р
Buildings	Р	С	В	0	Υ	N	0	В	С	Р
Pavement/ Cleared Lot	Р	С	В	0			0	В	С	Р
Road/ Railroad	Р	С	В	0	Υ	N	0	В	С	Р
Pipes (Inlet/ Outlet)	Р	С	В	0	Υ	N	0	В	С	Р
Landfill/ Trash	Р	С	В	0	Υ	N	0	В	С	Р
Park/ Lawn	Р	С	В	0			0	В	С	Р
Row Crops	Р	С	В	0			0	В	С	Р
Pasture/ Range	Р	С	В	0			0	В	С	Р
Logging Operations	Р	С	В	0			0	В	С	Р
Mining Activity	Р	С	В	0	Υ	Ν	0	В	С	Р
Vegetation Management	Р	С	В	0			0	В	С	Р
Bridges/ Abutments	Р	С	В	0	Υ	N	0	В	С	Р
Orchards/ Vineyards	Р	С	В	0			0	В	С	Р

RIPARIAN VEGETATION (facing downstream)		Spa	rse	`(<	%) 10%) te (10-4	4 = \	/ery l	•	y>75	,
Vegetation Class		Le	ft B	ank	•		Righ	nt Ba	ank	
Upp	er Ca	anop	ру (>	5 m	high)					
Trees and saplings >5 m high	0	1	2	3	4	0	1	2	3	4
Lower	Can	ору	(0.5	m-5	m hig	h)				
All vegetation 0.5 m to 5 m	0	1	2	3	4	0	1	2	3	4
Grou	ınd C	ove	r (<0).5 n	n high))				
Woody shrubs and saplings <0.5 m	0	1	2	3	4	0	1	2	3	4
Herbs/ grasses	0	1	2	3	4	0	1	2	3	4
Barren, bare soil/ duff	0	1	2	3	4	0	1	2	3	4

INSTREAM HABITAT COMPLEXITY	1 = 2 = 3 =	Spar Mod Heav	ent rse erate (vy (Heav	(<10 10-40 40-75	0%) 0%) 5%)
Filamentous Algae	0	1	2	3	4
Aquatic Macrophytes/ Emergent Vegetation	0	1	2	3	4
Boulders	0	1	2	3	4
Woody Debris >0.3 m	0	1	2	3	4
Woody Debris <0.3 m	0	1	2	3	4
Undercut Banks	0	1	2	3	4
Overhang. Vegetation	0	1	2	3	4
Live Tree Roots	0	1	2	3	4
Artificial Structures	0	1	2	3	4

DENSIOMETER READINGS (0-17) count covered dots								
Center Left								
Center Upstream								
Center Downstream								
Center Right								
Left Bank (optional)								
Right Bank (optional)								

	_					
NΩ	Inter.	.tran	SACT	Me:	asure	C

TAKE PHOTOGRAPH (check box if taken and record pho- code)	_
Upstream (optional)	
Downstream (required)	

SWAMP Stream Habita	FULL VERSION	<u>NC</u>	Revision Date: May 29 th , 2008							
Site Code:				 _		FULL FORM				
		Date:/	/							
BENTHIC INVERTEBRATE SAMPLES							emistry	Equip	ment	ID
Collection Method (indicate standard or margin-center-margin)				cate #	# jars	An	Analyte Equipment			nt
RWB (standard)	RWB (MCI	M) TRC	;			temp	perature			
RWB (standard)	RWB (MCI	M) TRC	;				рН			
RWB (standard)	RWB (MCI	M) TRC	,				ssolved xygen			
RWB (standard)	RWB (MCI	M) TRO	;				pecific ductance			
Field Notes/ Comm	ents:					Sa	salinity			
						alk	kalinity			
	tur	rbidity								
			solved silica							
		Ve	elocity							
							theck if a water chemistry rab sample was collected (nutrients, SSC, etc.)			
							ck if a DUPI mistry grab colled	sample v		
		in	Check if a water chemistry integrated sample was collected (e.g., chl a, AFDM)							
				_		Chec	ck if a DUPI nistry integ was coll	LICATE w grated san	/ater	
ALGAE SAMPLES	Ch	neck if duplica	te algae as	ssembla	ge ID sa	ımple	es collect	ted		
Composite Volume (mL	e Volume (mL) Assemblage ID vo (diatoms) (50 mL preserved)					Chororophyll a volume 25 mL, use GF/F filter)				
Number of transects sampled (0-11)		Assemblage (soft algae) (5 preserv	D volume 0 mL tube,				mass volume nL, GF/F filter)			
		ADDITION	NAL PHOTOG	RAPHS						
Description	Ph	noto Code		Descript	lion		P	Photo Code		

Flow Habitat Type	DESCRIPTION
Cascades	Short, high gradient drop in stream bed elevation often accompanied by boulders and considerable turbulence
Falls	High gradient drop in elevation of the stream bed associated with an abrupt change in the bedrock
Rapids	Sections of stream with swiftly flowing water and considerable surface turbulence. Rapids tend to have larger substrate sizes than riffles
Riffles	Shallow sections where the water flows over coarse stream bed particles that create mild to moderate surface turbulence; (< 0.5 m deep, > 0.3 m/s).
Runs	Long, relatively straight, low-gradient sections without flow obstructions. The stream bed is typically even and the water flows faster than it does in a pool; (> 0.5 m deep, > 0.3 m/s). A step-run is a series of runs separated by short riffles or flow obstructions that cause discontinuous breaks in slope
Glides	A section of stream with little or no turbulence, but faster velocity than pools; (< 0.5 m deep, < 0.3 m/s)
Pools	A reach of stream that is characterized by deep, low-velocity water and a smooth surface; (> 0.5 m deep, < 0.3 m/s)

BANK STABILITY Although this measure of the degree of erosive potential is subjective, it can provide clues to the erosive potential of the banks within the reach. Assign the category whose description best fits the conditions in the area between the wetted channel and bankfull channel (see figure below)							
Eroded	Banks show obvious signs of erosion from the current or previous water year; banks are usually bare or nearly bare						
Vulnerable	Banks have some vegetative protection (usually annual growth), but not enough to prevent erosion during flooding						
Stable Bank vegetation has well-developed roots that protect bank from erosion; alternately, bedrock or artificial structures (e.g. concrete/ rip-rap) prevent bank erosion							

Size Class Code	Size Class Range	Size Class Description	Common Size Reference		
RS	> 4 m	bedrock, smooth	larger than a car		
RR	> 4 m	bedrock, rough	larger than a car		
XB	1 - 4 m	boulder, large	meter stick to car		
SB	25 cm - 1.0 m	boulder, small	basketball to meter stick		
СВ	64 - 250 mm	cobble	tennis ball to basketball		
GC	16 - 64 mm	gravel, coarse	marble to tennis ball		
GF	2 – 16 mm	gravel, fine	ladybug to marble		
SA	0.06 – 2 mm	sand	gritty to ladybug		
FN	< 0.06 mm	fines	not gritty		
НР	< 0.06 mm	hardpan (consolidated fines)			
WD	NA	wood			
RC	NA	concrete/ asphalt			
ОТ	NA	other			

CPOM/ COBBLE EMBEDDEDNESS

CPOM: Record presence (P) or absence (A) of coarse particulate organic matter (>1.0 mm particles) within 1 cm of each substrate particle

Cobble Embeddedness: Visually estimate % embedded by fine particles (record to nearest 5%)

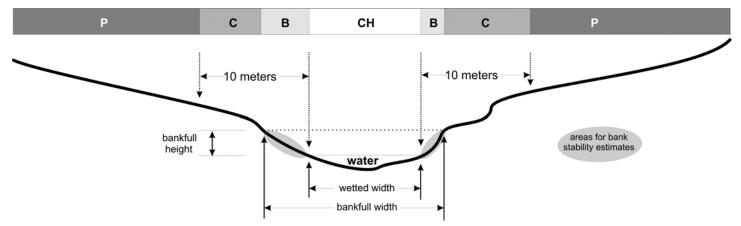


Figure 1. Cross-sectional diagram of stream transect indicating regions for assessing human influence measures:

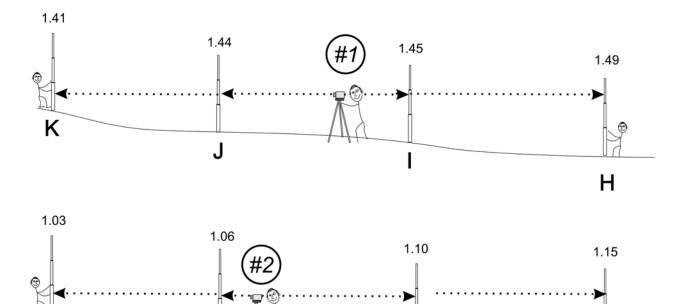
- The measurement zone extends 5 meters upstream and 5 meters downstream of each transect
- Record one category for each bank and for the wetted channel (3 values possible)
- In reaches with wide banks, region "C" may be entirely overlapped by region "B"; in these cases, circle "B"
- Region "P" extends from 10 meters to the distance that can be seen from the channel, but not greater than 50 m

SLOPE and BEARING FORM

EXAMPLE

AUTOLEVEL CLINOMETER HANDLEVEL

Starting Transect	MAIN SEGMENT (record percent of inter-transect distance in each segment if supplemental segments are used)					SUPPLEMENTAL SEGMENT (record percent of inter-transect distance in each segment if supplemental segments are used)					
	Stadia rod measurements		Slope (%) or Elevation Difference	Segment Length (m)	Bearing (0°-359°)	Percent of Total Length (%)	Stadia rod measurements	Slope or Elevation Difference	Segment Length (m)	Bearing (0°-359°)	Percent of Total Length (%)
K	1.41										
J	1.44		3	15	140	100					
I	1.45		1	15	145	100					
Н	1.49	1.03	4	15	150	100					
G		1.06	3	15	143	100					
F		1.10	4	15	187	100					
E		1.15	5	15	195	100					



- 1. Level the autolevel at Position #1
- 2. Place base of stadia rod at water level every time
- 3. Sight to stadia rod at Transect K, then Transect J
- 4. Rotate scope and sight to Transects I and H.
- 5. Move level to Position #2 and re-level

- 6. Re-sight to stadia rod at Transect H, then Transect G
- 7. Rotate scope and sight to Transects F and E

F

Note: sites will vary in the number of separate level positions needed to survey the reach