USDA Forest Service Pacific Southwest Region

Stream Condition Inventory (SCI)

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Sensitive Reach Location and Layout

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	

Reach #:	Elevation @ SSR:	Date:

Stream Classification:	Rosgen (circle 1 # and 1 letter) -	A B C D E F G 1 2 3 4 5 6
	Montgomery & Buffington (circle 1) -	Response Transport

Directions to Start of Sensitive Reach (continue on reverse):

Sensitive Reach Layout Information

Site Location		Distance from SSR	GPS Data			
#	Abbr.	(m)	WP#	UTME	UTMN	Zone
1	SSR	0				
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						

Abbreviations

SSR - Start of Sensitive Reach
ESR - End of Sensitive Reach
SSS - Start of Survey Segment
ESS - End of Survey Segment
R1 to R4 - Macroinvertebrate Riffles
XS1 - Cross-sections (up to XS3)
WD1 - Width to Depth (up to WD5)
WP# - Way point Number
BM - Benchmark

SSR Data

Reference Object:
Benchmark Type:
Bearing: BM to SSR
Distance: BM to SSR

Note: record bearing in degrees magnetic north.

Sensitive Reach Sketch

Sketch stream pattern and indicate flow direction; show SSR benchmark, bearing and distance; show all applicable site locations and distances from SSR; show north arrow and adjacent location features (roads, trails etc.).

Photo Reminder! Photograph SSR and ESR (up and down stream, left and right bank), and SSS and ESS if there is a survey segment within the sensitive reach. Also photograph from SSR Benchmark to SSR and vice versa. Record on Photo Log (form #10)

Macroinvertebrate Data (collected from sensitive reach)

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:

Type of Site (circle one):   **Test**   or   **Reference**   and   **Perennial**   or   **Intermittent**

Sampler Type:	Mesh Size (microns):	Total area sampled (ft.^{2}):

Site Measurements				
Riffle Dimensions and Location	Riffle 1	Riffle 2	Riffle 3	Riffle 4
Length (m)				
Width (m)				
Distance form Start of Sensitive Reach				

Location of Macroinvertebrate Samples	Riffle 1		Riffle 2		Riffle 3		Riffle 4	
	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2	Site 1	Site 2
% Up from Riffle Bottom								
Distance Up from Riffle Bottom								
% from Riffle Left Edge								
Distance from Riffle Left Edge								

Water Chemistry
Total Alkalinity:_____ppm CaC03   Conductivity:_____uS/cm^2

Photo Reminder! Photograph each riffle, looking upstream. Photograph overview of riffle area **-** upstream from 1st riffle, downstream from 4th riffle and other overview photos as desired. Record on Photo Log (form #10).

Macroinvertebrate Sketches (collected from sensitive reach)

Forest/National Park/Other Ownership:

District: Observers:

Stream:

Reach #:   Date:

Sketch each riffle (show shape relative to channel, location of sample points and any other key features).

Riffle 1	Riffle 2
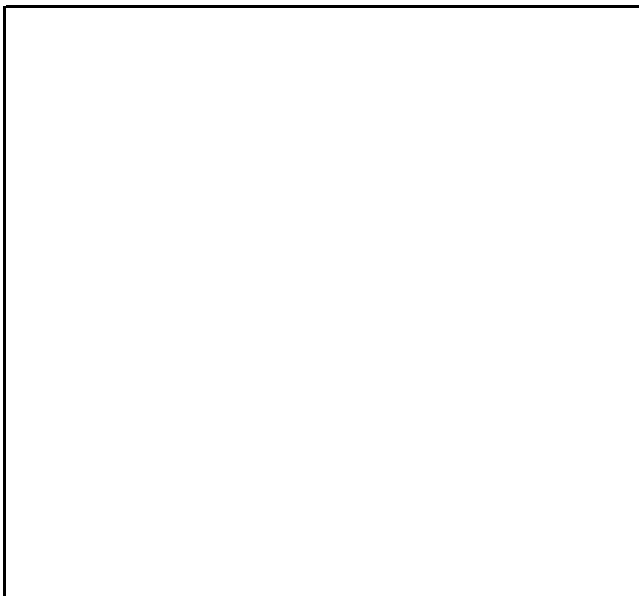
Riffle 3	Riffle 4
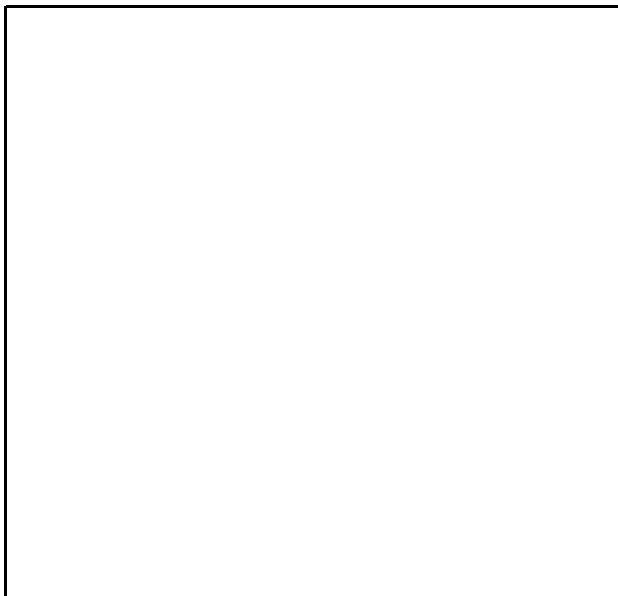
USDA Forest Service Pacific Southwest Region
Stream Condition Inventory (SCI)

Field Form #3

Particle Count (collected from sensitive reach)

Forest/National Park/Other Ownership:

District: Observers:

Stream:

Reach #:   Date:

Particle Size Class			Streambed Particle Count									
			Riffle 1		Riffle 2		Riffle 3		Riffle 4		Row Sum	
mm		Class	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry
Fines	< 2	1										
Gravels	2 - 2.8	2										
	2.8 - 4	3										
	4 - 5.6	4										
	5.6 - 8	5										
	8.0 - 11	6										
	11 - 16	7										
	16 - 22.6	8										
	22.6 - 32	9										
	32 - 45	10										
	45 - 64	11										
Cobbles	64 - 90	12										
	90 - 128	13										
	128 - 180	14										
	180 - 256	15										
Boulders	256 - 512	16										
Bedrock	> 512	17										
Column Tally											Total Wet	Total Dry
											Total	

Note: Circle all estimated values.

Cross-section and Width-to-depth Candidate Sites
and Large Woody Debris (LWD) (collected from sensitive reach)

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:

Candidate Sites (randomly select 3 x-section sites and up to 5 W/D sites)																
Candidate Site #																
Distance from SR Start																
Selected x-section #																
Selected W/D #																

Woody Debris Tally (Dead and Downed Wood)	
Bankfull Stage Width:	Min. Debris Length (=1/2 average bankfull width):

Number of Pieces	
Single	**Aggregate**[1]
	Number of pieces in each aggregate
Sum of Single Pieces	Sum of Aggregate Pieces

1 - An aggregate is 4 or more pieces of connected woody debris that are each greater than 1/2 bankfull width.

Number of Rootwads[2]	Tally:	Sum:

2 - A root wad is the base of a tree whose bole is about the same length or shorter than the diameter of the root mass.

Identification of Survey Segment	
A. Sensitive Reach Length (m) _____ B. A minus 1000m _____ (if A is greater than 1000m)	
C. Random # between 1 and B _____	
D. Survey Segment lies between C (Survey Segment Start) _____ and 1000+C (Survey Segment End) ____	

Comments:

USDA Forest Service Pacific Southwest Region　　　　　　　　　　**Field Form #5**
Stream Condition Inventory (SCI)

Cross-section and Water Surface Gradient (collected from sensitive reach)

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:
Cross-section #	Distance From Start of Sensitive Reach:

String height distance below top of: LP_____RP_____(cm)

Cross Section Data

Dist. From Station Start	Total Depth	Bankfull Depth	UCW	Notes*
0				LP

Gradient

		Set Up	Set Up	Set Up
	Downstream End	1	2	3
a.	Instrument or Rod Height			
b.	Water Surface Height			
A.	a minus b			
	Upstream End	1	2	3
c.	Instrument or Rod Height			
d.	Water Surface Height			
B.	c minus d			
C.	Elevation Change A to B			
	Length (downstream-upstream)			
Total Elevation Change =				
Total Length =				
Gradient = Total Elevation Change/Total Length X 100 = %				

Width to Depth Ratio

A.	Bankfull Width	
B.	Mean Bankfull Depth	
Width:Depth Ratio = A/B		
Width: Depth Ratio =		

Entrenchment

A.	Bankfull Width	
B.	Maximum Bankfull Depth	
C.	2 x Max Bankfull Depth	
D.	Width at C	
Entrenchment Ratio = D/A		
Entrenchment Ratio =		

*Notes: Enter These Only….

BFL = Bankfull Stage Left　　　　LP = Left Pin
BFR = Bankfull Stage Right　　　　RP = Right Pin
WEL = Water's Edge Left　　　　T = Thalweg
WER = Water's Edge Right　　　　TUC = Top of Undercut
　　　　　　　　　　　　　　BUC = Bottom of Undercut
　　　　　　　　　　　　　　UCW = Undercut Width

Photo Reminder! Photograph cross-section facing upstream, downstream, left and right bank. Photograph from BM to LP and RP, and LP and RP to BM. Photograph natural features that help site reference.

Cross-section Diagram and Location Sketch (collected from sensitive reach)

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:
Cross Section #:	Distance From Start of Sensitive Reach:

Cross-section Diagram

Left Bank   Right Bank
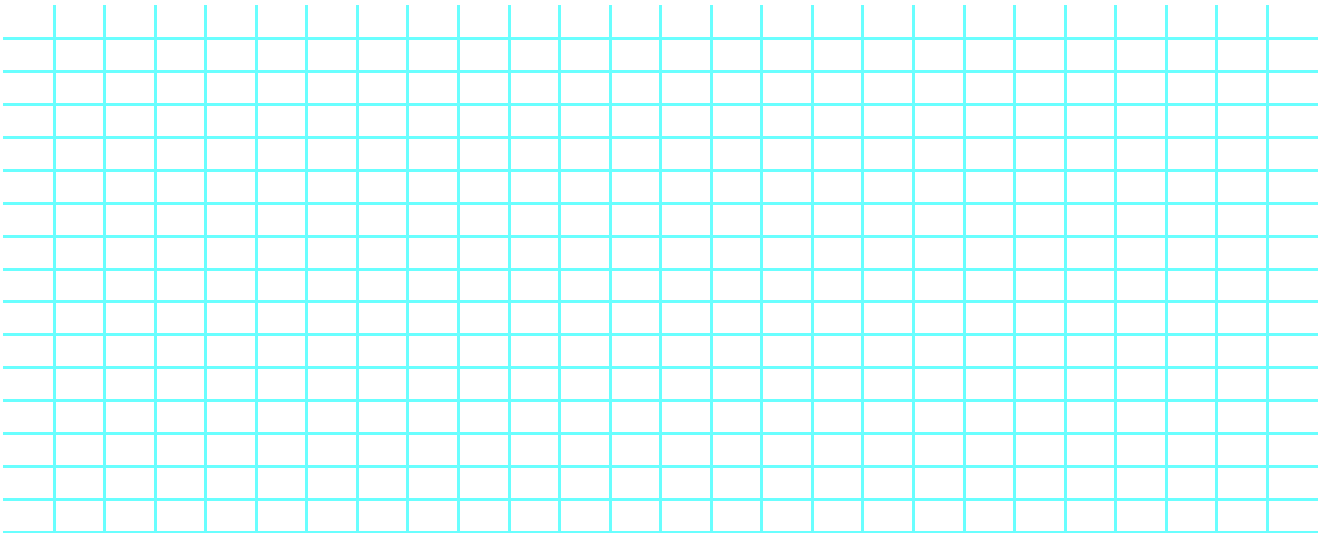
Cross-section Location Sketch

Sketch stream channel and flow direction; benchmark location, left and right pin location, north arrow, and natural features that help ID site (i.e., large boulders or large trees). Record benchmark and pin data below sketch. Record bearings in degrees magnetic north.

BM Type:	Bearing: BM To LP	Distance: BM to RP	BM: UTME
LP Type:	Distance: BM to LP	Distance: LP to RP	BM: UTMN
RP Type:	Bearing: BM To RP	BM: Way pt.#	BM: Zone

Width-to-depth Ratio and Entrenchment Ratio (collected from sensitive reach)

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:

Measurements								
Width-to-depth #:			Width-to-depth #:			Width-to-depth #:		
Distance From SSR:			Distance From SSR:			Distance From SSR:		
Dist from BFL	Bankfull Depth	Notes[1]	Dist from BFL	Bankfull Depth	Notes[1]	Dist from BFL	Bankfull Depth	Notes[1]
Calculations								
A Bankfull Width			A Bankfull Width			A Bankfull Width		
B Mean Bankfull Depth[2]			B Mean Bankfull Depth[2]			B Mean Bankfull Depth[2]		
C Floodprone Area Width[3]			C Floodprone Area Width[3]			C Floodprone Area Width[3]		
W/D Ratio = A/B			W/D Ratio = A/B			W/D Ratio = A/B		
Entr. Ratio = C/A			Entr. Ratio = C/A			Entr. Ratio = C/A		

[1]Notes: BFL= Bankfull Stage Left, BFR = Bankfull Stage Right, WE = Water's Edge, T = Thalweg, UC = Undercut Bank

[2]Mean Bankfull Stage Depth = Sum of Depths/Number of Depths + 1

[3]Total distance at 2 times maximum bankful stage depth.

Pools and Pool Tail Surface Fine Sediment (collected from survey segment)

Forest/National Park/Other Ownership:

District:		Observers:
Stream:		
Reach #:		Date:

Habitat Measurements						Pool Tail Substrate		
Habitat Type	**Station Start**[1]	**Station End**[1]	**Habitat Unit Length**	**Max. Depth**[2]	**Pool Tail Crest Depth**[2]	**Wood Formed ?**	**Throw 1 Points x2**	**Throw 2 Points x2**	**Throw 3 Points x2**
Fast									
Slow									
Fast									
Slow									
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Slow									

[1]Measurements are to the nearest 0.1 m (e.g. 3.6 m)

[2]Measurements are to the nearest 0.01 m (e.g. 3.65 m)

Note: Circle all estimated values.

Streambank Stability, Stream Shading, Streamshore Water Depth, Streambank Angle and Aquatic Fauna (collected from survey segment)

Forest/National Park/Other Ownership:

District: Observers:

Stream:

Reach #:   Date:

Transect Interval (m): _____

Bank	L	R	L	R	L	R	L	R	L	R
Transect #	1		2		3		4		5	
Stability Rating[1]										
Shading[2]										
Shore Depth[3]										
Bank Angle[4]										
Aquatic Fauna[5]										
Transect #	6		7		8		9		10	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	11		12		13		14		15	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	16		17		18		19		20	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	21		22		23		24		25	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										

1 - Stability Rating: #1 >75% cover, #2 >75% cover with instability elements (cracking, bank failure, etc.), #3 <75% cover.

2 - Record to nearest percent (i.e., 38)

3 - Record only on reaches with gradient < 2%, to nearest 0.01 m (i.e., 0.12). If bank angle is > 90 degrees, shore depth is zero.

4 - Record only on reaches with gradient < 2%, to nearest degree (i.e., 75, 120)

5 - Record 4-character code for herptofauna (Apx. E) and numeric code for fish (Apx. F). Put remarks on Form 10.

Note: circle all estimated values.

Streambank Stability, Stream Shading, Streamshore Water Depth,

Streambank Angle and Aquatic Fauna (collected from survey segment)

Forest/National Park/Other Ownership:

District: | Observers:

Stream:

Reach #: | Date:

Bank	L	R	L	R	L	R	L	R	L	R
Transect #	26		27		28		29		30	
Stability Rating[1]										
Shading[2]										
Shore Depth[3]										
Bank Angle[4]										
Aquatic Fauna[5]										
Transect #	31		32		33		34		35	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	36		37		38		39		40	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	41		42		43		44		45	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										
Transect #	46		47		48		49		50	
Stability Rating										
Shading										
Shore Depth										
Bank Angle										
Aquatic Fauna										

1 - Stability Rating: #1 >75% cover, #2 >75% cover with instability elements (cracking, bank failure, etc.), #3 <75% cover.

2 - Record to nearest percent (i.e., 38)

3 - Record only on reaches with gradient < 2%, to nearest 0.01 m (i.e., 0.12). If bank angle is > 90 degrees, shore depth is zero.

4 - Record only on reaches with gradient < 2%, to nearest degree (i.e., 75, 120)

5 - Record 4-character code for herptofauna (Apx. E) and numeric code for fish (Apx. F). Put remarks on Form 10.

Note: circle all estimated values.

Photo Log and Comments

Forest/National Park/Other Ownership:

District:	Observers:
Stream:	
Reach #:	Date:
Camera Type:	Roll # (optional):

Photo #/ Comment	Description