

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 1  
 Page 1 of 24  
 Date 9/14/09

Stream/Reach/Subreach: Middle Yuba above N. Yuba junction  
 Team: Kathi Peacock, Gaea Bailey  
 UTM: 060581, 4359336 NAD 83 (Habitat unit No. 1 base)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	1				2				3				4				5			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	463				185				110				90				35			
Est. Avg. Width (ft)	66, 59, 58				60, 64, 75				73, 73, 79, 73				75, 55, 58				80			
Est. Avg. Pool Depth (ft)	102				-				-				-				-			
Max. Pool Depth (ft)	10, 6, 30				-				-				-				-			
Footfall Embedded %	75%				-				-				-				-			
Significant Cover? <sup>2</sup>	INSIGNIF VEG, BLDR WOOD				INSIGNIF VEG, BLDR WOOD				INSIGNIF VEG, BLDR WOOD				INSIGNIF VEG, BLDR WOOD				INSIGNIF VEG, BLDR WOOD			
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT			
Subdominant Substrate	BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT			
Dominant Bank Substrate	BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT				BED, BLD, COB, GRV, SND, SLT			
Length of LB and RB Exposed Banks (feet)	∅				∅				∅				∅				∅			
Confinement <sup>4</sup>	1				1				1				1				1			
Unit Flagged/ Labeled? (Y/N)	yes, base				no				no				no				yes top			
Tributary inflow in cfs	∅				∅				∅				∅				∅			
Landmarks or photos	DIA 1368				1369				1370				1371				1372			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class	
	/		/		/		/		/		/		/		/		/		/	
No. of LWD Pieces within wetted width	∅				∅				∅				∅				∅			
Fish Migration Barrier <sup>6</sup> (y/n)?	no				Y 0600613/43529394				no				no				no			
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	∅				Barrier at upstream bed/dam				2x5				6x3, 2x4				∅			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	N/A				N/A				2x5				6x3				N/A			
Comments / Observations:	Could be trench pool, but slow, so MPC				True cascade huge boulders, 12% grad. Barrier 4 ft perm				12' brook trout! Narrow run like a top w/ lateral pools, still boulder & scum holes, heterogen. subst. More pool-like at bottom, run in middle				Step-run: distinct steps separated by short cascades 4% gradient				15% gradient			

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle (<4%), COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge  
 Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.  
<sup>2</sup> Note if cover is a significant or dominant feature of the unit: (e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)  
<sup>4</sup> Channel Confinement: 1=Confined Shallow, 2=Confined Deep, 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)  
<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel => than 1/2 bankfull width. Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")  
<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT  
<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Q/C Initials: KIP

Notes regarding access points (road condition, bridge crossings, trails, etc.)

#1 - pool at helicopter landing  
 #3 - slightly diverg channel around big rocks! And short rapid forms a control between 2 sections of pocket water  
 #5

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Stream/Reach/Subreach: Middle Yuba above N. Yuba Junction

Data Sheet # 1  
 Page 2 of 24  
 Date 9/14/09

Team: KP, GB

UTM: 066076, 4359472 NAD 83 (Habitat unit No. \_\_\_\_\_)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	6				7				8				9				10							
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP				
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN				
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP				
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP				
Length (ft)	216				101				28				105				125							
Est. Avg. Width (ft)	98, 60, 68				52, 75, 23				75				75, 60				77, 55							
Est. Avg. Pool Depth (ft)	8, 5, 3, 0				9.5, 3, 0				-				-				10, 6, 4, 0							
Max. Pool Depth (ft)	8				9				-				-				10.2							
Pooltail Embedded %	0				26/1				0				-				can't tell - no access							
Significant Cover? <sup>2</sup>	INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD			
SUBSTRATE COMPOSITION																								
Dominant Substrate	BED BLD COB				BED BLD COB				BED BLD COB				BED BLD COB				BED BLD COB							
Subdominant Substrate	GRV SND SLT				GRV SND SLT				GRV SND SLT				GRV SND SLT				GRV SND SLT							
Dominant Bank Substrate	BED BLD COB				BED BLD COB				BED BLD COB				BED BLD COB				BED BLD COB							
Length of LB and RB Exposed Banks (feet)	0				0				0				0				0							
Confinement <sup>4</sup>	1				1				1				1				1							
Unit Flagged/ Labeled? (Y/N)	no				no				no				no				yes <del>to</del> pond							
Tributary Inflow in cfs	no				no				hole from LBA / no				no LBS → LBA				yes LBS from LBA							
Landmarks or photos	1373				1374				1375, 1376 LUP				1378 LBS from LBA				1377 LUS & L							
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class					
	/		/		/		/		/		/		/		/		/		/					
No. of LWD Pieces within wetted width	1373 0				0				0				0				0							
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				yes 0660710 4359581				no				no							
Spawnable Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	2x6 out of water or in margin				0				0				0				0							
Maximum Spawning Gravel Patch Size (sq-ft) Est.	2x6				N/A				N/A 5 ft. perm barrier				NA				N/A							
Comments / Observations:	sandy banks RBA w/ pooling from high flows								some sm. woody debris along many potential areas for fish to pass water barriers 15% grad.								Deep & inaccessible - Est. depth from above End UTM 0660691 4359613							

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<sup>3</sup> Note if cover is a significant or dominant feature of the unit: (e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2x wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel => than 1/2 bankfull width. Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

photo 1377 transition between HAB #9 and #10 - poor control, but different pool types

- Very difficult access to HAB #9 and #10; deep waters & sheer bedrock walls

- #10 flagged on RBA cliff lip above pool (only area accessible) also UTM's see above

looking toward  
 ← coming from

middle yuba > N yuba mctn. 9/14/09  
 P304 KP/GB

stopped @ HMV 10 - too steep & dangerous to  
 0660691/4359615 (on LBA cliff) entrance

rough measure from cliff

#11	60' long	40' wide	15% grad.	CAS
#12	75' long	75' wide		STFP
#13	50'	75'		CAS
#14	ground center			Pool

photo # 1380 shows entire sequence

Flag med where stopped on cliff above #10  
 labeled "MY + NY HMV10"

(My > Ny)

below my/ny junction

CAS  
 POW  
 TRP ) deep, fast, steep  
 vert. walls/bldgs & bldrs.  
 not study site material.

no access.

DTA1 1406 → LOS ← TLE

1407 → across str. CAS

1410 - strand 1408 CAS → short on trails "iron dly"

1409 LOS → CAS

Bldr - down sm. patches of sp gravel under  
 bldrs where shoals Thr.

lots pocket pools, ~~water~~ stable bed - bed + water  
 - bldr

Middle/N. Yuba Junc. p4 of 4 9/14/09  
(below pctn - rip. zone) GB

Limited Riparian veg. community due to sheer rock slopes of river canyon - no soils/transitional zone for established community. Plenty of riparian/mesic OBL plants, such as *Salix lucida*, *S. exigua*, *Alder incanus*, *Populus tremuloides*, at bars and base of canyon walls where wider. Typical riparian herbs: 2 asters (to be keyed later) *brickellia*, and occas. *Carex nudata* scattered throughout boulders at water's edge. *Carex* good indicator of turbulent flows & establish sed deposits (see *Sedges of Pac. NW*, book as reference)

Upland species generally  $\approx 35-50$  ft above boulder bar & includes canyon live oak as dominant some grey pine, *Ponderosa* & occ. black oak on. Some areas

~~On S-facing~~ In wet grasses (too far to id) and *Archostaphylos patula* as under 3 mid story.

Typ per (*Kamath weed*), Scotch broom dominate @ base of access road to main road. Also spreading for short dist at river junction.

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # \_\_\_\_\_

Stream/Reach/Subreach: my c 1W449 (freemans xing)

Page 1 of 2

Team: KP/LAB

Date 9-16-09

UTM: 0661876/4361704 NAD 83 (Habitat unit No 1), basc

PM \_\_\_\_\_

Map Gradient: \_\_\_\_\_

Habitat Unit #	1				2				SPRIT*				3				4			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	74				63				470				382				223			
Est. Avg. Width (ft)	49 37 37				38 38 48								136 143 149 138				115 107 119			
Est. Avg. Pool Depth (ft)	/				-								3.5, 3, 1, 0 40.5				/			
Max. Pool Depth (ft)	BFD=2.25				-								3.5				/			
Pooltail Embedded %	/				-								50%				/			
Significant Cover? <sup>2</sup>	INSIGNIF VEG	BLDR WOOD			INSIGNIF VEG	BLDR WOOD			INSIGNIF VEG	BLDR WOOD			INSIGNIF VEG	BLDR WOOD			INSIGNIF VEG	BLDR WOOD		
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Subdominant Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Dominant Bank Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Length of LB and RB Exposed Banks (feet)	0				0				-				-				-			
Confinement <sup>4</sup>	4				4				1				1				1			
Unit Flagged/ Labeled? (Y/N)	N (pvt. land)				N				N				N				N			
Tributary Inflow in cfs	0				0				0				0				0			
Landmarks or photos	DATA LWS 14106 LWS 1467				#1408 WLS				#1409 LWS				#1470 WLS				#1471 WLS			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class	
	/																			
No. of LWD Pieces within wetted width	0				0				0				0				0			
Fish Migration Barrier <sup>6</sup> (y/n)?	N				N				N				N				N			
Spawnable Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	0				1x1				6x2 (4x12) 20x6 18x12 6x3 40x6 7WS 6x3 "				too imbricated + embedded				12x3 12x6 6x3 6x3 6x2 3x3			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	-				1x1				14x3 12x4 LBA 1x1, 1x1, 1x1 2x2, 1x1, 1x2 RBA				-				12x6			
Comments / Observations:	modified tail artificial dam				3%				L6L → L6L → G1 → L6L → L6L → Frog gr. bridge.				G1 @ tail but sh    scar on L6L so not separated. Goes quickly into split also contains RBD				Artificial pools mining dddy + gr. algae. split but remaining. L6L character dom → 2%			

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle (>1%), POW = Pocket Water, SHT = Sheetflow, COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit: (e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

Q/C initials: 

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel => than 1/2 bankfull width. Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.) ups of 1st property on RBD (w/in USFC?)

\* SPRIT looks like was contr. sp. ch. on L6L.

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # \_\_\_\_\_

Stream/Reach/Subreach: Middle Yuba below Hwy 49

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Team: \_\_\_\_\_

Date 9-16-09

UTM: 0664908/4302124 NAD 83 (Habitat unit No. 5) cup

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	5				6				7				8											
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP				
	HGR	LGR	GLI	(RUN)	HGR	(LGR)	GLI	RUN	HGR	LGR	GLI	(RUN)	HGR	(LGR)	GLI	RUN	HGR	LGR	GLI	RUN				
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP				
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP				
Length (ft)	88				129				140				85											
Est. Avg. Width (ft)	120 117				105 127 115				103 87 81				79 69 101				pool under bridge Hwy 49							
Est. Avg. Pool Depth (ft)	-				-				ind. w/s.c. of 20'				- 8-10-2											
Max. Pool Depth (ft)	-				-				-				-											
Pooltail Embedded %																								
Significant Cover? <sup>2</sup>	INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				(BLDR) WOOD				INSIGNIF VEG				(BLDR) WOOD			
SUBSTRATE COMPOSITION																								
Dominant Substrate	BED	BLD	(COB)		BED	(BLD)	COB		BED	(BLD)	COB		BED	BLD	(COB)		BED	BLD	(COB)					
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT					
Subdominant Substrate	BED	(BLD)	COB		BED	BLD	(COB)		BED	BLD	(COB)		BED	(BLD)	COB		BED	BLD	(COB)					
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT					
Dominant Bank Substrate	BED	(BLD)	COB		BED	(BLD)	COB		BED	(BLD)	COB		BED	(BLD)	COB		BED	BLD	(COB)					
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT					
Length of LB and RB Exposed Banks (feet)	0				0				0				0											
Confinement <sup>4</sup>	1				1				1				1											
Unit Flagged/Labeled? (Y/N)	Y @ top				X @ base				N				N											
Tributary Inflow in cfs	-				-				-				0											
Landmarks or photos	#1472 LUS				#1473 LUS				#1474 LUS				#1475											
Large Woody Debris <sup>3</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class					
	#		#		#		#		#		#		#		#		#		#					
No. of LWD Pieces within wetted width	0				0				0				0											
Fish Migration Barrier <sup>6</sup> (y/n)?	N				N				N				N											
Spawnable Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	18x6 2x3 1x3 1x2				3x1 6x1 2x2 1.5x6 1x6				3x1 6x6				1.5x12 2x6 1x1 2x3 2x2 2.1x1											
Maximum Spawning Gravel Patch Size (sq-ft) Est.	18x6				6x1				6x6				1.5x12											
Comments / Observations:	dug, modified, split but overall from run UM				run like on L60 surf. est. but w/ 10% NM - SPTS, multi thread				split near top w/ some riffle LBA HF ch. rba				1.5% bldrst on LBA - more run-like											

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Q/C initials: JB

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>6</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width. Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")

<sup>7</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>8</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

best gravels due to mining chipping out & separating - good size + sorting appropriate for sp. lots mining modification. very few usable habitat due to multiple use, splits, artificial pools, artificial d/s controls. Not representative of habitat but of mining.

4 locations

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 1

Stream/Reach/Subreach: Middle Yuba above Oregon Creek

Page 1 of 6

Team: Kathi Brack, Patty Hardesty, Sara Bailey

Date 9/13/09

UTM: 0665105, 4362264 NAD 83 (Habitat unit No. 1 (base))

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	1				2				3				4			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	388				258				49				102			
Est. Avg. Width (ft)	53, 45, 57, 42, 59				70, 62, 66				60, 63				44, 63, 65			
Est. Avg. Pool Depth (ft)	1 1/2 - 2				6, 3, 2.5, 0				-				7, 5, 3, 2, 0			
Max. Pool Depth (ft)	-				6				-				7			
Pooltail Embedded %	-				15%				-				0 - too modified			
Significant Cover? <sup>2</sup>	INSIGNIF	VEG	BLDR	WOOD	INSIGNIF	VEG	BLDR	WOOD	INSIGNIF	VEG	BLDR	WOOD	INSIGNIF	VEG	BLDR	WOOD
SUBSTRATE COMPOSITION																
Dominant Substrate	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT
Subdominant Substrate	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT
Dominant Bank Substrate	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT	BED	BLD	COB	SLT
Length of LB and RB Exposed Banks (feet)	0				0				0				0			
Confinement <sup>4</sup>	1				1				1				1			
Unit Flagged/ Labeled? (Y/N)	yes - base				no				no				no			
Tributary Inflow in cfs	-				-				-				-			
Landmarks or photos (JA)	1333				1334				1335				1336			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class		
	/				/				/				/			
No. of LWD Pieces within wetted width	/				/				/				/			
Fish Migration Barrier <sup>6</sup> (y/n)?	/				/				/				/			
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	3x1.5, 2x1, 3x3, 1x1, 1x2, 2x2, 2x3, 6x4 out of water, 4x6				0				0				42x12,			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	12x0				0				0				42x12			
Comments / Observations:	Step run w/ riffle-step characteristics on 1/2 or less of channel punching. Diff. to model due to oblique flow, mult. water surfaces.				Artificial downstream control - boulder dam, 15% embedded; Staff gage w/ no housings - out of water 1/2 thru habitat; Top of pool greatly modified for slough-boxes - not correct of entire pool.				Spawning gravels in this habitat, but frequent mod for slough-boxes, so unmeasurable by gradient.				tail of pool very modified, but lots spawn gravel.			

LBABLD  
RBA BED

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit:

(e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

Q/C initials: *PH*

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width.

Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

Begin upstream of conjunction @ end of first pool - near campgrounds

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 1  
 Page 2 of 6  
 Date 9/13/09

Stream/Reach/Subreach: Middle Yuba <sup>above</sup> ~~below~~ Oregon Cr.  
 Team: KP, PH, GB,  
 UTM: 0665372, 4362171 NAD 83 (Habitat unit No. 5 base)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	5				6				7*				8				9			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	170.5				40				88.5				124				210			
Est. Avg. Width (ft)	46, 36, 37				45, 43, 39				55, 51				65, 48, 59				55, 48, 43, 54			
Est. Avg. Pool Depth (ft)	—				—				5, 4, 1.75, 0				—				—			
Max. Pool Depth (ft)	—				—				5				—				—			
Pooltail Embedded %	—				—				—				—				—			
Significant Cover? <sup>2</sup>	INSIGNIF VEG (BLDR WOOD)				INSIGNIF VEG (BLDR WOOD)				INSIGNIF VEG (BLDR WOOD)				INSIGNIF VEG (BLDR WOOD)				INSIGNIF VEG (BLDR WOOD)			
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Subdominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Dominant Bank Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Length of LB and RB Exposed Banks (feet)	0				0				0				0				Sand subdom banks 10ft.			
Confinement <sup>4</sup>	3				3				3				3				1			
Unit Flagged/ Labeled? (Y/N)	yes-bottom				no				no				no				yes-top			
Tributary Inflow in cfs	—				—				bank = 1343, 1344 1442 pool control/dam = 1341				—				—			
Landmarks or photos	1338				1339				1345				1346				—			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class	
	/		/		/		/		/		/		/		/		/		/	
No. of LWD Pieces within wetted width	/				/				/				/				/			
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				no				no				no			
Spawnable Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	—				—				—				1x1				1x1, 1x1, 1x4			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	—				—				—				1x1				1x4			
Comments / Observations:	High-flow side channel; 4% gradient; excellent modelability; Carex nudata - great bank stabilizer; establishes sed in high turb areas both banks 70% coverage				Highly modified riffle - crest - dammed above pool w/ boulders & cob; 8% gradient				Dammed pool* do NOT model* destabilized banks - dug-out banks creating possible feed back mechanism				see below (#8)				deeper section in middle of glide - obviously modified; some erosion due to modification; run like at top, pool-			

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, like in middle narrow cobble bar  
 Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit:  
 (e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width.  
 Size classes: 6-12", 12-24", 24-36", or 36" + x 3-10', 10-25', 25-50', 50-75', 75" + (ie. 6 | 25 = 6-12", 25-50')

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Q/C initials: PH

Notes regarding access points (road condition, bridge crossings, trails, etc.)

#5 - elevated flood plane LBA (same size as wetted channel)  
 - some tree-root exposure due to long-term erosivity/modifications - not an active erosional feature  
 - High-flow side channel on LBA  
 - 3% gradient

#8 - Run, but because of dams & dug out banks, creating pools at banks, and step pool for length of run  
 Highly modified; after high-flows remove dams, will prob be a run!



STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 2

Stream/Reach/Subreach: Middle Yuba <sup>above</sup> ~~below~~ Oregon Creek

Page 3 of 6

Team: KP, PH, GB

Date 9/13/09

UTM: 0605552, 4362234 NAD 83 (Habitat unit No. 10 base)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	10				11				12				13				14							
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP				
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN				
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP				
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP				
Length (ft)	118				<del>118</del> 290				117				231				225							
Est. Avg. Width (ft)	47, 54, 33,				62, 52, 49, 66				57, 55				58, 65, 50				72, 65, 58							
Est. Avg. Pool Depth (ft)	—				4.75, 3.2, 0				—				—				—							
Max. Pool Depth (ft)	—				4.75				—				— 3.5				—							
Pooltail Embedded %	—				40%				—				—				—							
Significant Cover? <sup>2</sup>	INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD			
SUBSTRATE COMPOSITION																								
Dominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Subdominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Dominant Bank Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Length of LB and RB Exposed Banks (feet)	Ø				Ø LBA RBA				Ø				Ø				Ø							
Confinement <sup>4</sup>	1				2				1				1				1							
Unit Flagged/ Labeled? (Y/N)	yes - bas				no				no				no				yes top							
Tributary Inflow in cfs	no				no				no				no				no							
Landmarks or photos	1347				1348				1349				1350				1351							
Large Woody Debris <sup>5</sup> within bankfull width	/				/				/				/				/							
	/				/				/				/				/							
No. of LWD Pieces within wetted width	/				/				/				/				/							
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				no				no				/							
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	1x1, 1x1				3x1, 2x2, 1x1				1x5, 1x2, 1x1, 2x3, 5x3. out of water				1x1, 1x1, 1x1, 1x1, 2x1				2x1, 2x2 out of water, 2x2 on channel margin							
Maximum Spawning Gravel Patch Size (sq-ft) Est.	1x1				3x1				5x3				2x2				2x2, 12x6							
Comments / Observations:	Step-Run w/ short HGR separating steps - lots of features				10" brown trout head of pool 28' run - ambiguous strata				3% gradient, some sandy deposits along shoreline				3 inch fish 3 ft deep LBA - artificial secured. End of glide oblique - mid-stake				Some indistinct stepping, but lots of surface agitation so calling it a run - slight scour pool RBA							

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit:

(e.g., logs in stream, lots of boulders, >25% surface area has in-stream or low overhanging vegetation, etc.)

Q/C initials: PH

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width.

Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75+ (ie. 6 | 25 = 6-12", 25-50")

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

#15 - spawn grav out: 2x1.5, 1x1, 1x1, 2x1, 1x1, 2x2 channel margin, bankfull depth 1.75  
12x6 above bankfull (next page)

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 2

Stream/Reach/Subreach: Middle Yuba <sup>above</sup> ~~below~~ Oregon Creek

Page 4 of 6

Team: KP, PH, GB

Date 9/13

UTM: 0665849, 4362162 NAD 83 (Habitat unit No. 15 base)

PM \_\_\_\_\_

Map Gradient: \_\_\_\_\_

Habitat Unit #	15				16				17				18				19			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	80				119				226				74				112			
Est. Avg. Width (ft)	62, 61, 48				45, 47, 65				58, 46, 62				43, 51, 34				38, 40, 22			
Est. Avg. Pool Depth (ft)	—				—				8.5, 3, 0				3.5, 2.75, 1.50				—			
Max. Pool Depth (ft)	—				—				8				3.5				—			
Pooltail Embedded %	—				—				30%				8-scour				—			
Significant Cover? <sup>2</sup>	INSIGNIF VEG				INSIGNIF VEG				INSIGNIF VEG				INSIGNIF VEG				INSIGNIF VEG			
	BLDR WOOD				BLDR WOOD				BLDR WOOD				BLDR WOOD				BLDR WOOD			
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Subdominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Dominant Bank Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV
Length of LB and RB Exposed Banks (feet)	0				0				0				0				0			
Confinement <sup>4</sup>	1 - FPW/20				1				1				1				1			
Unit Flagged/ Labeled? (Y/N)	Yes - base				no				no				no				yes			
Tributary Inflow in cfs	no				no				no				no				no			
Landmarks or photos	1352				1353				1354				1355				1356			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class	
	/		/		/		/		/		/		/		/		/		/	
No. of LWD Pieces within wetted width	/				/				/				/				/			
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				no				no				no			
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	see note prev pg				6x6 above BF 2x2 chan. margin 2x1, 1x1				12x6 above BF 30x6 - chan marg. good flow!				1x2				6x3 above BF 1x1, 1x1			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	12x6				6x6				12x6				30x6				12x6x3			
Comments / Observations:	Almost pocket water but too much surface agitation				Same flat sections - esp at top (not moddable) 3% gradient				Scour-hole 1/2 width of channel (12x12) @ base of channel				Pinch-point making ds control				Lower 2/3 wider & scour upper 1/3 narrow w/ fast step-run lots veg on banks - riparian comm.			

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit:

(e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

Q/C initials: PA

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel => than 1/2 bankfull width.

Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10', 10-25', 25-50', 50-75', 75'+ (ie. 6 | 25 = 6-12", 25-50')

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

# 19 - sm. rapid (2 waves) at top of 1st step, rapid separates steps

End Survey, begin characterization 0666029, 4362161

Middle Yuba  
~~below~~ Oregon creek  
 above

P 50f6

9/13/09  
 KP, PH, GB

unit #	HAB	length	width	(pool only) MX depth	notes photo #
20	MCH	105	50, 47	5	1357

Big hole (pool) @ base ~ 5ft deep; max depth main 3' w/ scour  
 hole @ bottom  
 3x1, 6x2 spawning gravel

21	LGR	54	43, 40, 42	—	
3% gradient				3	

22	RUN	133	51, 53		
----	-----	-----	--------	--	--

1x1, 1x1, 2x1 above BF, 6x3, 18x6  
 deep boulder run w/ some scour, slight control creates pool

23	MCP	92	29, 43	7	
bedrock side LBA					

24	RAP	70	31, 22	—	1358
----	-----	----	--------	---	------

25	CHU	47	27, 18, 22	—	1359
----	-----	----	------------	---	------

— SPLIT		245			
---------	--	-----	--	--	--

RBA = HDR, LBA = RI: / RUN, RBA = RIF / RUN

26	POW	298	83, 68		
----	-----	-----	--------	--	--

6x4 spawning grav. 2x2, 1x1, 3x1, 5x10, 6x6

27	HGR	325	58, 96, 74		#360
----	-----	-----	------------	--	------

4% grad; non-movable multiple water surfaces and flow lines

28	MCP	918	97, 119, 104, 97	8	1364 LDS
----	-----	-----	------------------	---	----------

6x1 spawning grav.  
 long tail w/ some surface ag.

dead return morph 1362 - probably FYE - 1363

lateral deep RBA to MCP w/ no control



middle guba 70 regm ck 9/13/09  
anit P60/6

this pool becomes unwalkable, too deep  
w/ few to no places to get out;  
very deep, wide, bedrock walls w/  
full riparian veg. community where  
soils allow

29 RUN 90 65  
30 trench/MCP 433 65 10' + depth  
CAS

END @ base 30 The measured L. of  
0666588/4361973 pool

=

Frog sighting - #1367 + 1366

0665734/4362260

8.5 1.50 2.00 frog 2.00 2.00

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 1

Stream/Reach/Subreach: Middle Yuba below Our House

Page 1 of 4

Team: Kathi Peacock, Gaea Bailey, Dawn

Date 9/16/09

UTM: 0671924/4363951 NAD 83 (Habitat unit No 1 top)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	1				2				3				SPLIT				4							
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP				
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN				
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP				
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP				
Length (ft)	130				73				68				70				50							
Est. Avg. Width (ft)	50, 70, 60				46, 58, 63				56, 46, 40				49, 62, 62				55, 70							
Est. Avg. Pool Depth (ft)	10, 6, 4				-				-				-				4, 3, 2, 0, 1.75							
Max. Pool Depth (ft)	10				-				BED=3				-				4							
Pooltail Embedded %	no access				-				-				-				0							
Significant Cover? <sup>2</sup>	INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD			
SUBSTRATE COMPOSITION																								
Dominant Substrate	BED BLD			COB	BED BLD			COB	BED BLD			COB	BED BLD			COB	BED BLD			COB				
Subdominant Substrate	GRV SND			SLT	GRV SND			SLT	GRV SND			SLT	GRV SND			SLT	GRV SND			SLT				
Dominant Bank Substrate	BED BLD			COB	BED BLD			COB	BED BLD			COB	BED BLD			COB	BED BLD			COB				
Length of LB and RB Exposed Banks (feet)	0				0				0				0				0							
Confinement <sup>4</sup>	2				1				1, FBW=90				1				2							
Unit Flagged/ Labeled? (Y/N)	yes-top				no				no				no				no							
Tributary Inflow in cfs	no				no				no				no				no							
Landmarks or photos	DATA = 1442 LDS				1444				1445				1446				1447 LWS 1448 LWS							
Large Woody Debris <sup>3</sup> within bankfull width	Diameter class	Length class			Diameter class	Length class			Diameter class	Length class			Diameter class	Length class			Diameter class	Length class						
	/				/				/				/				/							
No. of LWD Pieces within wetted width	0				0				0				0				0							
Fish Migration Barrier <sup>5</sup> (y/n)?	no				no				no				no				no							
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	0				0				4x2, 10x2, 3x2				2x3 out of water, 1x2 out of water, 2x2, 2x2				2x3, 2x3, 1x1, 1x1 out of water							
Maximum Spawning Gravel Patch Size (sq-ft) Est.	N/A				N/A				6x2				2x3				2x3							
Comments / Observations:	difficult access to bottom - lot				11% gradient				log boulders on margin				5% gradient 1/2 channel is step ruin, half is HGR				small flow around boulders R&A 2-foot long boulder step top of pool							

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit: (e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

Q/C initials: KCP

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>3</sup> Criteria for LWD is: any downed wood within bankfull width of channel => than 1/2 bankfull width. Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")

<sup>5</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

#1 - ATMS taken at top of pool - between #1 and #2  
- 1443 LDS from near top of unit #1

#4 - 1449 photo of step at top of #4 from LBA LDS

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Data Sheet # 1  
 Page 2 of 4  
 Date 9/16/09

Stream/Reach/Subreach: Middle Yuba below Ourthouse Dam

Team: KP, GB

UTM: 06 72025/4364028 NAD 83 (Habitat unit No. to, p 06 5)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	5				6				7				SPLIT				8			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	(RUN)	HGR	LGR	GLI	RUN	HGR	(LGR)	GLI	RUN	HGR	LGR	GLI	RUN	(HGR)	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	(LAP)	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	111				97				58 109				35				95			
Est. Avg. Width (ft)	61, 56, 55				58, 61, 68				58, 60, 58								75, 77, 75			
Est. Avg. Pool Depth (ft)					3.5															
Max. Pool Depth (ft)	BFD=3				3.5, 3, 1.75				BFD=3								BFD=2			
Pooltail Embedded %					0															
Significant Cover? <sup>2</sup>	INSIGNIF VEG (BLDR) WOOD				INSIGNIF VEG (BLDR) WOOD				INSIGNIF VEG (BLDR) WOOD				INSIGNIF VEG (BLDR) WOOD				INSIGNIF VEG (BLDR) WOOD			
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT
Subdominant Substrate	BED, GRV	BLD, SND	(COB) SLT		BED, GRV	BLD, SND	(COB) SLT		BED, GRV	BLD, SND	(COB) SLT		BED, GRV	BLD, SND	(COB) SLT		BED, GRV	BLD, SND	(COB) SLT	
Dominant Bank Substrate	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT	BED, GRV	(BLD) SND	COB	SLT
Length of LB and RB Exposed Banks (feet)	0				0				0				0				0			
Confinement <sup>4</sup>	1				1				1				1				1			
Unit Flagged/ Labeled? (Y/N)	yes-top				yes base				no				no				no			
Tributary Inflow in cfs	no				no				no				no				no			
Landmarks or photos	1450				1451				1452				1453 from LBA				1454 LBS			
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class	Length class			Diameter class	Length class			Diameter class	Length class			Diameter class	Length class			Diameter class	Length class		
	/	/			/	/			/	/			/	/			/	/		
No. of LWD Pieces within wetted width	0				0				0				0				0			
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				no				no				no			
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	2x2, 6x1.5				0				2x1, 2x2, 3x2				0				0			
Maximum Spawning Gravel Patch Size (sq-ft) Est.	6x1.5				N/A				3x2				N/A				N/A			
Comments / Observations:	Sandy deposition LBA, scour hole meets min pool requirements control @ base low flow - inconsequential flow 0672025/4364028 35% gradient - 1/2 channel run; 1/2 pool 5%																			

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.

<sup>2</sup> Note if cover is a significant or dominant feature of the unit:

(e.g., logs in stream, lots of boulders, >25% surface area has instream or low overhanging vegetation, etc.)

Q/C initials: KP

<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (>= 2 wetted channel widths)

<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width.

Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ia. 6 | 25 = 6-12", 25-50")

<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT

<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

\* dirty found from #1 up to dam; thick enough to make rocks slippery, but not more than 1/4' near top 3" of rocks (submerged) at most

**STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)**

Data Sheet # 2  
 Page 3 of 4  
 Date 9/16/09

Stream/Reach/Subreach: Middle Yuba below Our House dam  
 Team: Kathi Peacock & Gaea Bailey  
 UTM: 0672124/4304111 NAD 83 (Habitat unit No. Base 10)

PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	9				10				11				12				13							
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP				
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	(RUN)	HGR	LGR	GLI	RUN	HGR	LGR	GLI	(RUN)	HGR	LGR	GLI	RUN				
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP				
*note if dammed pool	(MCP)	LAP	TRP	PLP	MCP	LAP	TRP	PLP	(MCP)	LAP	TRP	PLP	MCP	LAP	TRP	PLP	(MCP)	LAP	TRP	PLP				
Length (ft)	104				63				165				40				125							
Est. Avg. Width (ft)	65, 55, 55, 56				68				56, 61, 64				55				75, 80, 88							
Est. Avg. Pool Depth (ft)	3, 7.5, 2.5, 1.75, 0				—				5.5				—				6.5, 3.5, 0							
Max. Pool Depth (ft)	3, 7.5				—				5.5, 2, 7.5, 2.75				0.1, 2.05, 2.3				6							
Pooltail Embedded %	40%				—				40%				—				40%							
Significant Cover? <sup>2</sup>	INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD				INSIGNIF VEG				BLDR WOOD			
<b>SUBSTRATE COMPOSITION</b>																								
Dominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Subdominant Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Dominant Bank Substrate	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV	BED	BLD	COB	GRV				
Length of LB and RB Exposed Banks (feet)	0				0				0				0				0							
Confinement <sup>4</sup>	2				1				2				1				2							
Unit Flagged/ Labeled? (Y/N)	yes top				yes base				no				no				no							
Tributary Inflow in cfs	no				no				no				no				no							
Landmarks or photos	1455				1456				1457				1458				1459							
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class	Diameter class	Length class				
	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/				
No. of LWD Pieces within wetted width	0				0				0				0				0							
Fish Migration Barrier <sup>6</sup> (y/n)?	no				no				no				no				no							
Spawning Gravel Area (sqft) Est. <sup>7</sup> (1/4" - 2.5")	0				2x1, 2x2				0				0				Bar in BF (2ft above wetted) 18x6, 6x3-active, 3x3, 3x1							
Maximum Spawning Gravel Patch Size (sq-ft) Est.	N/A				2x2				0				N/A				18x6 / saw 3' 6" incl fishes							
Comments / Observations:					some surface agitation, but too deep to be riffle				Top of pool is run-like, but no control, so included in pool				some surface agitation, but very deep				Run-like construction at mid pool! but still deep & weak control; Top of LBA bar w/in of							

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, Pools: COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge  
 The minimum unit length should be 1x active channel width, unless there is something notable or unique about it.  
<sup>2</sup> Note if cover is a significant or dominant feature of the unit: (e.g., logs in stream, lots of boulders, >25% surface area has in stream or low overhanging vegetation, etc.)  
<sup>4</sup> Channel Confinement: 1=Confined Shallow; 2=Confined Deep; 3=Moderate Confined (<2x wetted channel width); 4=Unconfined (> 2 wetted channel widths)  
<sup>5</sup> Criteria for LWD is: any downed wood within bankfull width of channel = or > than 1/2 bankfull width.  
 Size classes: 6-12", 12-24", 24-36", or 36"+ x 3-10", 10-25", 25-50", 50-75", 75"+ (ie. 6 | 25 = 6-12", 25-50")  
<sup>6</sup> Waterfalls, high velocity chutes or cascades at approx bankfull flows. NOTE VERTICAL DROP and IF CONDITIONAL or PERMANENT  
<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

From #1 to dam; good riparian community established considering how narrow the canyon & steep the slopes — not much area to collect fins, etc. Rip. veg consists of *Alnus rhombifolia*, *Salix lucida* & *Salix exigua* rang from 5 to 20 ft tall on boulder bar margins, many areas 15-25 ft deep (from water surface). Herbaceous layer includes cat tails, carex *nudata*, some *Humulus*, *Stachys*, so.

Q/C Initials: KP

STREAM HABITAT TYPING SURVEY DATA (NID Yuba-Bear, PG&E Drum Spaulding)

Stream/Reach/Subreach: Middle Yuba below our House Dam  
 Team: KP, GB

Data Sheet # 2  
 Page 4 of 4  
 Date 9/16/09

UTM: \_\_\_\_\_ NAD 83 (Habitat unit No. \_\_\_\_\_) PM \_\_\_\_\_ Map Gradient: \_\_\_\_\_

Habitat Unit #	14				SPLIT				16				17				18			
Habitat Type <sup>1</sup>	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP	FALL	CAS	CHU	RAP
	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN	HGR	LGR	GLI	RUN
	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP	STEP	POW	SHT	COP
*note if dammed pool	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP	MCP	LAP	TRP	PLP
Length (ft)	50				140				162											
Est. Avg. Width (ft)	45, 58																			
Est. Avg. Pool Depth (ft)	-								see below											
Max. Pool Depth (ft)	-								start characterize											
Pooltail Embedded %	-																			
Significant Cover? <sup>2</sup>	INSIGNIF VEG		BLDR WOOD		INSIGNIF VEG		BLDR WOOD		INSIGNIF VEG		BLDR WOOD		INSIGNIF VEG		BLDR WOOD		INSIGNIF VEG		BLDR WOOD	
SUBSTRATE COMPOSITION																				
Dominant Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Subdominant Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Dominant Bank Substrate	BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB		BED	BLD	COB	
	GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT		GRV	SND	SLT	
Length of LB and RB Exposed Banks (feet)	Ø																			
Confinement <sup>4</sup>	1																			
Unit Flagged/ Labeled? (Y/N)	no				yes-top				yes-base											
Tributary Inflow in cfs	no																			
Landmarks or photos	1460				none				1461											
Large Woody Debris <sup>5</sup> within bankfull width	Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class		Diameter class		Length class	
	#		#		#		#		#		#		#		#		#		#	
No. of LWD Pieces within wetted width	Ø																			
Fish Migration Barrier <sup>6</sup> (y/n)?	no																			
Spawning Gravel Area (sq-ft) Est. <sup>7</sup> (1/4" - 2.5")	Ø				2x2, 1x1, 1x2 4x6															
Maximum Spawning Gravel Patch Size (sq-ft) Est.	N/A																			
Comments / Observations: Fish? Wildlife? Amphibs? Backwater or side chan. amphib habitat? Riparian? Landmarks, Photo #s, Etc.	1% grad				step-run on one side, split on the other															

<sup>1</sup> FALL = Falls, CAS = Cascade, CHU = Chute, RAP = Rapid, GLI = Glide, RUN = Run, STEP = Step Run, HGR = High Gradient Riffle (>4%), LGR = Low Gradient Riffle, POW = Pocket Water, SHT = Sheetflow, COP = Convergence, MCP = mid-channel pool, LAP = Lateral, TRP = Trench, PLP = Plunge

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<sup>7</sup> Spawning Sized gravel submersed in an area of adequate depth and velocity within one unit

Notes regarding access points (road condition, bridge crossings, trails, etc.)

Characterize # HAB L W Max dept Notes

14 MCP 162 50 6.5

17 MCP 178 50, 87 8  
 photo of dam LUS #1461  
 photo view #1462

Q/C initials:

KP

7-5" suckers dark stripe down back photo 1461 Separated by step and lower pool stat. gage reads 17.10 on 1