12-4-2009

Ex. 280-US-427

Unknown

Stream: Sprague River
Site: 642
Date: 6/20/2006
Habitat: Cascade **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	2.93	102.93		100.00
HP1			3.81	99.12
HP2			1.53	101.40
HP3			2.34	100.59
TP				
HP3	2.31	102.90		
HP2			1.50	101.40
BM			2.91	99.99
HP1			3.79	99.11

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	102.90	7.93		94.97	94.96	
1-R	0			8.63	0.68	94.95		
2-L	170	165	102.90	5.48		97.42	97.34	
2-R	160			6.19	0.54	97.25		
3-L	270	274	102.90	4.63		98.27	98.33	
3-R	277			4.83	0.31	98.38		

Ave Q= 551.6

Note: Q taken from SP-2 Upper site on 6/20.
WSE slope = 1.230%

(3) Meter and propeller ID for Velocity Correction

Meter ID: na
Propeller ID:

Date: 7/26/2006
Habitat: Cascade **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	2.67	102.67		100.00
HP1			3.56	99.11
HP2			1.27	101.40
HP3			2.07	100.60
TP				
HP3	2.03	102.63		
HP2			1.23	101.40
BM			2.64	99.99
HP1			3.52	99.11

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	102.63	9.51	1.22	94.34	94.31	258.0
1-R	0			8.94	0.58	94.27		
2-L	170	165	102.63	6.48	0.55	96.70	96.58	262.6
2-R	160			6.50	0.32	96.45		
3-L	270	274	102.63	7.85	2.90	97.68	97.71	280.9
3-R	277			5.22	0.33	97.74		

Ave Q= 267.2

Note:
WSE slope = 1.245%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

Date: 8/30/2006
Habitat: Cascade **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	14.94	114.94		100.00
HP1			15.83	99.11
HP2			13.54	101.40
HP3			14.34	100.60
TP				
HP3	14.30	114.90		
HP2			13.50	101.40
HP1			15.79	99.11
BM			14.91	99.99

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	114.90	21.84	1.01	94.07	94.06	220.7
1-R	0			21.54	0.68	94.04		
2-L	170	165	107.69	12.70	1.44	96.43	96.23	201.6
2-R	160			12.99	1.32	96.02		
3-L	270	274	107.69	12.79	2.56	97.46	97.48	256.4
3-R	277		115.43	19.15	1.22	97.50		

Ave Q= 226.2

Note:
WSE slope = 1.252%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: na

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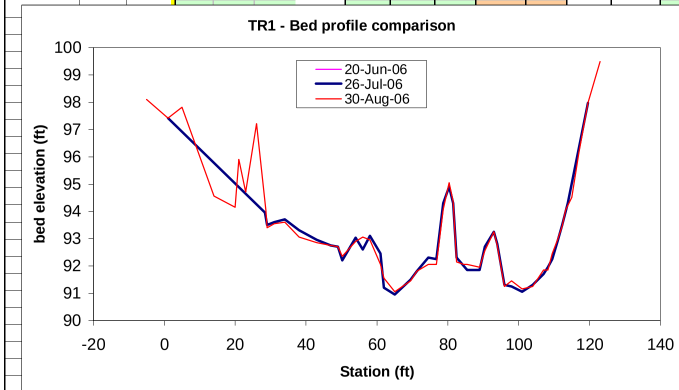
Stream:	Sprague River	
Site:	642	
Transect:	1	
Habitat:	Cascade	
Survey Date	HI (ft)	Q (cfs)
6/20/2006	102.90	
7/26/2006	102.63	258.0
8/30/2006	114.90	220.7

20-Jun-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	q (cfs)	substrate



26-Jul-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
LWP	1.0		97.42									
LWE	28.4		93.96	0.35	0.05		0.15		0.15		0.02	7.8
	29.0		93.51	0.80	0.10		0.16		0.16		0.16	7.6
	31.0		93.61	0.70	0.05		0.15		0.15		0.25	7.6
	34.0		93.71	0.60	0.05		0.15		0.15		0.31	7.6
	38.0		93.31	1.00	0.05		0.15		0.15		0.65	7.6
	43.0		92.96	1.35	0.46		0.48		0.48		2.93	7.8
	47.0		92.76	1.55	0.72		0.74		0.74		3.45	7.8
	49.0		92.71	1.60	2.33		2.36		2.36	20	5.68	7.8
	50.2		92.21	2.10	0.50		0.52		0.52		2.72	7.8
	54.0		93.04	1.27	0.14		0.19		0.19		0.71	7.8
	56.0		92.61	1.70	2.18		2.21		2.21		7.51	7.8
	58.0		93.11	1.20	1.52		1.55		1.55		4.65	7.8
	61.0		92.46	1.85	3.29		3.32		3.32		12.30	7.6
	62.0		91.21	3.10	4.01	0.92	4.04	0.95	2.49		15.46	7.6
	65.0		90.96	3.35	3.42	2.29	3.45	2.32	2.89		36.26	7.6
	69.5		91.51	2.80	2.02	1.55	2.05	1.58	1.81	10	15.75	8.7
	71.3		91.81	2.50	1.82	1.17	1.85	1.20	1.52	10	9.37	8.7
	74.5		92.31	2.00	0.54		0.56		0.56	25	2.78	8.7
	76.8		92.26	2.05	0.10		0.16		0.16		0.68	8.7
	78.7		94.31	0.00	0.00		0.00		0.00		0.00	7.8
	80.4		94.91	-0.60								7.8
	81.5		94.31	0.00	0.00		0.00		0.00		0.00	7.8
	82.5		92.31	2.00	3.51		3.54		3.54		10.63	7.8
	84.5		92.01	2.30	3.64		3.67		3.67		12.67	7.8
	85.5		91.86	2.45	0.38	0.24	0.41	0.29	0.35		1.92	7.8
	89.0		91.86	2.45	0.17	1.09	0.22	1.12	0.67		4.11	7.8
	90.5		92.71	1.60	3.63		3.66		3.66		11.72	7.8
	93.0		93.26	1.05	3.63		3.66		3.66		6.73	7.8
	94.0		92.81	1.50	0.36		0.39		0.39		0.88	7.8
	96.0		91.31	3.00	0.94	1.57	0.97	1.60	1.28		7.69	7.8
	98.0		91.26	3.05	2.41	2.82	2.44	2.85	2.65		20.18	7.8
	101.0		91.06	3.25	1.39	4.36	1.42	4.39	2.90		28.32	7.8
	104.0		91.31	3.00	0.79	2.79	0.81	2.82	1.82		16.36	7.8
	107.0		91.71	2.60	1.23	2.67	1.26	2.70	1.98	10	10.90	7.8
	108.3		91.96	2.35	0.20		0.25		0.25		0.73	7.6
	109.5		92.26	2.05	0.16	1.34	0.21	1.37	0.79	15	2.12	7.6
	111.0		92.91	1.40	0.13	1.11	0.18	1.14	0.66		1.30	7.6
	112.3		93.51	0.80	0.03		0.09		0.09		0.10	7.6
RWE	113.9		94.31	0.00	0.00		0.00		0.00		0.00	7.9
RWP	119.6		97.97									

30-Aug-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
	-5.0	16.80	98.10									7.2
	1.0	17.48	97.42									2.1
	5.0	17.08	97.82									7.1
	14.0	20.34	94.56									6.1
	20.0	20.75	94.15									7.6
	21.0	18.99	95.91									7.6
	23.0	20.19	94.71									7.6
	26.0	17.69	97.21									7.6
	28.7		94.06	0.00	0.00		0.00		0.00		0.00	7.8
	29.0		93.41	0.65	0.00		0.00		0.00		0.00	7.6
	31.0		93.56	0.50	0.00		0.00		0.00		0.00	7.6
	34.0		93.61	0.45	0.00		0.00		0.00		0.00	7.6
	38.0		93.06	1.00	0.05		0.08		0.08		0.35	7.6
	43.0		92.86	1.20	0.45		0.55		0.55		2.97	7.8
	47.0		92.76	1.30	1.02		1.19		1.19		4.63	7.8
	49.0		92.71	1.35	1.52		1.76		1.76		3.80	7.8
	50.2		92.36	1.70	0.13		0.20		0.20		0.83	7.8
	54.0		92.91	1.15	0.11		0.17		0.17		0.56	7.8
	56.0		93.06	1.00	2.95		3.39		3.39		6.79	7.8
	58.0		92.96	1.10	1.75		2.02		2.02		5.56	7.8
	61.0		92.06	2.00	2.63		3.02		3.02		12.10	7.6
	62.0		91.56	2.50	1.96	2.57	2.26	2.96	2.61		13.03	7.6
	65.0		91.06	3.00	2.20	2.73	2.53	3.14	2.83		31.89	7.6
	69.5		91.46	2.60	0.62	1.56	0.74	1.80	1.27		10.41	8.7
	71.3		91.81	2.25	0.64		0.76		0.76		4.28	8.7
	74.5		92.06	2.00	0.24		0.32		0.32		1.77	8.7
	76.8		92.06	2.00	0.33		0.42		0.42		0.96	8.7
	78.7		94.08	-0.02								7.8
	80.4		95.06	-1.00								7.8
	81.5		94.36	-0.30								7.8
	82.5		92.16	1.90	3.02		3.47		3.47		6.60	7.8
	84.5		92.06	2.00	3.59		4.13		4.13		12.39	7.8
	85.5		92.06	2.00	0.45		0.55		0.55		2.48	7.8
	89.0		91.96	2.10	-0.20		-0.28		-0.28		-1.46	7.8
	90.5		92.56	1.50	3.10		3.57		3.57		10.70	7.8
	93.0		93.26	0.80	3.25		3.74		3.74		5.23	7.8
	94.0		92.76	1.30	0.47		0.57		0.57		1.11	7.8
	96.0		91.26	2.80	0.87	1.46	1.02	1.69	1.35		7.58	7.8
	98.0		91.46	2.60	2.86		3.29		3.29		21.38	7.8
	101.0		91.16	2.90	2.48	3.07	2.85	3.53	3.19		27.76	7.8
	104.0		91.26	2.80	1.14	2.25	1.32	2.59	1.96		16.43	7.8
	107.0		91.86	2.20	1.59		1.84		1.84		8.70	7.8
	108.3		91.86	2.20	0.30		0.38		0.38		1.06	7.6
	109.5		92.46	1.60	-0.05	0.35	-0.08	0.44	0.18		0.39	7.6
	111.0		92.96	1.10	0.05	0.25	0.08	0.33	0.21		0.32	7.6
	112.3		93.46	0.60	0.11		0.17		0.17		0.12	7.6
RWE	113.3		94.06	0.00	0.00		0.00		0.00		0.00	7.9
	115.0	20.38	94.52									1.7
	117.0	18.73	96.17									1.6
RWP	119.6	16.93	97.97									1.6
	123.0	15.41	99.49									4.3

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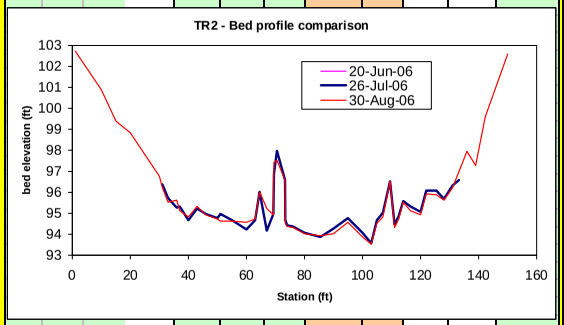
Stream:	Sprague River		20-Jun-06												26-Jul-06												30-Aug-06											
Site:	642		Sta	FS	Ground	Depth	Vel (ft/s)					q		Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q		Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q	
Transect:	2		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(deg)	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Cascade																																				
																									LWP	1.0	4.96	102.73								1.2
Survey	HI	Q																								10.0	6.80	100.89								1.2
Date	(ft)	(cfs)																								15.0	8.30	99.39								1.2
6/20/2006	102.90																									20.0	8.85	98.84								1.1
7/26/2006	102.63	262.6												1.0												30.0	10.92	96.77								1.1
8/30/2006	107.69	201.6												31.0		96.38	0.20	0.00		0.00		0.00		0.00	7.2	LWE	31.0		96.23	0.00	0.00		0.00		0.00		0.00	7.2
														33.0		95.73	0.85	0.05		0.15		0.15		0.31	7.2		33.0		95.53	0.70	0.20		0.28		0.28		0.49	7.2
														36.0		95.28	1.30	0.61		0.63		0.63		1.64	7.2		36.0		95.63	0.60	0.41		0.51		0.51		0.61	7.2
														37.0		95.33	1.25	0.90		0.93		0.93		2.31	7.2		37.0		95.13	1.10	0.61		0.73		0.73		1.60	7.2
														40.0		94.68	1.90	1.22		1.25		1.25	15	6.88	8.7		40.0		94.83	1.40	1.67		1.93		1.93		8.10	8.7
														43.0		95.23	1.35	1.09		1.12		1.12		4.53	7.8		43.0		95.33	0.90	0.25		0.33		0.33		0.90	7.8
														46.0		94.98	1.60	0.15		0.20		0.20	45	0.81	7.8		46.0		94.93	1.30	0.07		0.11		0.11		0.50	7.8
														50.0		94.78	1.80	0.72		0.74		0.74		3.34	7.8		50.0		94.73	1.50	0.87		1.02		1.02		3.81	7.8
														51.0		94.98	1.60	1.69		1.72		1.72		6.87	7.8		51.0		94.63	1.60	1.36		1.58		1.58	75	6.09	7.8
														55.0		94.68	1.90	1.25		1.28		1.28	20	10.27	8.7		55.0		94.63	1.60	0.73		0.86		0.86	45	4.38	8.7
														60.0		94.23	2.35	0.90		0.93		0.93		8.70	8.7		60.0		94.58	1.65	0.53		0.64		0.64		4.19	8.7
														63.0		94.68	1.90	0.53		0.55		0.55		2.34	7.8		63.0		94.73	1.50	1.35		1.57		1.57		5.28	7.8
														64.5		96.03	0.55	3.49		3.52		3.52		3.88	7.8		64.5		96.03	0.20	2.47		2.84		2.84		1.14	7.8
														67.0		94.18	2.40	2.27		2.30		2.30		13.25	7.8		67.0		95.23	1.00	2.45		2.82		2.82		6.76	7.8
														69.3		94.98	1.60	2.17		2.20		2.20	20	3.80	7.8		69.3		94.93	1.30	2.85		3.28		3.28		4.90	7.8
														69.5		96.88	-0.30								7.8		69.5		97.43	-1.20								7.8
														70.5		97.98	-1.40								7.8		70.5		97.53	-1.30								7.8
														73.3		96.58	0.00	0.00		0.00		0.00		0.00	7.8		73.3		96.58	-0.35								7.8
														73.4		94.68	1.90	0.51		0.53		0.53		0.35	7.8		73.4		94.53	1.70	0.91		1.06		1.06		0.54	7.8
														74.0		94.43	2.15	1.15		1.18		1.18	15	3.18	7.8		74.0		94.38	1.85	3.65		4.20		4.20		10.09	7.8
														76.0		94.38	2.20	4.25	0.27	4.28	0.31	2.30	45	10.72	7.8		76.0		94.33	1.90	0.25	2.64	0.33	3.04	1.68	45	6.79	7.8
														80.0		94.08	2.50	1.26	0.44	1.29	0.46	0.88		10.41	7.8		80.0		94.03	2.20	0.87		1.02		1.02		10.62	7.8
														85.5		93.88	2.70	1.56	1.28	1.59	1.31	1.45		19.56	7.8		85.5		93.93	2.30	1.72		1.99		1.99		22.84	7.8
														90.0		94.28	2.30	2.69		2.72		2.72		29.74	7.8		90.0		94.03	2.20	0.19	1.20	0.27	1.39	0.83		8.67	7.8
														95.0		94.78	1.80	3.71	0.80	3.74	0.82	2.28		20.55	7.8		95.0		94.58	1.65	0.20	3.43	0.28	3.94	2.11		17.42	7.8
														100.0		94.08	2.50	2.69	0.11	2.72	0.16	1.44		14.41	7.8		100.0		93.88	2.35	2.22		2.55		2.55		24.00	7.8
														103.0		93.58	3.00	4.00	2.04	4.03	2.07	3.05		22.88	7.8		103.0		93.53	2.70	1.14	2.98	1.32	3.43	2.38		16.04	7.8
														105.0		94.68	1.90	2.66		2.69		2.69		10.23	7.8		105.0		94.53	1.70	2.39		2.75		2.75		9.34	7.8
														107.0		95.03	1.55	3.69		3.72		3.72	25	11.77	7.8		107.0		94.83	1.40	3.47		3.99		3.99		5.59	7.8
														109.5		96.53	0.05	0.01		0.03		0.03		0.00	7.8		109.5		96.53	-0.30								7.8
														111.0		94.48	2.10	1.88		1.91		1.91		6.01	7.8		111.0		94.33	1.90	1.20		1.39		1.39		1.99	7.8
														112.5		94.88	1.70	3.72		3.75		3.75		9.57	7.8		112.5		94.73	1.50	2.81		3.23		3.23		7.27	7.8
														114.0		95.58	1.00	2.27		2.30		2.30		4.60	7.8		114.0		95.53	0.70	2.71		3.12		3.12	65	3.95	7.8
														116.5		95.33	1.25	2.73		2.76		2.76		10.36	7.8		116.5		95.13	1.10	1.51		1.75		1.75		5.77	7.8
														120.0		95.08	1.50	0.16		0.21		0.21		0.88	7.8		120.0		94.93	1.30	0.32		0.41		0.41		1.46	7.8
														122.0		96.08	0.50	1.73		1.76		1.76		2.42	7.8		122.0		95.93	0.30	0.15		0.22		0.22	180	0.00	7.8
														125.5		96.08	0.50	2.07		2.10		2.10		3.15	7.6		125.5		95.88	0.35	0.31		0.40		0.40	120	0.36	7.6
														128.0		95.68	0.90	0.80		0.82		0.82		2.04	7.6		128.0		95.63	0.60	0.05		0.08		0.08		0.13	7.6
														131.0		96.33	0.25	1.32		1.35		1.35	15	0.85	7.6	RWE	131.0		96.23	0.00	0.00		0.00		0.00		0.00	7.6
														133.2		96.58	0.00	0.00		0.00		0.00		0.00	7.6		136.0	9.74	97.95								7.9
														142.3													139.0	10.41	97.28								7.1
																										RWP	142.3	8.10	99.59								6.1
																											150.0	5.10	102.59								3.5

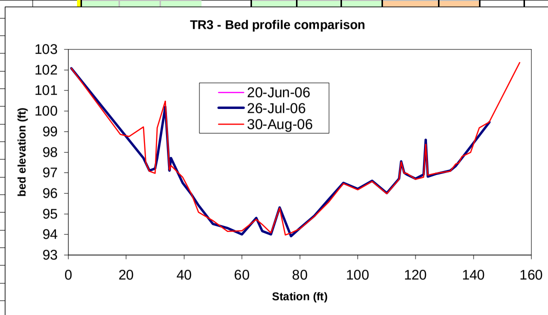


* - Estimated velocity

Stream:	Sprague River	
Site:	642	
Transect:	3	
Habitat:	Cascade	
Survey Date	HI (ft)	Q (cfs)
6/20/2006	102.90	
7/26/2006	102.63	280.9
8/30/2006	107.69	256.4
8/30/2006	115.43	

20-Jun-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	q (cfs)	substrate



26-Jul-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
LWP	1.0		102.08									
LWE	26.0		97.71	0.00	0.00		0.00		0.00		0.00	7.7
	28.0		97.11	0.60	0.00		0.00		0.00		0.00	8.2
	30.0		97.21	0.50	0.00		0.00		0.00		0.00	8.2
	30.7		97.71	0.00	0.00		0.00		0.00		0.00	8.2
	33.5		100.21	-2.50								8.2
	35.0		97.11	0.60	0.01		0.03		0.03		0.00	8.2
	35.5		97.71	0.00	0.00		0.00		0.00		0.00	9.2
	39.5		96.51	1.20	0.05		0.15		0.15		0.61	8.2
	42.5		95.96	1.75	0.30		0.34		0.34		1.62	7.9
	45.0		95.41	2.30	0.22		0.27		0.27		2.31	8.4
	50.0		94.51	3.20	0.21	0.03	0.26	0.09	0.17		2.76	7.8
	55.0		94.31	3.40	1.54	0.80	1.57	0.82	1.20		20.34	7.8
	60.0		94.01	3.70	0.42	0.41	0.45	0.44	0.44		8.18	7.8
	65.0		94.81	2.90	2.47	0.19	2.50	0.24	1.37	15	13.44	7.8
	67.0		94.16	3.55	2.91	0.32	2.94	0.35	1.65	15	14.12	7.8
	70.0		94.01	3.70	4.19	0.40	4.22	0.43	2.32	15	24.92	7.8
	73.0		95.31	2.40	1.14		1.17		1.17		9.81	7.8
	77.0		93.91	3.80	2.67	0.19	2.70	0.24	1.47		19.57	7.8
	80.0		94.31	3.40	1.85	0.55	1.88	0.57	1.22		16.63	7.8
	85.0		94.91	2.80	3.94	1.59	3.97	1.62	2.80		39.13	7.8
	90.0		95.71	2.00	0.31	0.03	0.34	0.09	0.22		2.16	7.8
	95.0		96.51	1.20	1.02		1.05		1.05		6.28	8.6
	100.0		96.21	1.50	3.82		3.85		3.85		28.89	8.6
	105.0		96.61	1.10	2.56		2.59		2.59		14.25	8.6
	110.0		96.01	1.70	3.51		3.54		3.54		28.01	8.6
	114.3		96.71	1.00	1.76		1.79		1.79		4.47	8.6
	115.0		97.56	0.15	2.05		2.08		2.08		0.27	8.6
	116.0		97.01	0.70	0.15		0.20		0.20		0.14	8.6
	117.0		96.91	0.80	2.00		2.03		2.03		3.25	8.6
	120.0		96.71	1.00	3.80		3.83		3.83		11.11	8.6
	122.8		96.91	0.80	1.63		1.66		1.66	45	1.31	8.6
	123.5		98.61	-0.90								8.6
	124.2		96.81	0.90	0.49		0.51		0.51		0.64	8.6
	127.0		96.94	0.77	1.30		1.33		1.33		3.99	6.7
	132.0		97.11	0.60	1.20		1.23		1.23		2.51	6.5
	133.8		97.33	0.38	0.15		0.20		0.20		0.16	6.2
RWE	136.0		97.71	0.00	0.00		0.00		0.00		0.00	6.5
	145.5		99.47									

30-Aug-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
LWP	1.0	5.61	102.08									2.1
	18.0	8.83	98.86									1.2
	21.0	8.92	98.77									7.1
	26.0	8.46	99.23									7.7
LWE	26.8		97.48	0.00	0.00		0.00		0.00		0.00	8.2
	28.0		97.08	0.40	0.00		0.00		0.00		0.00	8.2
	30.0		96.98	0.50	0.00		0.00		0.00		0.00	8.2
	30.7		99.18	-1.70								8.2
	33.5		100.48	-3.00								8.2
	35.0		97.13	0.35	0.00		0.00		0.00		0.00	8.2
	35.5		97.35	0.13	0.00		0.00		0.00		0.00	9.2
	39.5		96.78	0.70	0.11		0.17		0.17		0.42	8.2
	42.5		95.98	1.50	0.31		0.40		0.40		1.63	7.9
	45.0		95.08	2.40	0.11		0.17		0.17		1.52	8.4
	50.0		94.68	2.80	0.07	0.18	0.11	0.25	0.18		2.54	7.8
	55.0		94.15	3.33	0.48	0.01	0.58	0.02	0.30		4.97	7.8
	60.0		94.18	3.30	0.90	1.01	1.05	1.18	1.11		18.35	7.8
	65.0		94.73	2.75	0.38	1.43	0.47	1.66	1.07		10.26	7.8
	67.0		94.48	3.00	1.53	3.72	1.77	4.28	3.02		22.68	7.8
	70.0		94.08	3.40	0.80	3.95	0.94	4.54	2.74		27.95	7.8
	73.0		95.28	2.20	1.05		1.22		1.22		6.72	7.8
	75.0		93.98	3.50	0.70	2.26	0.83	2.60	1.71		11.99	7.8
	77.0		94.08	3.40	0.40	2.05	0.50	2.36	1.43		12.14	7.8
	80.0		94.28	3.20	0.15	3.30	0.22	3.80	2.01		25.69	7.8
	85.0		94.88	2.60	1.20	2.20	1.39	2.53	1.96		25.50	7.8
	90.0		95.58	1.90	0.40		0.50		0.50		4.72	7.8
	95.0		96.48	1.00	1.71		1.97		1.97		9.87	8.6
	100.0		96.18	1.30	3.37		3.88		3.88		25.19	8.6
	105.0		96.58	0.90	1.30		1.51		1.51		6.79	8.6
	110.0		95.98	1.50	2.68		3.08		3.08		21.50	8.6
	114.3		96.68	0.80	1.24		1.44		1.44		2.48	8.6
	115.0		97.53	-0.05								8.6
	116.0		96.98	0.50	0.91		1.06		1.06		0.27	8.6
	117.0		96.98	0.50	2.15		2.47		2.47		2.47	8.6
	120.0		96.68	0.80	3.00		3.45		3.45		8.00	8.6
	122.8		96.78	0.70	0.45		0.55		0.55	125	0.44	8.6
	123.5		98.38	-0.90								8.6
	124.2		96.88	0.60	0.35		0.44		0.44		0.37	8.6
	127.0		96.98	0.50	0.79		0.93		0.93		1.81	6.7
	132.0		97.08	0.40	0.05		0.08		0.08		0.11	6.5
	133.8		97.43	0.05	0.00		0.00		0.00		0.00	6.2
RWE	135.0		97.48	0.00	0.00		0.00		0.00		0.00	6.5
	136.0	17.64	97.79									6.5
	139.0	17.44	97.99									1.2
	142.0	16.25	99.18									1.2
RWP	145.4	15.96	99.47									1.2
	156.0	13.07	102.36									6.1

Ex. 280-US-427
Page 4 of 14

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       Sprague River  SP_2 07/26/06
Cascade                     Mid                                    TRANSECT 1
IOC       11011000000001000101000
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     91.06   0.01250
       0.0 -5.098.10  1.097.42  5.097.82 14.094.56 20.094.15 21.095.91
       0.0 23.094.71 26.097.21 28.493.96 29.093.51 31.093.61 34.093.71
       0.0 38.093.31 43.092.96 47.092.76 49.092.71 50.292.21 54.093.04
       0.0 56.092.61 58.093.11 61.092.46 62.091.21 65.090.96 69.591.51
       0.0 71.391.81 74.592.31 76.892.26 78.794.31 80.494.91 81.594.31
       0.0 82.592.31 84.592.01 85.591.86 89.091.86 90.592.71 93.093.26
       0.0 94.092.81 96.091.31 98.091.26101.091.06104.091.31107.091.71
       0.0108.391.96109.592.26111.092.91112.393.51113.994.31115.094.52
       0.0117.096.17119.697.97123.099.49
NS     0.0       7.2       2.1       7.1       6.1       7.6       7.6
NS     0.0       7.6       7.6       7.8 .4    7.6 .4    7.6 .4    7.6
NS     0.0  .35  7.6 .3    7.8 .25   7.8 .11   7.8 0.32  7.8 0.5   7.8
NS     0.0       7.8       7.8       7.6       7.6       7.6       8.7
NS     0.0       8.7       8.7 0.5   8.7 0.2   7.8 0.2   7.8 0.08  7.8
NS     0.0 .09   7.8       7.8 .4    7.8 0.25  7.8 .07   7.8 .052  7.8
NS     0.0 .20   7.8 .15   7.8       7.8       7.8       7.8       7.8
NS     0.0       7.6       7.6       7.6 0.3   7.6       7.9       1.7
NS     0.0       1.6       1.6       4.3
CAL1   0.0     94.31     262.7
VEL1   0.0                                          0.15 0.16 0.15 0.15
VEL1   0.0 0.15 0.48 0.74 2.36 0.52 0.19 2.21 1.55 3.32 2.49 2.89 1.81
VEL1   0.0 1.52 0.56 0.16 0.00      0.00 3.54 3.67 0.35 0.67 3.66 3.66
VEL1   0.0 0.39 1.28 2.65 2.90 1.82 1.98 0.25 0.79 0.66 0.09 0.00
VEL1   0.0
CAL2   0.0     94.06     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.96     551.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       Sprague River  SP_2 07/26/06
Cascade                     Mid                                    TRANSECT 2
IOC       11011000000001000101000
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     93.53   0.01250
       0.0  1.0102.7 10.0100.9 15.099.39 20.098.84 30.096.77 31.096.38
       0.0 33.095.73 36.095.28 37.095.33 40.094.68 43.095.23 46.094.98
       0.0 50.094.78 51.094.98 55.094.68 60.094.23 63.094.68 64.596.03
       0.0 67.094.18 69.394.98 69.596.88 70.597.98 73.396.58 73.494.68
       0.0 74.094.43 76.094.38 80.094.08 85.593.88 90.094.28 95.094.78
       0.0100.094.08103.093.58105.094.68107.095.03109.596.53111.094.48
       0.0112.594.88114.095.58116.595.33120.095.08122.096.08125.596.08
       0.0128.095.68131.096.33133.296.58136.097.95139.097.28142.399.59
       0.0150.0102.6
NS     0.0       1.2       1.2       1.2       1.1       1.1       7.2
NS     0.0 .35   7.2       7.2       7.2       8.7       7.8 0.5   7.8
NS     0.0       7.8       7.8       8.7       8.7 .25   7.8 .05   7.8
NS     0.0       7.8       7.8       7.8       7.8       7.8       7.8
NS     0.0       7.8       7.8       7.8       7.8       7.8       7.8
NS     0.0 .15   7.8  .08  7.8       7.8       7.8 .08   7.8 .08   7.8
NS     0.0       7.8       7.8       7.8 .30   7.8       7.8       7.6
NS     0.0       7.6 .4    7.6       7.6       7.9       7.1       6.1
NS     0.0       3.5
CAL1   0.0     96.58     262.7
VEL1   0.0                          0.00 0.15 0.63 0.93 1.25 1.12 0.20
VEL1   0.0 0.74 1.72 1.28 0.93 0.55 3.52 2.30 2.20           0.00 0.53
VEL1   0.0 1.18 2.30 0.88 1.45 2.72 2.28 1.44 3.05 2.69 3.72 0.03 1.91
VEL1   0.0 3.75 2.30 2.76 0.21 1.76 2.10 0.82 1.35 0.00
VEL1   0.0
CAL2   0.0     96.43     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     97.34     551.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       Sprague River  SP_2 07/26/06
Cascade                     Mid                                    TRANSECT 3
IOC       1101100000001000101000
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     93.98   0.01250
       0.0  1.0102.1 18.098.86 21.098.77 26.097.71 28.097.11 30.097.21
       0.0 30.797.71 33.5100.2 35.097.11 35.597.71 39.596.51 42.595.96
       0.0 45.095.41 50.094.51 55.094.31 60.094.01 65.094.81 67.094.16
       0.0 70.094.01 73.095.31 77.093.91 80.094.31 85.094.91 90.095.71
       0.0 95.096.51100.096.21105.096.61110.096.01114.396.71115.097.56
       0.0116.097.01117.096.91120.096.71122.896.91123.598.61124.296.81
       0.0127.096.94132.097.11133.897.33136.097.71145.499.47156.0102.4
NS     0.0       2.1       1.2       7.1       7.7       8.2       8.2
NS     0.0       8.2       8.2       8.2       9.2       8.2       7.9
NS     0.0 0.7   8.4 0.8   7.8       7.8 .5    7.8       7.8       7.8
NS     0.0       7.8       7.8       7.8       7.8       7.8 .35   7.8
NS     0.0       8.6 .062  8.6       8.6       8.6       8.6 .045  8.6
NS     0.0 .2    8.6       8.6 .046  8.6       8.6       8.6 .1    8.6
NS     0.0       6.7       6.5 .2    6.2       6.5       1.2       6.1
CAL1   0.0     97.71     262.7
VEL1   0.0                0.00 0.00 0.00 0.00      0.00 0.03 0.15 0.34
VEL1   0.0 0.27 0.17 1.20 0.44 1.37 1.65 2.32 1.17 1.47 1.22 2.80 0.22
VEL1   0.0 1.05 3.85 2.59 3.54 1.79 2.08 0.20 2.03 3.83 1.66      0.51
VEL1   0.0 1.33 1.23 0.20 0.00
CAL2   0.0     97.48     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     98.33     551.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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Stream: Sprague River
Site: 642
Date: 6/20/2006
Habitat: Riffle **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.10	104.10		100.00
HP3			2.86	101.24
HP2			4.18	99.92
HP1			3.80	100.30
TP				
HP1	4.02	104.32		
BM			4.32	100.00
HP2			4.40	99.92
HP3			3.09	101.23

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	104.32	10.35	0.36	94.33	94.32	
1-R	0			11.62	1.60	94.30		
2-L	143	135	104.32	9.81	0.43	94.94	94.92	
2-R	127			11.07	1.64	94.89		
3-L	360	386	104.32	8.63	0.72	96.41	96.45	
3-R	412			9.63	1.79	96.48		551.6
							Ave Q=	551.6

Note:
WSE slope = 0.552%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

Date: 7/26/2006
Habitat: Riffle **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	3.43	103.43		100.00
HP2			3.51	99.92
HP1			3.11	100.32
HP3			2.20	101.23
TP				
HP3	2.29	103.52		
HP2			3.60	99.92
HP1			3.20	100.32
BM			3.52	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	103.52	10.25	0.49	93.76	93.76	
1-R	0			10.80	1.04	93.76		268.4
2-L	143	135	103.52	9.79	0.55	94.28	94.33	
2-R	127			9.70	0.55	94.37		265.4
3-L	360	386	103.52	8.46	0.89	95.95	95.93	
3-R	412			9.07	1.45	95.90		240.7
							Ave Q=	258.2

Note:
WSE slope = 0.561%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

Date: 8/30/2006
Habitat: Riffle **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
HP3	9.56	110.79		101.23
TP-BM			10.79	100.00
BM	8.45	108.45		
HP2			8.53	99.92
TP			8.14	100.31
HP1	8.10	108.41		
BM			8.41	100.00
TP			8.49	99.92
HP2	10.85	110.77		
HP3			9.54	101.23

Comment:

(2) Water Surface Elevation (WSE) Survey

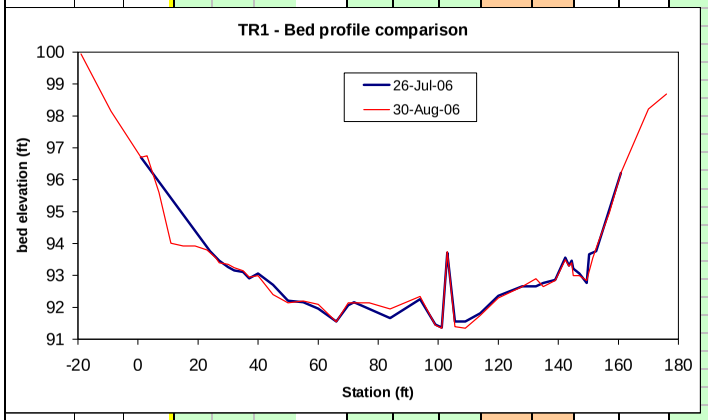
TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	106.06	12.78	0.29	93.57	93.55	
1-R	0			12.95	0.41	93.52		207
2-L	143	135	103.23	9.45	0.31	94.09	94.14	
2-R	127			9.44	0.40	94.19		198.9
3-L	360	386	109.78	14.73	0.70	95.75	95.74	
3-R	412			15.48	1.42	95.72		171.2
							Ave Q=	192.4

Note:
WSE slope = 0.567%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: NA

Stream:	Sprague River		20-Jun-06												26-Jul-06												30-Aug-06												
Site:	642			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Riffle																																					
Survey Date	HI (ft)	Q (cfs)																																				
6/20/2006	104.32																																					2.1
7/26/2006	103.52	268.4																												-19.0	6.12	99.94						7.2
8/30/2006	106.06	207.1																												-9.0	7.91	98.15						2.1
															LWP	1.0		96.70											LWP	1.0	9.36	96.70						7.2
															LWE	24.0		93.76	0.00	0.00		0.00		0.00	0.00	1.2					3.0	9.31	96.75						1.2
																27.0		93.46	0.30	0.05		0.15		0.15	0.13	2.6					7.0	10.46	95.60						1.2
																30.0		93.26	0.50	0.20		0.25		0.25	0.31	5.6					11.0	12.05	94.01						1.2
																32.0		93.16	0.60	1.17		1.20		1.20	1.80	6.7					15.0	12.14	93.92						1.2
																35.0		93.11	0.65	0.01		0.03		0.03	0.05	6.7					19.0	12.14	93.92						1.2
																37.0		92.91	0.85	0.56		0.58		0.58	1.23	7.6					23.0	12.26	93.80						1.2
																40.0		93.06	0.70	1.47		1.50		1.50	4.20	6.7					25.9		93.55	0.00	0.00		0.00		0.00	2.6
																45.0		92.71	1.05	1.00		1.03		1.03	5.39	7.6					27.0		93.40	0.15	0.00		0.00		0.00	2.6
																50.0		92.21	1.55	0.65		0.67		0.67	5.20	6.7					30.0		93.35	0.20	0.18		0.25		0.25	0.13	5.6
																55.0		92.16	1.60	1.01		1.04		1.04	8.30	6.7					32.0		93.25	0.30	0.07		0.11		0.11	0.08	6.7
																60.0		91.96	1.80	1.97		2.00		2.00	19.78	6.7					35.0		93.15	0.40	0.15		0.22		0.22	6.7
																66.0		91.56	2.20	0.69		0.71		0.71	7.83	6.7					37.0		92.95	0.60	0.33		0.42		0.42	7.6
																70.0		92.06	1.70	1.52		1.55		1.55	7.90	7.6					40.0		93.00	0.55	0.94		1.09		1.09	2.41	6.7
																72.0		92.16	1.60	2.61		2.64		2.64	29.59	6.7					45.0		92.40	1.15	0.90		1.05		1.05	6.03	7.6
																84.0		91.66	2.10	1.53		1.56		1.56	36.00	7.6					50.0		92.15	1.40	0.69		0.82		0.82	5.72	6.7
																94.0		92.26	1.50	2.43		2.46		2.46	27.69	7.6					55.0		92.20	1.35	1.42		1.64		1.64	11.10	6.7
																99.0		91.46	2.30	2.70		2.73		2.73	22.62	7.6					60.0		92.10	1.45	1.62		1.87		1.87	14.93	6.7
																101.2		91.36	2.40	2.97		3.00		3.00	14.41	7.6					66.0		91.55	2.00	1.25		1.45		1.45	14.51	6.7
																103.0		93.71	0.05	0.20		0.25		0.25	0.03	7.6					70.0		92.15	1.40	1.25		1.45		1.45	11.17	7.6
																105.6		91.56	2.20	2.89		2.92		2.92	19.29	7.6					77.0		92.15	1.40	1.55		1.79		1.79	17.57	6.7
																109.0		91.56	2.20	2.00		2.03		2.03	18.74	6.7					84.0		91.95	1.60	1.30		1.51		1.51	20.51	7.6
																114.0		91.81	1.95	0.77		0.79		0.79	8.51	7.6					94.0		92.35	1.20	2.11		2.43		2.43	21.84	7.6
																120.0		92.36	1.40	0.91		0.94		0.94	9.17	6.7					99.0		91.45	2.10	2.73		3.14		3.14	23.73	7.6
																128.0		92.66	1.10	0.85		0.88		0.88	6.02	6.7					101.2		91.35	2.20	2.55		2.93		2.93	7.10	7.6
																132.5		92.66	1.10	0.10		0.16		0.16	0.61	7.6					103.0		93.75	-0.20						7.6
																135.0		92.76	1.00	1.51		1.54		1.54	5.00	6.7					105.6		91.40	2.15	1.85		2.13		2.13	7.80	7.6
																139.0		92.86	0.90	1.39		1.42		1.42	4.66	7.6					109.0		91.35	2.20	1.51		1.75		1.75	16.15	6.7
																142.3		93.56	0.20	1.36		1.39		1.39	0.63	7.6					114.0		91.75	1.80	0.86		1.01		1.01	9.95	7.6
																143.5		93.31	0.45	0.00		0.00		0.01	0.00	7.6					120.0		92.30	1.25	0.41		0.51		0.51	4.44	6.7
																144.5		93.46	0.30	0.10		0.16		0.16	0.04	7.6					128.0		92.65	0.90	0.47		0.57		0.57	3.21	6.7
																145.0		93.21	0.55	1.10		1.13		1.13	0.78	7.6					132.5		92.90	0.65	0.20		0.28		0.28	0.63	7.6
																147.0		93.06	0.70	1.07		1.10		1.10	1.73	7.6					135.0		92.65	0.90	0.85		0.99		0.99	2.91	6.7
																149.5		92.76	1.00	0.35		0.38		0.38	0.63	8.2					139.0		92.85	0.70	0.88		1.03		1.03	2.62	7.6
																150.3		93.66	0.10	0.58		0.60		0.60	0.09	9.2					142.3		93.50	0.05	0.07		0.11		0.11	0.01	7.6
																152.6		93.76	0.00	0.00		0.00		0.00	0.00	1.2					143.5		93.30	0.25	0.17		0.24		0.24	0.07	7.6
																															144.5		93.40	0.15	0.05		0.08		0.08	0.01	7.6
															RWP	160.9		96.21													145.0		93.00	0.55	0.55		0.66		0.66	0.45	7.6
																															147.0		93.00	0.55	0.63		0.75		0.75	60	0.80	7.6
																															149.5		92.85	0.70	0.19		0.27		0.27		0.42	8.2
																															RWE	151.5		93.55	0.00	0.00		0.00		0.00		0.00	9.2
																																153.0	12.10	93.96							1.2
																																157.0	11.10	94.96							2.1
																															RWP	160.9	9.85	96.21							2.1
																																170.0	7.84	98.22							2.1
																																176.0	7.37	98.69							2.1

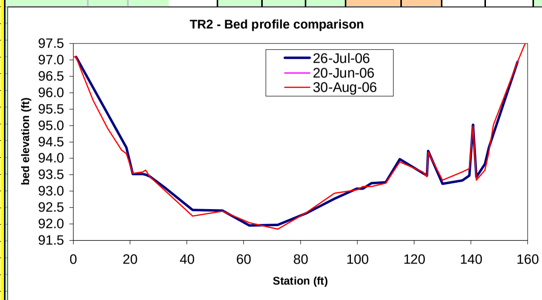


Stream: Sprague River
Site: 642
Transect: 2
Habitat: Riffle

Survey Date	HI (ft)	Q (cfs)
6/20/2006	104.32	
7/26/2006	103.52	265.4
8/30/2006	103.23	198.9

20-Jun-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	q (cfs)	substrate



26-Jul-06

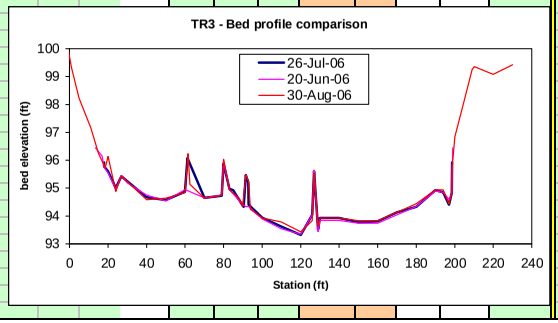
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
LWP	1.0		97.09									
LWE	18.7		94.33	0.00	0.00		0.00		0.00		0.00	6.2
	21.0		93.53	0.80	1.04		1.07		1.07		2.48	6.2
	24.5		93.53	0.80	0.61		0.63		0.63		1.13	6.7
	25.5		93.51	0.82	0.10		0.16		0.16		0.16	6.7
	27.0		93.45	0.88	0.74		0.76		0.76		2.18	6.5
	32.0		93.13	1.20	0.69		0.71		0.71		6.41	5.7
	42.0		92.43	1.90	0.60		0.62		0.62		12.08	7.6
	52.5		92.41	1.92	0.86		0.89		0.89		17.00	7.6
	62.0		91.96	2.37	3.02	0.26	3.05	0.30	1.68		38.79	6.5
	72.0		91.98	2.35	2.79		2.82		2.82		66.33	5.6
	82.0		92.33	2.00	2.00		2.03		2.03		40.57	6.7
	92.0		92.78	1.55	2.25		2.28		2.28		31.45	6.7
	99.8		93.08	1.25	1.15		1.18		1.18		7.36	6.7
	102.0		93.08	1.25	0.10		0.16		0.16		0.51	7.6
	105.0		93.25	1.08	0.97		1.00		1.00	10	4.24	7.6
	110.0		93.28	1.05	1.58		1.61		1.61	15	8.16	6.7
	115.0		93.98	0.35	1.64		1.67		1.67		4.23	7.6
	124.5		93.48	0.85	0.82		0.84		0.84	30	3.11	6.7
	125.0		94.23	0.10	0.28		0.32		0.32		0.09	6.7
	130.0		93.23	1.10	1.47		1.50		1.50		9.89	6.7
	137.0		93.33	1.00	1.28		1.31		1.31		6.22	5.6
	139.5		93.48	0.85	1.20		1.23		1.23	15	1.26	7.6
	140.8		95.03	-0.70								7.6
	142.0		93.43	0.90	0.72		0.74		0.74		1.00	7.6
	145.0		93.83	0.50	0.67		0.69		0.69		0.76	7.2
RWE	146.4		94.33	0.00	0.00		0.00		0.00		0.00	2.6
RWP	156.5		96.94									

30-Aug-06

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	Angle (deg)	q (cfs)	substrate
	-17.0	5.22	98.01									3.7
	-7.0	6.15	97.08									1.2
LWP	1.0	6.14	97.09									1.2
	3.0	6.60	96.63									3.2
	7.0	7.46	95.77									1.2
	12.0	8.31	94.92									1.2
	17.0	8.98	94.25									1.2
LWE	18.7		94.14	0.00	0.00		0.00		0.00		0.00	6.2
	21.0		93.54	0.60	0.53		0.64		0.64		1.10	6.2
	24.5		93.59	0.55	0.20		0.28		0.28		0.34	6.7
	25.5		93.64	0.50	0.17		0.24		0.24		0.15	6.7
	27.0		93.44	0.70	0.37		0.46		0.46		1.05	6.5
	32.0		93.04	1.10	0.73		0.86		0.86		7.10	5.7
	42.0		92.24	1.90	0.47		0.57		0.57		11.12	7.6
	52.5		92.39	1.75	0.65		0.77		0.77		13.50	7.6
	62.0		92.04	2.10	0.15	2.25	0.22	2.59	1.40		28.73	6.5
	72.0		91.84	2.30	2.33		2.68		2.68		61.63	5.6
	82.0		92.34	1.80	1.48		1.71		1.71		30.84	6.7
	92.0		92.94	1.20	1.77		2.04		2.04		21.82	6.7
	99.8		93.04	1.10	0.76		0.89		0.89		4.92	6.7
	102.0		93.14	1.00	0.05		0.08		0.08		0.20	7.6
	105.0		93.14	1.00	0.75		0.88		0.88		3.53	7.6
	110.0		93.24	0.90	1.27		1.47		1.47	110	6.23	6.7
	115.0		93.89	0.25	0.55		0.66		0.66		1.07	7.6
	123.0		93.59	0.55	0.44		0.54		0.54	130	1.08	6.7
	124.5		93.44	0.70	0.01		0.02		0.02		0.01	6.7
	125.0		94.19	-0.05								6.7
	130.0		93.34	0.80	0.56		0.67		0.67		1.87	6.7
	137.0		93.59	0.55	0.45		0.55		0.55		1.44	5.6
	139.5		93.69	0.45	0.70		0.83		0.83	120	0.40	7.6
	140.8		94.99	-0.85								7.6
	142.0		93.34	0.80	0.28		0.36		0.36		0.44	7.6
	145.0		93.64	0.50	0.19		0.27		0.27		0.28	7.2
RWE	146.2		94.14	0.00	0.00		0.00		0.00		0.00	2.6
	148.0	8.21	95.02									1.2
	152.0	7.29	95.94									1.2
RWP	156.5	6.29	96.94									1.2
	166.0	4.29	98.94									1.2

Ex. 280-US-427
Page 10 of 14

Stream:	Sprague River		20-Jun-06												26-Jul-06												30-Aug-06											
Site:	642			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(deg)	(cfs)	substrate
Habitat:	Riffle																																				
																												-19.0	4.92	104.86							3.2
																												-9.0	6.54	103.24							3.2
Survey	HI	Q																										1.0	10.43	99.35							3.2
Date	(ft)	(cfs)																										5.0	11.55	98.23							3.1
6/20/2006	104.32	551.6	LWP	1.0																								11.0	12.62	97.16							7.1
7/26/2006	103.52	240.7	LWE	13.4		96.45	0.00	0.00		0.00		0.00	0.00	2.7														15.0	13.54	96.24							2.1
8/30/2006	109.78	171.2		17.0		96.15	0.30	0.00		0.00		0.00	0.00	2.7	LWE	17.9		95.93	0.00	0.00		0.00		0.00		0.00	9.2	17.0	13.82	95.96							1.2
				18.0		95.75	0.70	0.00		0.00		0.00	0.00	2.1		18.0		95.78	0.15	0.05		0.15		0.15		0.02	9.2	LWE	18.6		95.74	0.00	0.00		0.00		0.00	0.00	9.2
			bldr d/s	20.0		95.55	0.90	0.90		0.93		0.93	2.50	7.2		20.0		95.61	0.32	0.00		0.00		0.00		0.00	9.7		20.0		96.14	-0.40							9.7
			bldr d/s	24.0		94.95	1.50	0.25		0.30		0.30	1.55	7.2		24.0		95.01	0.92	0.25		0.30		0.30	80	0.17	7.2		24.0		94.89	0.85	-0.01		-0.02		-0.02	185	0.00	7.2
			bldr u/s	27.0		95.45	1.00	0.00		0.00		0.01	0.03	7.6		27.0		95.43	0.50	1.03		1.06		1.06	45	1.12	7.2		27.0		95.44	0.30	0.00		0.00		0.00		0.00	7.2
				30.0		95.20	1.25	1.91		1.94		1.94	15.74	6.7		30.0		95.25	0.68	0.83		0.85		0.85		3.78	6.7		30.0		95.24	0.50	0.51		0.61		0.61	100	1.96	6.7
				40.0		94.75	1.70	2.6		2.63		2.63	44.74	6.7		40.0		94.68	1.25	1.55	0.50	1.58	0.52	1.05		13.10	6.7		40.0		94.59	1.15	0.78		0.92		0.92		10.54	6.7
			bldr d/s	50.0		94.55	1.90	1.44		1.47		1.47	27.91	6.7		50.0		94.58	1.35	0.73		0.75		0.75		10.16	6.7		50.0		94.64	1.10	0.34		0.43		0.43		4.73	6.7
			bdr u/s	60.0		94.95	1.50	0.44		0.46		0.46	6.97	7.6		60.0		94.88	1.05	0.37		0.40		0.40		2.10	6.7		60.0		94.84	0.90	-0.13		-0.20		-0.20		-0.88	6.7
				70.0		94.65	1.80	2.21		2.24		2.24	38.30	6.7		61.2		96.08	-0.15								6.7		61.5		96.24	-0.50								6.7
				79.0		94.75	1.70	1.36		1.39		1.39	11.81	6.7		70.0		94.66	1.27	1.96		1.99		1.99		11.36	6.5		62.5		95.14	0.60	0.65		0.77		0.77		1.74	6.7
			top of bdr	80.0		95.95	0.50	2.43		2.46		2.46	2.46	7.6		79.0		94.73	1.20	0.95		0.98		0.98		5.86	6.7		70.0		94.64	1.10	0.87		1.02		1.02		9.22	6.5
				83.0		94.95	1.50	2.37		2.40		2.40	18.01	6.7		80.0		95.88	0.05	0.93		0.96		0.96		0.10	6.7		79.0		94.74	1.00	0.36		0.45		0.45		2.04	6.7
			bdr u/s	90.0		94.40	2.05	0.05		0.15		0.15	1.27	6.7		83.0		94.98	0.95	1.20		1.23		1.23		2.92	6.5		80.0		96.04	-0.30								6.7
				91.5		94.35	2.10	0.94		0.97		0.97	3.04	7.6		85.0		94.93	1.00	1.94		1.97		1.97	30	5.97	6.5		83.0		94.94	0.80	0.21		0.29		0.29		0.58	6.5
				93.0		94.35	2.10	1.11		1.14		1.14	10.16	6.5		90.0		94.38	1.55	0.05		0.15		0.15		0.62	6.7		88.0		94.64	1.10	1.37		1.59		1.59		6.11	7.6
				100.0		93.90	2.55	1.50	0.50	1.53	0.52	1.02	22.18	6.5		90.5		94.33	1.60	0.05		0.15		0.15		0.17	6.7		90.0		94.36	1.38	-0.47		-0.57		-0.57		-1.38	6.7
				110.0		93.55	2.90	1.74	0.64	1.77	0.66	1.21	35.20	6.5		91.5		95.48	0.45	0.00		0.00		0.00		0.00	7.6		91.5		95.49	0.25	-0.22		-0.30		-0.30		-0.11	7.6
				120.0		93.35	3.10	1.50	1.19	1.53	1.22	1.37	34.07	6.7		92.9		95.21	0.72	0.17		0.22		0.22		0.12	7.6		93.0		95.24	0.50	0.05		0.08		0.08		0.05	7.6
				126.0		94.05	2.40	1.58		1.61		1.61	13.51	7.6		93.0		94.41	1.52	0.51		0.53		0.53		2.85	7.6		94.0		94.24	1.50	0.05		0.08		0.08		0.41	7.6
				127.0		95.65	0.80	2.25		2.28		2.28	2.74	7.6		100.0		93.95	1.98	0.82	0.50	0.84	0.52	0.68		11.46	6.5		100.0		93.94	1.80	0.04	0.92	0.06	1.07	0.57		8.16	6.5
				129.0		93.45	3.00	2.31	0.64	2.34	0.66	1.50	6.75	6.7		110.0		93.63	2.30	0.74		0.76		0.76		17.55	4.5		110.0		93.79	1.95	0.91		1.06		1.06		20.67	4.5
				130.0		93.85	2.60	2.66	1.51	2.69	1.54	2.12	30.25	6.5		120.0		93.33	2.60	1.04	0.18	1.07	0.23	0.65		13.51	4.5		120.0		93.44	2.30	0.46		0.56		0.56		10.32	4.5
				140.0		93.85	2.60	2.20	1.41	2.23	1.44	1.83	47.69	6.5		126.0		94.05	1.88	0.82		0.84		0.84		5.56	6.5		126.0		93.84	1.90	0.95		1.11		1.11		7.36	6.5
			bldrs u/s	150.0		93.75	2.70	2.09	0.44	2.12	0.46	1.29	34.88	6.7		127.0		95.61	0.32	0.69		0.71		0.71		0.34	6.7		127.0		95.54	0.20	0.35		0.44		0.44		0.13	6.7
				160.0		93.75	2.70	2.50	1.19	2.53	1.22	1.88	50.63	6.5		129.0		93.53	2.40	0.72		0.74		0.74		2.67	6.7		129.0		93.64	2.10	1.05		1.22		1.22		3.85	6.7
				170.0		94.05	2.40	1.30		1.33		1.33	31.90	6.7		130.0		93.93	2.00	1.65		1.68		1.68		18.45	6.7		130.0		93.94	1.80	1.22		1.42		1.42		14.02	6.7
				180.0		94.35	2.10	1.23		1.26		1.26	26.43	6.7		140.0		93.93	2.00	0.88		0.91		0.91		18.11	6.7		140.0		93.94	1.80	0.17		0.24		0.24		4.35	6.7
				190.0		94.90	1.55	1.84		1.87		1.87	20.26	6.5		150.0		93.78	2.15	0.78		0.80		0.80		17.28	7.6		150.0		93.84	1.90	0.23	0.78	0.31	0.92	0.61		11.67	7.6
				194.0		94.85	1.60	1.50		1.53		1.53	8.56	6.7		160.0		93.81	2.12	1.36		1.39		1.39		29.45	6.7		160.0		93.84	1.90	0.82		0.96		0.96		18.27	6.7
				197.0		94.60	1.85	0.48		0.50		0.50	2.08	5.4		170.0		94.13	1.80	0.76		0.78		0.78		14.10	5.6		170.0		94.14	1.60	0.46		0.56		0.56		8.97	5.6
				198.5		94.80	1.65	0.00		0.00		0.00	0.00	2.1		180.0		94.33	1.60	0.16	1.81	0.21	1.84	1.03		16.41	5.6		180.0		94.44	1.30	1.10		1.28		1.28		16.62	5.6
				199.0		96.45	0.00	0.00		0.00		0.00	0.00	2.1		190.0		94.93	1.00	1.09		1.12		1.12		7.83	6.5		190.0		94.94	0.80	0.98		1.14		1.14		6.39	6.5
			RWP	210.2												194.0		94.85	1.08	1.29		1.32		1.32		4.99	4.6		194.0		94.94	0.80	1.13		1.31		1.31		3.68	4.6
																197.0		94.41	1.52	0.69		0.71		0.71		2.44	4.6		197.0		94.44	1.30	0.51		0.61		0.61		1.79	4.6
																198.5		94.83	1.10	0.05		0.15		0.15		0.13	4.6		198.5		94.84	0.90	0.00		0.00		0.00		0.00	4.6
															RWE	198.6		95.93	0.00	0.00		0.00		0.00		0.00	9.2	RWE	198.6		95.74	0.00	0.00		0.00		0.00		0.00	9.2
																												200.0	12.94	96.84							2.1
																												205.0	11.61	98.17							1.2
																												209.0	10.52	99.26							1.2
																												210.2	10.42	99.36							1.2
																												220.0	10.70	99.08							1.2
																												230.0	10.36	99.42							1.2



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      Sprague River  SP_2 07/26/06
Riffle                        MID                                TRANSECT 1
IOC       11011000000010001010 00
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     91.36   0.00560
       0.0-19.099.94 -9.098.15  1.096.70  3.096.75  7.095.60 11.094.01
       0.0 15.093.92 19.093.92 23.093.80 24.093.76 27.093.46 30.093.26
       0.0 32.093.16 35.093.11 37.092.91 40.093.06 45.092.71 50.092.21
       0.0 55.092.16 60.091.96 66.091.56 70.092.06 72.092.16 84.091.66
       0.0 94.092.26 99.091.46101.291.36103.093.71105.691.56109.091.56
       0.0114.091.81120.092.36128.092.66132.592.66135.092.76139.092.86
       0.0142.393.56143.593.31144.593.46145.093.21147.093.06149.592.76
       0.0150.393.66152.693.76153.093.96157.094.96160.996.21170.098.22
       0.0176.098.69
NS     0.0       2.1       7.2       2.1       7.2       1.2       1.2
NS     0.0       1.2       1.2       1.2       1.2 .1    2.6 .1    5.6
NS     0.0       6.7 0.1   6.7       7.6       6.7       7.6 .15   6.7
NS     0.0       6.7       6.7 .18   6.7       7.6 .065  6.7       7.6
NS     0.0       7.6       7.6       7.6 .04   7.6       7.6       6.7
NS     0.0 .150  7.6       6.7       6.7 0.2   7.6       6.7       7.6
NS     0.0 .045  7.6 .15   7.6 .1    7.6       7.6       7.6       8.2
NS     0.0 .1    9.2       1.2       1.2       2.1       2.1       2.1
NS     0.0       2.1
CAL1   0.0     93.76     262.7
VEL1   0.0                                                 0.00 0.15 0.25
VEL1   0.0 1.20 0.03 0.58 1.50 1.03 0.67 1.04 2.00 0.71 1.55 2.64 1.56
VEL1   0.0 2.46 2.73 3.00 0.25 2.92 2.03 0.79 0.94 0.88 0.16 1.54 1.42
VEL1   0.0 1.39 0.01 0.16 1.13 1.10 0.38 0.60 0.00
VEL1   0.0
CAL2   0.0     93.55     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.32     551.6
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       Sprague River  SP_2 07/26/06
Riffle                       MID                                    TRANSECT 2
IOC       11011000000010001010000
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     91.96   0.00560
       0.0-17.098.01 -7.097.08  1.097.09  3.096.63  7.095.77 12.094.92
       0.0 17.094.25 18.794.33 21.093.53 24.593.53 25.593.51 27.093.45
       0.0 32.093.13 42.092.43 52.592.41 62.091.96 72.091.98 82.092.33
       0.0 92.092.78 99.893.08102.093.08105.093.25110.093.28115.093.98
       0.0124.593.48125.094.23130.093.23137.093.33139.593.48140.895.03
       0.0142.093.43145.093.83146.494.33148.095.02152.095.94156.596.94
       0.0166.098.94
NS     0.0       3.7       1.2       1.2       3.2       1.2       1.2
NS     0.0       1.2       6.2       6.2       6.7 .2    6.7       6.5
NS     0.0       5.7 .22   7.6       7.6       6.5       5.6       6.7
NS     0.0       6.7 .09   6.7 .22   7.6       7.6       6.7 .038  7.6
NS     0.0 .08   6.7 .065  6.7       6.7       5.6       7.6 .05   7.6
NS     0.0       7.6       7.2       2.6       1.2       1.2       1.2
NS     0.0       1.2
CAL1   0.0     94.33     262.7
VEL1   0.0                                        0.00 1.07 0.63 0.16 0.76
VEL1   0.0 0.71 0.62 0.89 1.68 2.82 2.03 2.28 1.18 0.16 1.00 1.61 1.67
VEL1   0.0 0.84 0.32 1.50 1.31 1.23      0.74 0.69 0.00
VEL1   0.0
CAL2   0.0     94.14     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     94.92     551.6
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       Sprague River  SP_2 07/26/06
Riffle                       MID                                    TRANSECT 3
IOC       11011000000010001010 00
QARD  80.0
QARD 100.0
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 209.3
QARD 240.0
QARD 262.7
QARD 280.0
QARD 310.0
QARD 340.0
QARD 370.0
QARD 400.0
QARD 430.0
QARD 470.0
QARD 500.0
QARD 530.0
QARD 551.6
QARD 580.0
QARD 620.0
QARD 670.0
QARD 730.0
QARD 810.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1300.0
QARD1400.0
XSEC   0.0       0.0 1.0     93.33   0.00560
       0.0-19.0104.9 -9.0103.2  1.099.35  5.098.23 11.097.16 15.096.24
       0.0 17.095.96 17.995.93 18.095.78 20.095.61 24.095.01 27.095.43
       0.0 30.095.25 40.094.68 50.094.58 60.094.88 61.296.08 70.094.66
       0.0 79.094.73 80.095.88 83.094.98 85.094.93 90.094.38 90.594.33
       0.0 91.595.48 92.995.21 93.094.41100.093.95110.093.63120.093.33
       0.0126.094.05127.095.61129.093.53130.093.93140.093.93150.093.78
       0.0160.093.81170.094.13180.094.33190.094.93194.094.85197.094.41
       0.0198.594.83198.695.93200.096.84205.098.17209.099.26210.299.36
       0.0220.099.08230.099.42
NS     0.0       3.2       3.2       3.2       3.1       7.1       2.1
NS     0.0       1.2       9.2  .15  9.2 .15   9.7 .15   7.2 .09   7.2
NS     0.0       6.7       6.7       6.7 .15   6.7 .055  6.7       6.5
NS     0.0 .08   6.7 .045  6.7       6.5       6.5 .3    6.7 .3    6.7
NS     0.0       7.6 .2    7.6       7.6       6.5       4.5       4.5
NS     0.0       6.5       6.7       6.7       6.7       6.7       7.6
NS     0.0       6.7 .18   5.6       5.6       6.5 .1    4.6 .09   4.6
NS     0.0 .1    4.6       9.2       2.1       1.2       1.2       1.2
NS     0.0       1.2       1.2
CAL1   0.0     95.93     262.7
VEL1   0.0                                          0.00 0.15 0.00 0.30 1.06
VEL1   0.0 0.85 1.05 0.75 0.40      1.99 0.98 0.96 1.23 1.97 0.15 0.15
VEL1   0.0 0.00 0.22 0.53 0.68 0.76 0.65 0.84 0.71 0.74 1.68 0.91 0.80
VEL1   0.0 1.39 0.78 1.03 1.12 1.32 0.71 0.15 0.00
VEL1   0.0
CAL2   0.0     95.74     209.3
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.45     551.6
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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