10-30-2008

Ex. 277-US-429

Unknown

Stream: Williamson
Site: 627 (Spring Creek to Sprague River)
Date: 9/21/1990
Habitat: Run **Flow:** Low

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	3.16	103.16		
HP1			4.68	98.48
HP2			4.60	98.56
HP3			4.80	98.36
TP HP3	4.66	103.02		
HP2			4.46	98.56
HP1			4.54	98.48
BM			3.02	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE	3663	103.26	7.40	0.00	95.86	95.84	301.7
	RWSE			7.44	0.00	95.82		
TR2	LWSE	3256	103.78	7.85	0.00	95.93	95.92	339.4
	RWSE			7.87	0.00	95.91		
TR3	LWSE	2849	104.99	8.93	0.00	96.06	96.03	312.6
	RWSE			8.99	0.00	96.00		
						Ave Q=		317.9

Note:
WSE slope = 0.023%

Date: 4/9/1991
Habitat: Run **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	5.39	105.39		
HP1			6.91	98.48
HP2			6.81	98.58
HP3			7.02	98.37
TP HP3	7.15	105.52		
HP2			6.95	98.57
HP1			7.05	98.47
BM			5.53	99.99

Comment:

(2) Water Surface Elevation (WSE) Survey

	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE	3663	103.23	7.10	0.00	96.13	96.13	432.3
	RWSE			7.11	0.00	96.12		
TR2	LWSE	3256	103.90	7.65	0.00	96.25	96.25	463.4
	RWSE			7.66	0.00	96.24		
TR3	LWSE	2849	105.03	8.69	0.00	96.34	96.32	451.3
	RWSE			8.74	0.00	96.29		
						Ave Q=		449.0

Note:
WSE slope = 0.023%

Date: 5/12/1993
Habitat: Run **Flow:** High

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	11.64	111.64		
HP1			13.16	98.48
HP2			13.06	98.58
HP3			13.27	98.37
TP HP3	10.30	108.67		
HP2			10.09	98.58
HP1			10.18	98.49
BM			8.67	100.00

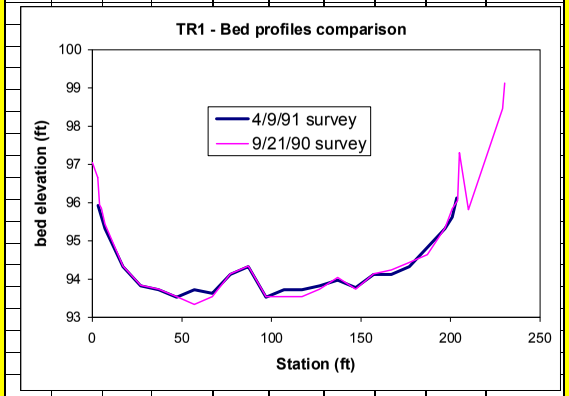
Comment:

(2) Water Surface Elevation (WSE) Survey

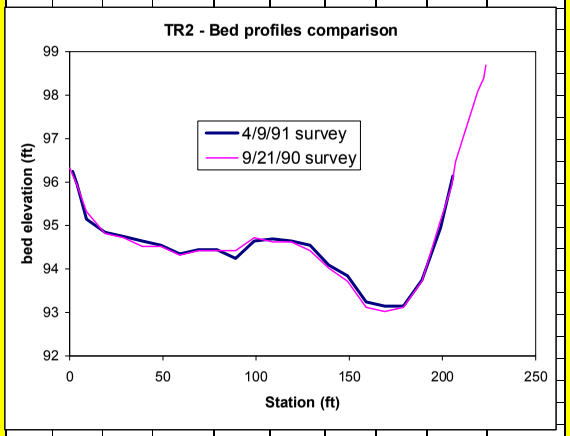
	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE	3663	103.81	7.55	0.00	96.26	96.26	
	RWSE			7.55	0.00	96.26		
TR2	LWSE	3256	103.81	7.43	0.00	96.38	96.38	
	RWSE			7.44	0.00	96.37		
TR3	LWSE	2849	108.66	12.12	0.00	96.54	96.53	554.3
	RWSE			12.14	0.00	96.52		
						Ave Q=		554.3

Note:
WSE slope = 0.033%

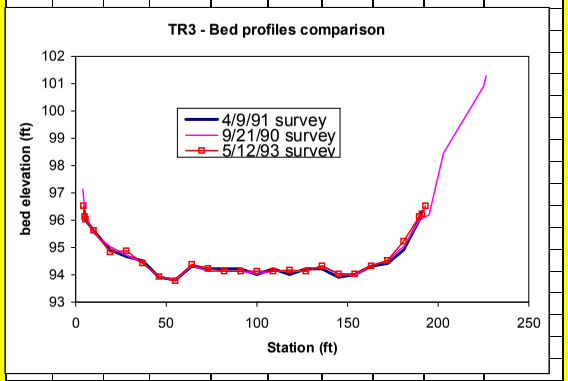
Stream:	Williamson		21-Sep-90									9-Apr-91									12-May-93									
Site:	627			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Run																														
			LWP	0.0	6.21	97.05						1.1	LWP	0.0								1.1									
Survey	HI	Q		3.0	6.60	96.66						1.1	LWE	3.2		95.93	0.20	0.00		0.00	0.00	1.1									
Date	(ft)	(cfs)		4.0	7.32	95.94						2.2		7.0		95.33	0.80	0.00		0.00	0.00	2.2									
9/21/1990	103.26	301.7	LWE	5.0	7.40	95.86	0.00	0.00		0.00	0.00	2.2		17.0		94.33	1.80	0.40		0.40	7.20	2.1									
4/9/1991	103.23	432.3		7.0		95.44	0.40	0.00		0.00	0.00	2.2		27.0		93.83	2.30	0.50		0.50	11.50	3.5									
5/12/1993	103.81			17.0		94.34	1.50	0.22		0.22	3.30	2.1		37.0		93.73	2.40	0.70		0.70	16.80	3.5									
				27.0		93.84	2.00	0.66		0.66	13.20	3.5		47.0		93.53	2.60	0.90	0.90	0.90	23.40	3.5									
				37.0		93.74	2.10	0.75		0.75	15.75	3.5		57.0		93.73	2.40	1.00		1.00	24.00	3.6									
				47.0		93.54	2.30	0.55		0.55	12.65	3.5		67.0		93.63	2.50	1.20	0.70	0.95	23.75	3.5									
				57.0		93.34	2.50	0.71		0.71	17.75	3.6		77.0		94.13	2.00	1.20		1.20	24.00	8.5									
				67.0		93.54	2.30	0.72		0.72	16.56	3.5		87.0		94.33	1.80	1.25		1.25	22.50	8.4									
				77.0		94.14	1.70	0.97		0.97	16.49	8.5		97.0		93.53	2.60	1.50	0.80	1.15	29.90	8.8									
				87.0		94.34	1.50	0.96		0.96	14.40	8.4		107.0		93.73	2.40	1.40		1.40	33.60	8.4									
				97.0		93.54	2.30	0.85		0.85	19.55	8.8		117.0		93.73	2.40	1.40		1.40	33.60	8.4									
				107.0		93.54	2.30	1.06		1.06	24.38	8.4		127.0		93.83	2.30	1.10		1.10	25.30	8.4									
				117.0		93.54	2.30	1.00		1.00	23.00	8.4		137.0		93.98	2.15	1.15		1.15	24.73	8.8									
				127.0		93.74	2.10	0.89		0.89	18.69	8.4		147.0		93.78	2.35	1.65		1.65	38.78	8.4									
				137.0		94.04	1.80	0.97		0.97	17.46	8.8		157.0		94.13	2.00	1.50		1.50	30.00	8.4									
				147.0		93.74	2.10	1.30		1.30	27.30	8.4		167.0		94.13	2.00	1.50		1.50	30.00	3.3									
				157.0		94.14	1.70	1.25		1.25	21.25	8.4		177.0		94.33	1.80	1.40		1.40	25.20	3.8									
				167.0		94.24	1.60	1.20		1.20	19.20	3.3		187.0		94.83	1.30	0.40		0.40	5.20	2.9									
				177.0		94.44	1.40	1.27		1.27	17.78	3.8		197.0		95.33	0.80	0.50		0.50	2.80	9.2									
				187.0		94.64	1.20	0.25		0.25	3.00	2.9		201.0		95.63	0.50	0.05		0.05	0.08	2.2									
				197.0		95.34	0.50	0.00		0.00	0.00	9.2	RWE	203.4		96.13	0.00	0.00		0.00	0.00	2.2									
			RWE	201.0		95.84	0.00	0.00		0.00	0.00	2.2		204.0								2.2									
				204.0	7.20	96.06						2.2		205.0								1.1									
				205.0	5.95	97.31						1.1		210.0								1.1									
				210.0	7.44	95.82						1.1	RWP	228.9								1.1									
				229.0	4.80	98.46						1.1																			
			RHP	230.2	4.13	99.13						1.1																			



Stream:	Williamson		21-Sep-90									9-Apr-91									12-May-93								
Site:	627		Sta	FS	Ground	Depth	Vel (ft/s)			q		Sta	FS	Ground	Depth	Vel (ft/s)			q		Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	2		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Run																												
												LWP	0.0							1.1									
Survey	HI	Q										LWE	1.6		96.25	0.00	0.00		0.00	0.00	1.1								
Date	(ft)	(cfs)	LWP	0	7.46	96.32					1.1		4.0		95.95	0.30	0.00		0.00	0.00	2.9								
9/21/1990	103.78	339.4	LWE	4	7.85	95.93	0.00	0.00		0.00	0.00	2.9		9.0		95.15	1.10	0.00		0.00	0.00	2.9								
4/9/1991	103.91	463.4		9		95.32	0.60	0.10		0.10	0.45	2.9		19.0		94.85	1.40	0.30		0.30	4.20	2.8								
5/12/1993	103.81			19		94.82	1.10	0.26		0.26	2.86	2.8		29.0		94.75	1.50	0.90		0.90	13.50	2.5								
				29		94.72	1.20	0.80		0.80	9.60	2.5		39.0		94.65	1.60	1.00		1.00	16.00	4.8								
				39		94.52	1.40	0.83		0.83	11.62	4.8		49.0		94.55	1.70	1.05		1.05	17.85	2.4								
				49		94.52	1.40	0.85		0.85	11.90	2.4		59.0		94.35	1.90	1.00		1.00	19.00	2.5								
				59		94.32	1.60	0.86		0.86	13.76	2.5		69.0		94.45	1.80	1.30		1.30	23.40	2.5								
				69		94.42	1.50	0.99		0.99	14.85	2.5		79.0		94.45	1.80	1.30		1.30	23.40	8.3								
				79		94.42	1.50	0.84		0.84	12.60	8.3		89.0		94.25	2.00	1.30		1.30	26.00	8.3								
				89		94.42	1.50	1.12		1.12	16.80	8.3		99.0		94.65	1.60	1.00		1.00	16.00	8.3								
				99		94.72	1.20	1.02		1.02	12.24	8.3		109.0		94.70	1.55	1.20		1.20	18.60	8.4								
				109		94.62	1.30	0.99		0.99	12.87	8.4		119.0		94.65	1.60	1.50		1.50	24.00	8.4								
				119		94.62	1.30	1.31		1.31	17.03	8.4		129.0		94.55	1.70	1.50		1.50	25.50	8.4								
				129		94.42	1.50	1.22		1.22	18.30	8.4		139.0		94.10	2.15	1.40		1.40	30.10	8.4								
				139		94.02	1.90	1.26		1.26	23.94	8.4		149.0		93.85	2.40	1.50		1.50	36.00	8.4								
				149		93.72	2.20	1.24		1.24	27.28	8.4		159.0		93.25	3.00	1.80	1.00	1.40	42.00	8.5								
				159		93.12	2.80	1.26	1.04	1.15	32.20	8.5		169.0		93.15	3.10	1.80	1.45	1.63	50.38	3.4								
				169		93.02	2.90	1.57	1.51	1.54	44.66	3.4		179.0		93.15	3.10	1.70	1.10	1.40	43.40	3.4								
				179		93.12	2.80	1.41	1.09	1.25	35.00	3.4		189.0		93.75	2.50	1.35	1.20	1.28	31.88	3.4								
				189.0		93.72	2.20	0.93		0.93	20.46	3.4		199.0		94.95	1.30	0.20		0.20	2.16	2.2								
				199.0		95.12	0.80	0.16		0.16	1.02	2.2	RWE	205.6		96.15	0.10	0.00		0.00	0.00	1.1								
			RWE	205.0	7.87	95.91	0.00	0.00		0.00	0.00	1.1	RWP	221.0								1.1								
				207.0	7.31	96.47						1.1																		
				219.0	5.69	98.09						1.1																		
				222.2	5.39	98.39						1.1																		
			RWP	223.2	5.09	98.69						1.1																		



Stream:	Williamson		21-Sep-90										9-Apr-91										12-May-93									
Site:	627			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Run																															
													LWP	0.0								1.1									
Survey	HI	Q	LWP	0.0	7.55	97.44						1.1	LWE	5.0		96.32	0.00	0.00		0.00	0.00	1.1	LWE	4.3		96.53	0.00	0.00		0.00	0.00	1.1
Date	(ft)	(cfs)		4	7.86	97.13						1.1		5.5		96.02	0.30	0.00		0.00	0.00	2.2		5.0		96.13	0.40	0.00		0.00	0.00	1.1
9/21/1990	104.99	312.6	LWE	5.5	8.93	96.06	0.00	0.00		0.00	0.00	2.2		10.0		95.62	0.70	0.00		0.00	0.00	2.2		5.5		96.03	0.50	0.00		0.00	0.00	2.2
4/9/1991	105.03	451.3		10		95.53	0.50	0.00		0.00	0.00	2.2		19.0		94.92	1.40	0.40		0.40	5.04	3.5		10.0		95.63	0.90	0.00		0.00	0.00	2.2
5/12/1993	108.66	554.3		19		95.03	1.00	0.55		0.55	4.95	3.5		28.0		94.67	1.65	0.40		0.40	5.94	8.3		19.0		94.83	1.70	0.67		0.67	10.25	3.5
				28		94.73	1.30	0.23		0.23	2.69	8.3		37.0		94.52	1.80	1.00		1.00	16.20	8.8		28.0		94.88	1.65	0.27		0.27	4.01	8.3
				37		94.43	1.60	0.50		0.50	7.20	8.8		46.0		93.92	2.40	1.10		1.10	23.76	8.5		37.0		94.43	2.10	1.13		1.13	21.36	8.8
				46		93.93	2.10	0.62		0.62	11.72	8.5		55.0		93.82	2.50	1.30	1.00	1.15	25.88	8.5		46.0		93.93	2.60	1.33	1.10	1.22	28.43	8.5
				55		93.83	2.20	1.07		1.07	21.19	8.5		64.0		94.32	2.00	1.20		1.20	21.60	8.4		55.0		93.78	2.75	1.60	1.11	1.36	33.54	8.5
				64		94.33	1.70	1.16		1.16	17.75	8.4		73.0		94.22	2.10	1.40		1.40	26.46	8.5		64.0		94.38	2.15	1.51		1.51	29.22	8.4
				73		94.13	1.90	1.34		1.34	22.91	8.5		82.0		94.22	2.10	1.40		1.40	26.46	8.5		73.0		94.23	2.30	1.47		1.47	30.43	8.5
				82		94.13	1.90	1.24		1.24	21.20	8.5		91.0		94.22	2.10	1.50		1.50	28.35	8.5		82.0		94.13	2.40	1.57		1.57	33.91	8.5
				91		94.13	1.90	1.16		1.16	19.84	8.5		100.0		94.02	2.30	1.60		1.60	33.12	8.5		91.0		94.13	2.40	1.73		1.73	37.37	8.5
				100		94.03	2.00	1.29		1.29	23.22	8.5		109.0		94.22	2.10	1.65		1.65	31.19	8.5		100.0		94.13	2.40	2.04		2.04	44.06	8.5
				109		94.13	1.90	1.31		1.31	22.40	8.5		118.0		94.02	2.30	1.60		1.60	33.12	8.5		109.0		94.13	2.40	1.87		1.87	40.39	8.5
				118		94.13	1.90	1.30		1.30	22.23	8.5		127.0		94.22	2.10	1.90		1.90	35.91	8.5		118.0		94.18	2.35	1.67		1.67	35.32	8.5
				127		94.13	1.90	1.40		1.40	23.94	8.5		136.0		94.22	2.10	1.70		1.70	32.13	8.5		127.0		94.13	2.40	1.88		1.88	40.61	8.5
				136		94.33	1.70	1.42		1.42	21.73	8.5		145.0		93.92	2.40	1.70		1.70	36.72	8.5		136.0		94.33	2.20	2.01		2.01	39.80	8.5
				145		94.03	2.00	0.99		0.99	17.82	8.5		154.0		94.02	2.30	1.85		1.85	38.30	8.5		145.0		94.03	2.50	2.14	2.03	2.09	46.91	8.5
				154		93.98	2.05	1.40		1.40	25.83	8.5		163.0		94.32	2.00	0.65		0.65	11.70	8.2		154.0		94.03	2.50	2.03	1.93	1.98	44.55	8.5
				163		94.33	1.70	0.75		0.75	11.48	8.2		172.0		94.42	1.90	0.85		0.85	14.54	8.8		163.0		94.33	2.20	1.02		1.02	20.20	8.2
				172.0		94.53	1.50	0.88		0.88	11.88	8.8		181.0		94.92	1.40	0.40		0.40	4.90	2.2		172.0		94.53	2.00	0.65		0.65	11.70	8.8
				181.0		95.03	1.00	0.30		0.30	2.63	2.2		189.5		96.02	0.30	0.00		0.00	0.00	2.9		181.0		95.23	1.30	0.20		0.20	2.28	2.2
			RWE	189.5	8.99	96.00	0.00	0.00		0.00	0.00	2.9	RWE	191.0		96.32	0.00	0.00		0.00	0.00	2.9		189.5		96.13	0.40	0.00		0.00	0.00	2.9
				195.0	8.79	96.20						9.9	RWP	225.4								1.1		191.0		96.23	0.30	0.00		0.00	0.00	2.9
				199.0	7.65	97.34						1.1											RWE	193.0		96.53	0.00	0.00		0.00	0.00	2.9
				203.0	6.53	98.46						1.1																				
				225.1	4.08	100.91						1.1																				
			RHP	226.5	3.70	101.29						1.1																				



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     Williamson River WM_3 04/09/91
RUN                          MID                                    TRANSECT 1
IOC       1101100000001000101000
QARD 170.0
QARD 190.0
QARD 210.0
QARD 230.0
QARD 250.0
QARD 270.0
QARD 290.0
QARD 317.9
QARD 350.0
QARD 380.0
QARD 400.0
QARD 420.0
QARD 449.0
QARD 480.0
QARD 510.0
QARD 540.0
QARD 554.3
QARD 580.0
QARD 610.0
QARD 640.0
QARD 670.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1350.0
QARD1500.0
XSEC1000.0      0.00 1.0     93.53   0.00023
    1000.0  0.0 97.1  3.0 96.7  3.2 95.9  7.0 95.3 17.0 94.3 27.0 93.8
    1000.0 37.0 93.7 47.0 93.5 57.0 93.7 67.0 93.6 77.0 94.1 87.0 94.3
    1000.0 97.0 93.5107.0 93.7117.0 93.7127.0 93.8137.0 94.0147.0 93.8
    1000.0157.0 94.1167.0 94.1177.0 94.3187.0 94.8197.0 95.3201.0 95.6
    1000.0203.4 96.1204.0 96.1205.0 97.3210.0 95.8229.0 98.5230.2 99.1
NS  1000.0       1.1       1.1       1.1       2.2 .065  2.1 .06   3.5
NS  1000.0       3.5       3.5       3.6       3.5       8.5       8.4
NS  1000.0       8.8       8.4       8.4       8.4       8.8 .028  8.4
NS  1000.0       8.4       3.3       3.8 .04   2.9       9.2 .06   2.2
NS  1000.0       2.2       2.2       1.1       1.1       1.1       1.1
CAL11000.0     96.13     449.0
VEL11000.0           0.00 0.00 0.40 0.50 0.70 0.90 1.00 0.95 1.20 1.25
VEL11000.0 1.15 1.40 1.40 1.10 1.15 1.65 1.50 1.50 1.40 0.40 0.50 0.05
VEL11000.0 0.00
CAL21000.0     95.84     317.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     96.26     554.3
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ
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     Williamson River WM_3 04/09/91
RUN                          MID                                    TRANSECT 2
IOC       1101100000001000101000
QARD 170.0
QARD 190.0
QARD 210.0
QARD 230.0
QARD 250.0
QARD 270.0
QARD 290.0
QARD 317.9
QARD 350.0
QARD 380.0
QARD 400.0
QARD 420.0
QARD 449.0
QARD 480.0
QARD 510.0
QARD 540.0
QARD 554.3
QARD 580.0
QARD 610.0
QARD 640.0
QARD 670.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1350.0
QARD1500.0
XSEC1000.0      0.00 1.0     93.53   0.00023
    1000.0  0.0 96.3  1.6 96.2  4.0 95.9  9.0 95.1 19.0 94.8 29.0 94.7
    1000.0 39.0 94.6 49.0 94.5 59.0 94.3 69.0 94.4 79.0 94.4 89.0 94.2
    1000.0 99.0 94.6109.0 94.7119.0 94.6129.0 94.5139.0 94.1149.0 93.8
    1000.0159.0 93.2169.0 93.1179.0 93.1189.0 93.7199.0 94.9205.6 96.1
    1000.0207.0 96.5219.0 98.1222.2 98.4223.2 98.7
NS  1000.0       1.1       1.1 0.12  2.9 .09   2.9 .060  2.8       2.5
NS  1000.0       4.8       2.4       2.5       2.5       8.3       8.3
NS  1000.0 .028  8.3       8.4       8.4       8.4       8.4       8.4
NS  1000.0       8.5       3.4       3.4       3.4 .05   2.2       1.1
NS  1000.0       1.1       1.1       1.1       1.1
CAL11000.0     96.25     449.0
VEL11000.0      0.00 0.01 0.01 0.30 0.90 1.00 1.05 1.00 1.30 1.30 1.30
VEL11000.0 1.00 1.20 1.50 1.50 1.40 1.50 1.40 1.63 1.40 1.28 0.20 0.00
VEL11000.0
CAL21000.0     95.92     317.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     96.38     554.3
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ
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     Williamson River WM_3 04/09/91
RUN                          MID                                    TRANSECT 3
IOC       11011000000001000101000
QARD 170.0
QARD 190.0
QARD 210.0
QARD 230.0
QARD 250.0
QARD 270.0
QARD 290.0
QARD 317.9
QARD 350.0
QARD 380.0
QARD 400.0
QARD 420.0
QARD 449.0
QARD 480.0
QARD 510.0
QARD 540.0
QARD 554.3
QARD 580.0
QARD 610.0
QARD 640.0
QARD 670.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 900.0
QARD1000.0
QARD1100.0
QARD1200.0
QARD1350.0
QARD1500.0
XSEC1000.0      0.00 1.0     93.82   0.00023
    1000.0  0.0 97.4  4.0 97.1  5.0 96.3  5.5 96.0 10.0 95.6 19.0 94.9
    1000.0 28.0 94.7 37.0 94.5 46.0 93.9 55.0 93.8 64.0 94.3 73.0 94.2
    1000.0 82.0 94.2 91.0 94.2100.0 94.0109.0 94.2118.0 94.0127.0 94.2
    1000.0136.0 94.2145.0 93.9154.0 94.0163.0 94.3172.0 94.4181.0 94.9
    1000.0189.5 96.0191.0 96.3195.0 96.2199.0 97.3203.0 98.5225.1100.9
    1000.0226.5101.3
NS  1000.0       1.1       1.1 0.10  1.1 0.09  2.2 .08   2.2 .060  3.5
NS  1000.0 .05   8.3       8.8       8.5       8.5       8.4       8.5
NS  1000.0       8.5       8.5       8.5       8.5       8.5       8.5
NS  1000.0       8.5       8.5       8.5 .04   8.2       8.8 .05   2.2
NS  1000.0 0.06  2.9 0.07  2.9 .08   9.9       1.1       1.1       1.1
NS  1000.0       1.1
CAL11000.0     96.32     449.0
VEL11000.0           0.00 0.01 0.01 0.40 0.40 1.00 1.10 1.15 1.20 1.40
VEL11000.0 1.40 1.50 1.60 1.65 1.60 1.90 1.70 1.70 1.85 0.65 0.85 0.40
VEL11000.0 0.01 0.00
CAL21000.0     96.03     317.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     96.53     554.3
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ
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Stream: Williamson River
Site: 627
Date: 6/21/2006
Habitat: Riffle **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.32	104.32		100.00
HP2			4.79	99.53
HP1			4.95	99.37
HP1	5.04	104.41		
BM			4.41	100.00
HP2			4.88	99.53
The following level loop is for TR-3 (passage transect) and its elevation datum is not tied to the datum of the above loop for TR-1 and TR-2 (riffle transects).				
BM2	7.56	107.56		100.00
BM1			5.73	101.83
HP3			4.50	103.06
HP3	4.45	107.51		
BM1			5.68	101.83

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	104.04	8.26	1.25	97.03	97.22	
1-R	0			7.69	1.06	97.41		
2-L		91	104.04	6.95	0.85	97.94	98.02	544.3
2-R	91			6.80	0.85	98.09		
TR-3 elevations are not connected with TR-1 and TR-2								
3-L	NA		107.56	9.06		98.50	98.47	
3-R	NA		107.51	9.07		98.44		

Ave Q= 544.3

Note: TR3 PASSAGE TRANSECT NOT CONNECTED WITH TR1 & 2 !

WSE slope = 0.874% *TR1 & 2

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
L. SIDE CHAN.								
1-L			104.04	8.25	0.97	96.76	96.79	?
1-R				8.15	0.92	96.81		

Note: Q TAKEN AT TR2.

Date: 7/25/2006
Habitat: Riffle **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.31	104.31		100.00
HP2			4.77	99.54
HP1			4.93	99.38
HP1	4.85	104.23		
HP2			4.69	99.54
BM			4.22	100.01
The following level loop is for TR-3 (passage transect) and its elevation datum is not tied to the datum of the above loop for TR-1 and TR-2 (riffle transects).				
BM1	5.91	107.74		101.83
HP3			4.67	103.07
HP3	4.87	107.94		
BM1			6.10	101.84
BM2			7.93	100.01

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	104.06	8.15	0.93	96.84	97.09	
1-R	0			6.96	0.06	97.16		347.2
1-M	0			7.95	1.05	97.16		
1-R	0			8.58	1.9	97.38		
2-L	91	91	104.06	6.95	0.64	97.75	97.79	374.3
2-R				7.04	0.80	97.82		
TR-3 elevations are not connected with TR-1 and TR-2								
3-L	NA		107.94	11.07	1.33	98.20	98.10	389.3
3-R	NA			11.56	1.61	97.99		

Ave Q= 360.8

Note: TR3 PASSAGE TRANSECT NOT CONNECTED WITH TR1 & 2 !

WSE slope = 0.764% *TR1 & 2

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
L. SIDE CHAN.								
1-L			104.06	8.17	0.80	96.69	96.71	24.4
1-R				7.79	0.45	96.72		

Note:

Date: 8/29/2006
Habitat: Riffle **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	4.38	104.38		100.00
HP2			4.84	99.54
HP1			5.00	99.38
HP1	4.96	104.34		
HP2			4.80	99.54
BM			4.33	100.01
The following level loop is for TR-3 (passage transect) and its elevation datum is not tied to the datum of the above loop for TR-1 and TR-2 (riffle transects).				
BM1	5.29	107.12		101.83
		107.08	4.06	103.06
HP3	4.02			
BM1			5.26	101.82
BM2				

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	103.14	7.26	1.04	96.92	97.00	
1-R			104.34	7.99	0.88	97.23		325.7
1-L			103.89	7.33	0.70	97.26		
1-R				8.05	0.75	96.59		
2-L	91	91	103.14	6.09	0.69	97.74	97.79	
2-R			104.34	7.64	1.14	97.84		358.3
2-L			103.89	6.80	0.65	97.74		
2-R				7.02	0.96	97.83		
TR-3 elevations are not connected with TR-1 and TR-2								
3-L	NA		107.08	10.31	1.40	98.17	98.07	310.8
3-R	NA			9.68	0.56	97.96		

Ave Q= 342.0

Note: TR3 PASSAGE TRANSECT NOT CONNECTED WITH TR1 & 2 !

WSE slope = 0.865% *TR1 & 2

The following measurements are made at 35(30)ft and 65 ft d/s of TR-3						
LWSE	35	107.08	10.89	0.86	97.05	97.12
RWSE	30	107.08	11.49	1.6	97.19	
LWSE	65	107.08	12.39	1	95.69	95.75
RWSE	65	107.08	12.18	0.9	95.8	

WSE slope = 3.569% TR3 only

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
L. SIDE CHAN.								
1-L			103.14	7.37	0.96	96.73	96.67	14.9
1-R				7.28	0.75	96.61		

Note:

Ex. 277-US-429
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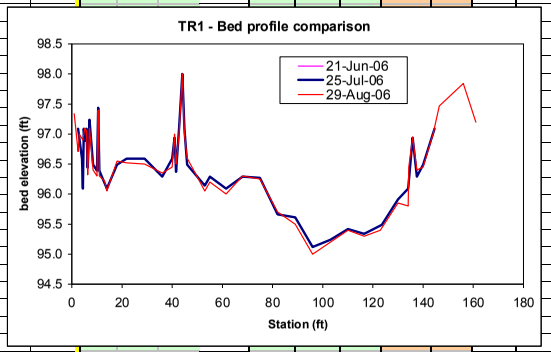
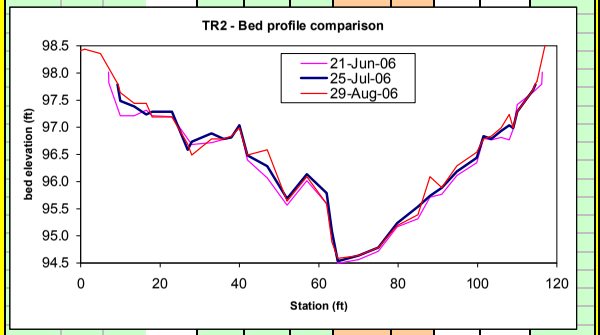
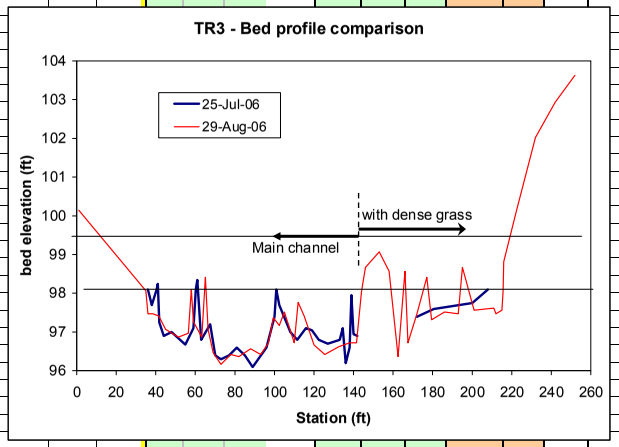
Stream:	627		21-Jun-06												25-Jul-06														29-Aug-06													
Site:	627			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q				Sta	FS	Ground	Depth	Vel (ft/s)					Angle	q	
Transect:	1			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	$NV_{0.2/0.6}$	$NV_{0.8}$	Ave	(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:	Riffle																																							
Survey Date	HI (ft)	Q (cfs)																																							
6/21/2006	104.04																																							
7/25/2006	104.06	347.2																																							
8/29/2006	103.14	325.7																																							
8/29/2006	103.14	L													LWP	1.0													LWP	1.0	5.80	97.34										1.2
	104.34	R														2.5		97.09	0.00	0.00		0.00		0.00		0.00	1.2			2.5	6.43	96.71									1.2
																4.0		96.59	0.50	0.75		0.77		0.77		0.37	7.6		LWE	3.0		97.00	0.00	0.00		0.00		0.00		0.00	9.6
																4.4		96.09	1.00	0.85		0.88		0.88		0.35	7.6			4.4		96.90	0.10	0.25		0.30		0.30		0.03	7.6
																4.8		97.09	0.00	0.00		0.00		0.00		0.00	7.6			4.8		97.00	0.00	0.00		0.00		0.00		0.00	7.6
																5.3		96.89	0.20								7.6			5.3		97.10	-0.10								7.6
																5.8		97.09	0.00	0.00		0.00		0.00		0.00	7.6			5.8		97.05	-0.05								7.6
																6.3		96.44	0.65	1.55		1.58		1.58		0.26	7.6			6.3		96.32	0.68	1.52		1.55		1.55		0.42	7.6
																7.1		97.24	-0.15								7.6			7.1		97.10	-0.10								7.6
																8.5		96.49	0.60	3.59		3.62		3.62		1.63	7.6			8.5		96.40	0.60	3.45		3.48		3.48		1.57	7.6
																10.0		96.39	0.70	0.45		0.47		0.47		0.25	7.6			10.0		96.30	0.70	0.35		0.38		0.38		0.20	7.6
																10.5		97.44	-0.35								7.6			10.5		97.40	-0.40								7.6
																11.0		96.39	0.70	0.62		0.64		0.64		0.67	7.6			11.0		96.30	0.70	0.51		0.53		0.53		0.37	7.6
																14.0		96.09	1.00	0.73		0.75		0.75		2.64	7.6			13.0		96.22	0.78	0.94		0.97		0.97		1.13	7.6
																18.0		96.49	0.60	1.87		1.90		1.90		4.44	6.5			14.0		96.05	0.95	1.82		1.85		1.85		4.39	7.6
																21.8		96.59	0.50	1.11		1.14		1.14	15	3.02	6.5			18.0		96.55	0.45	1.41		1.44		1.44	10	2.49	6.5
																29.0		96.59	0.50	1.49		1.52		1.52		5.39	5.6			21.8		96.52	0.48	1.38		1.41		1.41	15	3.59	6.5
																36.0		96.29	0.80	0.57		0.59		0.59		2.59	5.6			29.0		96.50	0.50	1.03		1.06		1.06		3.75	5.6
																40.0		96.59	0.50	1.97		2.00		2.00		2.50	7.6			36.0		96.35	0.65	1.12		1.15		1.15		4.10	5.6
																41.0		96.94	0.15	0.30		0.34		0.34		0.04	7.6			40.0		96.45	0.55	0.58		0.60		0.60		0.82	7.6
																41.5		96.37	0.72	0.40		0.43		0.43		0.26	7.6			41.0		97.00	0.00	0.00		0.00		0.00		0.00	7.6
																42.7		97.09	0.00	0.00		0.00		0.00		0.00	6.1			41.5		96.50	0.50	0.16		0.21		0.21		0.09	7.6
															CP	44.1		98.00									6.1			42.7		97.00	0.00	0.00		0.00		0.00		0.00	6.1
																44.9		97.09	0.00	0.00		0.00		0.00		0.00	6.1			44.1		98.00	-1.00								
																46.0		96.49	0.60	1.00		1.03		1.03	60	1.25	6.1			44.9		97.00	0.00	0.00		0.00		0.00		0.00	6.1
																53.0		96.14	0.95	1.55		1.58		1.58	45	4.77	6.1			46.0		96.60	0.40	0.25		0.30		0.30	30	0.41	6.1
																55.0		96.29	0.80	2.71		2.74		2.74	45	6.59	5.6			53.0		96.05	0.95	0.98		1.01		1.01	20	4.05	6.1
																61.5		96.09	1.00	2.07		2.10		2.10	30	11.82	5.6			55.0		96.20	0.80	0.91		0.94		0.94	45	2.25	5.6
																68.0		96.29	0.80	2.16		2.19		2.19	10	11.64	5.6			61.5		96.00	1.00	0.91		0.94		0.94	30	5.27	5.6
																75.0		96.27	0.82	1.47		1.50		1.50	10	8.47	6.5			68.0		96.30	0.70	1.94		1.97		1.97		9.30	5.6
																82.0		95.66	1.43	3.30		3.33		3.33	10	32.86	6.5			75.0		96.25	0.75	1.14		1.17		1.17		6.13	6.5
																89.0		95.61	1.48	1.84		1.87		1.87	5	19.27	6.5			82.0		95.70	1.30	3.32		3.35		3.35		30.51	6.5
																96.0		95.12	1.97	2.96		2.99		2.99		41.27	6.7			89.0		95.50	1.50	1.94		1.97		1.97		20.66	6.5
																103.0		95.24	1.85	3.66		3.69		3.69		47.82	6.7			96.0		95.00	2.00	2.71		2.74		2.74		38.39	6.7
																110.0		95.42	1.67	3.56		3.59		3.59		40.50	6.5			103.0		95.20	1.80	3.50		3.53		3.53		44.52	6.7
																116.5		95.34	1.75	2.07		2.10		2.10		24.79	6.5			110.0		95.40	1.60	4.26		4.29		4.29		46.34	6.5
																123.5		95.49	1.60	3.81		3.84		3.84		41.50	6.5			116.5		95.30	1.70	1.72		1.75		1.75		19.30	6.5
																130.0		95.91	1.18	3.24		3.27		3.27		20.28	7.6			123.0		95.40	1.60	3.70		3.73		3.73		40.31	6.5
																134.0		96.09	1.00	2.27		2.30		2.30		6.67	7.6			130.0		95.85	1.15	3.55		3.58		3.58		22.66	7.6
																135.8		96.94	0.15	1.00		1.03		1.03		0.27	7.6			134.0		95.80	1.20	3.11		3.14		3.14		8.11	7.6
																137.5		96.29	0.80	0.83		0.85		0.85		1.44	6.7			134.3		96.45	0.55	0.65		0.67		0.67		0.33	7.6
																140.0		96.49	0.60	0.74		0.76		0.76		1.60	6.2			135.8		96.95	0.05	2.30		2.33		2.33		0.19	7.6
																144.5		97.09	0.00	0.00		0.00		0.00		0.00	9.2			137.5		96.40	0.60	1.93		1.96		1.96		2.47	6.7
															RWP	146.5														140.0		96.45	0.55	0.86		0.89		0.89		1.58	6.2
																													RWE	144.0		97.00	0.00	0.00		0.00		0.00		0.00	9.2
																													RWP	146.5	6.87	97.47									9.2
																														156.0	6.50	97.84									9.2
																														161.0	5.94	97.20									9.2



Stream:	627		21-Jun-06												25-Jul-06												29-Aug-06											
Site:	627			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					q			Sta	FS	Ground	Depth	Vel (ft/s)					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	(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
Habitat:	Riffle																																				
Survey	HI	Q																																			
Date	(ft)	(cfs)	RWP	1.0										1.2		1.0																						
6/21/2006	104.04	544.3		7.0		98.02	0.00	0.00		0.00		0.00	0.00	2.1		9.3		97.79	0.00	0.00		0.00		0.00	0.00	9.5												
7/25/2006	104.06	374.3		7.1		97.82	0.20	0.00		0.00		0.00	0.00	2.1		10.0		97.49	0.30	0.05		0.15		0.15	0.09	9.5												
8/29/2006	103.14	358.3	sm wood	10.0		97.22	0.80	0.28		0.32		0.32	0.82	6.3		13.5		97.39	0.40	0.05		0.15		0.15	0.19	9.6		-4.0	4.82	98.32								2.1
			veg	13.5		97.22	0.80	0.34		0.37		0.37	0.97	7.3		16.5		97.24	0.55	0.05		0.15		0.15	0.18	9.6	LWP	1.0	4.70	98.44								2.1
8/29/2006	104.34	R	veg	16.5		97.32	0.70	0.15		0.20		0.20	0.32	7.6		18.0		97.29	0.50	1.05		1.08		1.08	1.75	6.7		5.0	4.78	98.36								2.1
				18.0		97.22	0.80	1.11		1.14		1.14	2.96	6.7		23.0		97.29	0.50	0.27		0.31		0.31	0.70	6.7	LWE	9.4		97.79	0.00	0.00		0.00		0.00	0.00	9.5
				23.0		97.20	0.82	0.63		0.65		0.65	2.67	7.6		27.0		96.59	1.20	0.78		0.80		0.80	2.41	6.7		10.0		97.64	0.15	0.10		0.16		0.16	0.05	9.5
				28.0		96.69	1.33	2.74		2.77		2.77	18.44	6.7		28.0		96.74	1.05	2.91		2.94		2.94	9.27	6.7		13.5		97.44	0.35	0.05		0.15		0.15	0.17	9.6
				33.0		96.72	1.30	1.67		1.70		1.70	11.03	6.7		33.0		96.89	0.90	1.04		1.07		1.07	3.84	7.6		16.5		97.44	0.35	0.05		0.15		0.15	0.11	9.6
				38.0		96.82	1.20	1.69		1.72		1.72	7.21	6.7		36.0		96.79	1.00	2.34		2.37		2.37	5.93	7.6		18.0		97.19	0.60	0.91		0.94		0.94	1.83	6.7
			Bld u/s	40.0		97.05	0.97	0.10		0.16		0.16	0.31	7.6		38.0		96.82	0.97	0.21		0.26		0.26	0.50	7.8		23.0		97.19	0.60	0.20		0.25		0.25	0.67	6.7
				42.0		96.40	1.62	1.55		1.58		1.58	8.95	7.6		40.0		97.04	0.75	0.13		0.18		0.18	0.28	7.6		27.0		96.69	1.10	1.09		1.12		1.12	3.07	6.7
				47.0		96.07	1.95	4.00	1.03	4.03	1.06	2.54	24.81	7.3		42.0		96.49	1.30	1.24		1.27		1.27	5.77	6.7		28.0		96.49	1.30	2.20		2.23		2.23	8.70	6.7
				52.0		95.57	2.45	3.94	2.72	3.97	2.75	3.36	41.19	7.6		47.0		96.29	1.50	1.74	0.33	1.77	0.36	1.06	7.98	6.7		33.0		96.79	1.00	1.03		1.06		1.06	4.23	7.6
			Top bld	57.0		96.02	2.00	3.96		3.99		3.99	39.92	7.6		52.0		95.69	2.10	2.35		2.38		2.38	25.00	6.7		36.0		96.79	1.00	1.66		1.69		1.69	4.22	7.6
				62.0		95.60	2.42	4.34	2.18	4.37	2.21	3.29	25.08	7.6		57.0		96.14	1.65	2.51		2.54		2.54	20.97	7.6		38.0		96.84	0.95	0.28		0.32		0.32	0.61	7.8
				63.3		95.02	3.00	4.08	1.48	4.11	1.51	2.81	11.80	7.6		62.0		95.79	2.00	2.34		2.37		2.37	14.94	7.6		40.0		96.99	0.80	0.02		0.06		0.06	0.09	7.6
				64.8		94.50	3.52	3.98	1.47	4.01	1.50	2.76	32.49	7.6		63.3		95.09	2.70	3.56	0.44	3.59	0.46	2.03	7.67	7.6		42.0		96.49	1.30	0.74		0.76		0.76	3.47	6.7
				70.0		94.57	3.45	5.13	2.77	5.16	2.80	3.98	70.01	7.6		64.8		94.54	3.25	3.39	2.09	3.42	2.12	2.77	30.17	7.6		47.0		96.59	1.20	2.87	0.89	2.90	0.92	1.91	11.46	6.7
				75.0		94.72	3.30	5.00	2.44	5.03	2.47	3.75	60.61	7.6		70.0		94.64	3.15	4.30	2.50	4.33	2.53	3.43	55.12	7.6		52.0		95.64	2.15	2.51		2.54		2.54	27.32	6.7
				79.8		95.17	2.85	5.97	2.99	6.00	3.02	4.51	64.29	7.6		75.0		94.79	3.00	4.79	2.40	4.82	2.43	3.62	53.27	7.6		57.0		96.09	1.70	2.95		2.98		2.98	25.35	7.6
				85.0		95.32	2.70	5.26	3.07	5.29	3.10	4.19	46.43	7.6		79.8		95.24	2.55	4.44	3.02	4.47	3.05	3.76	47.96	7.6		62.0		95.59	2.20	2.21		2.24		2.24	15.52	7.6
				88.0		95.72	2.30	3.05		3.08		3.08	21.27	7.6		85.0		95.54	2.25	3.54		3.57		3.57	32.96	7.6		63.3		94.89	2.90	0.23	3.58	0.28	3.61	1.95	7.90	7.6
				91.0		95.77	2.25	2.19		2.22		2.22	16.98	7.6		88.0		95.74	2.05	2.15		2.18		2.18	13.40	7.6		64.8		94.59	3.20	0.94	3.40	0.97	3.43	2.20	23.58	7.6
				94.8		96.12	1.90	2.69		2.72		2.72	22.76	6.7		91.0		95.89	1.90	2.18		2.21		2.21	14.27	6.7		70.0		94.64	3.15	0.93	4.01	0.96	4.04	2.50	40.15	7.6
			bld cov	99.8		96.35	1.67	0.93		0.96		0.96	5.35	6.7		94.8		96.19	1.60	1.58		1.61		1.61	11.32	6.7		75.0		94.79	3.00	2.48	4.48	2.51	4.51	3.51	51.60	7.6
			bld cov	101.5		96.80	1.22	0.30		0.34		0.34	0.76	6.7		99.8		96.44	1.35	1.37		1.40		1.40	6.33	6.7		79.8		95.19	2.60	2.00	4.15	2.03	4.18	3.10	40.36	7.6
			bld cov	103.5		96.77	1.25	1.25	0.27	1.28	0.31	0.80	2.24	6.3		101.5		96.84	0.95	0.07		0.16		0.16	0.29	6.7		85.0		95.39	2.40	3.97		4.00		4.00	39.38	7.6
			bld cov	106.0		96.82	1.20	1.28		1.31		1.31	3.53	6.3		103.5		96.79	1.00	0.07		0.16		0.16	0.37	6.7		88.0		96.09	1.70	2.72		2.75		2.75	14.04	7.6
			bld cov	108.0		96.77	1.25	0.05		0.15		0.15	0.27	6.3		106.0		96.94	0.85	0.44		0.46		0.46	0.89	6.7		91.0		95.89	1.90	2.35		2.38		2.38	15.38	6.7
				109.0		96.97	1.05	0.46		0.48		0.48	0.51	6.2		108.0		97.04	0.75	0.05		0.15		0.15	0.16	6.7		94.8		96.29	1.50	1.72		1.75		1.75	11.53	6.7
				110.0		97.42	0.60	0.04		0.12		0.12	0.17	1.2		109.0		96.99	0.80	0.09		0.15		0.15	0.12	6.7		99.8		96.54	1.25	1.06		1.09		1.09	4.55	6.7
				114.0		97.65	0.37	0.03		0.09		0.09	0.10	1.2		110.0		97.29	0.50	0.05		0.15		0.15	0.18	9.6		101.5		96.79	1.00	0.24		0.29		0.29	0.53	6.7
				116.2		97.80	0.22	0.00		0.00		0.00	0.00	1.2		114.0		97.69	0.10	0.01		0.03		0.03	0.01	2.9		103.5		96.84	0.95	0.03		0.09		0.09	0.19	6.7
				116.3		98.02	0.00	0.00		0.00		0.00	0.00	1.2		114.6		97.79	0.00	0.00		0.00		0.00	0.00	9.2		106.0		96.99	0.80	0.82		0.84		0.84	1.52	6.7
				120.6										1.2														108.0		97.24	0.55	0.05		0.15		0.15	0.12	6.7
																												109.0		96.99	0.80	0.56		0.58		0.58	0.46	6.7
																												110.0		97.29	0.50	0.05		0.15		0.15	0.18	9.6
																												114.0		97.69	0.10	0.00		0.00		0.00	0.00	2.9
																												RWE	114.5		97.79	0.00	0.00		0.00		0.00	0.00	9.2
																													115.0	6.49	97.85							9.2
																													118.0	5.52	98.82							1.2
																												RWP	120.6	5.47	98.87							1.2
																													130.0	5.43	98.91							1.2
																													140.0	5.28	99.06							1.2
																													170.0	5.04	99.30							1.2



Stream:	627		21-Jun-06											25-Jul-06													29-Aug-06												
Site:	627			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:	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	(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:	Riffle																																						
Survey Date	HI (ft)	Q (cfs)																																					
6/21/2006	107.56																																						
7/25/2006	107.94	389.3																										LWP	1.00	6.94	100.14								1.1
8/29/2006	107.08	310.8																										LWE	34.9		98.07	0.00	0.00		0.00		0.00		0.00	7.9
																36.0		98.10	0.00	0.00		0.00		0.00	7.4			36.0		97.47	0.60	-0.49		-0.51		-0.51		-0.55	7.4
																38.0		97.70	0.40	1.66		1.69		1.69	85	1.48	7.4			38.5		97.47	0.60	-0.43		-0.46		-0.46		-0.75	7.4
																40.4		98.10	0.00	-1.44		-1.47		-1.47		0.00	7.5			41.5		97.42	0.65	0.27		0.31		0.31		0.66	7.5
																41.0		98.25	-0.15								7.5			45.0		97.07	1.00	0.61		0.63	45	2.23		5.6
																41.7		97.25	0.85	0.20		0.25		0.25	85	0.24	7.5			51.5		96.87	1.20	0.28		0.32		0.32	20	0.76	5.7
																44.0		96.90	1.20	0.86		0.89		0.89	75	3.23	5.6			56.5		96.97	1.10	0.97		1.00		1.00		2.74	5.7
																														58.0		98.10	-0.03								5.7
																														59.0		97.27	0.80	1.62		1.65		1.65		2.77	5.7
																														63.2		96.87	1.20	2.43		2.46		2.46		6.20	7.6
																														65.0		98.42	-0.35								7.6
																														66.5		97.07	1.00	1.37		1.40		1.40		1.75	7.6
																														69.0		96.47	1.60	0.98		1.01	45	1.01	45	3.70	7.6
																														73.0		96.17	1.90	2.89		2.92		2.92	75	24.14	7.6
																														78.0		96.42	1.65	4.53		4.56		4.56		33.85	7.6
																														82.0		96.37	1.70	1.21	3.69	1.24	3.72	2.48	80	20.77	7.6
																														88.0		96.57	1.50	0.80		0.82		0.82	60	5.89	7.6
																81.0		96.60	1.50	5.17		5.20		5.20		31.18	7.6			93.0		96.42	1.65	3.02		3.05		3.05	65	20.54	6.7
																85.0		96.40	1.70	3.27		3.30		3.30		22.46	7.6			97.0		96.72	1.35	2.35		2.38		2.38	75	10.09	6.7
																89.0		96.10	2.00	2.19		2.22		2.22		24.42	7.6			99.5		97.37	0.70	2.40		2.43		2.43	70	4.40	7.6
																96.0		96.60	1.50	5.21		5.24		5.24	35	24.78	6.7			102.5		97.17	0.90	1.30		1.33		1.33		3.29	7.6
																100.0		97.40	0.70	2.20		2.23		2.23		3.90	7.6			105.0		97.52	0.55	2.49		2.52		2.52		5.20	7.6
																101.0		98.10	0.00	0.00		0.00		0.00		0.00	7.6			110.0		96.72	1.35	3.40		3.43		3.43	80	15.97	7.6
																102.5		97.70	0.40	2.84		2.87		2.87		4.02	7.6			112.0		97.77	0.30	1.74		1.77		1.77	75	1.28	7.6
																108.0		97.00	1.10	2.98		3.01		3.01		14.91	7.6			115.0		97.42	0.65	5.53		5.56		5.56		14.45	7.6
																111.5		96.80	1.30	4.87	1.60	4.90	1.63	3.26		16.96	7.6			120.0		96.67	1.40	3.45		3.48		3.48		25.60	6.7
																116.0		97.10	1.00	5.10		5.13		5.13		19.22	7.6			125.5		96.42	1.65	3.63		3.66		3.66		37.77	7.6
																119.0		97.05	1.05	3.97		4.00		4.00		13.66	6.7			132.5		96.62	1.45	4.83		4.86		4.86	100	43.34	7.6
																122.5		96.80	1.30	4.93		4.96		4.96	25	10.89	6.7			138.0		96.72	1.35	1.47		1.50		1.50	120	7.89	7.6
																127.0		96.70	1.40	5.86		5.89		5.89		43.29	7.6			141.5		96.72	1.35	1.41		1.44		1.44		5.83	6.9
																133.0		96.80	1.30	4.55		4.58		4.58		22.32	7.6			144.0		98.07	0.00	0.00		0.00		0.00		0.00	9.6
																134.5		97.10	1.00	4.18		4.21		4.21		6.32	7.6			146.0		98.67	-0.60								9.6
																136.0		96.20	1.90	3.56	0.64	3.59	0.66	2.13	35	4.06	7.6			153.0		99.07	-1.00								9.6
																138.0		96.60	1.50	0.26		0.30		0.30	45	0.48	7.6			158.0		98.57	-0.50								9.6
																139.0		97.95	0.15	2.32		2.35		2.35	45	0.25	7.6			162.5		96.37	1.70	0.10		0.16		0.16		0.47	9.6
																140.0		96.95	1.15	2.43		2.46		2.46		4.25	6.9			166.0		98.57	-0.50								9.6
																142.0		96.90	1.20	0.97		1.00		1.00		19.14	6.9			167.5		96.72	1.35	0.50		0.52		0.52		1.57	6.9
																														172.0		97.47	0.60	0.10		0.16		0.16		0.21	6.9
																172.0		97.40	0.70	0.73		0.75		0.75		10.15	6.9			177.0		98.42	-0.35								9.2
																180.5		97.60	0.50	1.27		1.30		1.30		9.09	6.9			179.5		97.32	0.75	1.25		1.28		1.28		3.12	6.9
																200.0		97.75	0.35	0.50		0.52		0.52		2.49	9.2			186.0		97.52	0.55	0.98		1.01		1.01		3.74	9.6
															RWE	208.0		98.10	0.00	0.00		0.00		0.00		0.00	9.2			193.0		97.47	0.60	0.05		0.15		0.15		0.31	9.2
																														195.0		98.67	-0.60								9.2
																														201.0		97.57	0.50	0.05		0.15		0.15		0.36	9.2
																														211.0		97.62	0.45	0.10		0.16		0.16		0.39	9.2
																														212.0		97.47	0.60	0.60		0.62		0.62		0.74	9.7
																														215.0		97.57	0.50	0.05		0.15		0.15		0.13	9.2
																														215.6		98.07	0.00	0.00		0.00		0.00		0.00	9.2
																														216.0	8.27	98.81									9.7
																													RWP	222.4	6.94	100.14									1.8
																														232.0	5.06	102.02									1.2
																														242.0	4.15	102.93									1.8
																														252.0	3.45	103.63									1.8



Field crew was unable to find left working pin in 8/29/06 survey, therefore, the two transect profiles may be slightly off (a few feet), and as the result, 7/25/06 and 8/29/06 surveys may not have the same reference for the stations. Since the WSE won't differ noticeably when the transects are just slightly off, both sets of WSEs are still used for hydraulic calibration.

```
       William River  WM_3 07/25/06
Riffle       627
IOC       1101100000001000101000
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 230.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 342.0
QARD 360.8
QARD 390.0
QARD 420.0
QARD 450.0
QARD 480.0
QARD 510.0
QARD 544.3
QARD 580.0
QARD 620.0
QARD 660.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 860.0
QARD 920.0
QARD 990.0
QARD1060.0
QARD1130.0
QARD1200.0
QARD1280.0
QARD1360.0
XSEC   0.0       0.0 1.0     95.12   0.00764
       0.0  1.097.34  2.597.09  4.096.59  4.496.09  4.897.09  5.396.89
       0.0  5.897.09  6.396.44  7.197.24  8.596.49 10.096.39 10.597.44
       0.0 11.096.39 14.096.09 18.096.49 21.896.59 29.096.59 36.096.29
       0.0 40.096.59 41.096.94 41.596.37 42.797.09 44.198.00 44.997.09
       0.0 46.096.49 53.096.14 55.096.29 61.596.09 68.096.29 75.096.27
       0.0 82.095.66 89.095.61 96.095.12103.095.24110.095.42116.595.34
       0.0123.595.49130.095.91134.096.09135.896.94137.596.29140.096.49
       0.0144.597.09146.597.47156.097.84161.097.20
NS     0.0       1.2       1.2       7.6       7.6       7.6       7.6
NS     0.0       7.6       7.6       7.6 .035  7.6       7.6       7.6
NS     0.0       7.6       7.6       6.5       6.5       5.6 .12   5.6
NS     0.0 .05   7.6       7.6       7.6       6.1       6.1       6.1
NS     0.0       6.1       6.1       5.6       5.6       5.6 .065  6.5
NS     0.0       6.5       6.5       6.7       6.7       6.5 .075  6.5
NS     0.0       6.5       7.6       7.6       7.6 .08   6.7       6.2
NS     0.0       9.2       9.2       9.2       9.2
CAL1   0.0     97.09     360.8
VEL1   0.0      0.00 0.77 0.88 0.00      0.00 1.58      3.62 0.47
VEL1   0.0 0.64 0.75 1.90 1.14 1.52 0.59 2.00 0.34 0.43 0.00      0.00
VEL1   0.0 1.03 1.58 2.74 2.10 2.19 1.50 3.33 1.87 2.99 3.69 3.59 2.10
VEL1   0.0 3.84 3.27 2.30 1.03 0.85 0.76 0.00
CAL2   0.0     97.00     342.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     97.22     544.3
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       William River  WM_3 07/25/06
Riffle       627
IOC       11011000000001000101000
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 230.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 342.0
QARD 360.8
QARD 390.0
QARD 420.0
QARD 450.0
QARD 480.0
QARD 510.0
QARD 544.3
QARD 580.0
QARD 620.0
QARD 660.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 860.0
QARD 920.0
QARD 990.0
QARD1060.0
QARD1130.0
QARD1200.0
QARD1280.0
QARD1360.0
XSEC   0.0       0.0 1.0     95.54   0.00764
       0.0 -4.098.32  1.098.44  5.098.36  9.397.79 10.097.49 13.597.39
       0.0 16.597.24 18.097.29 23.097.29 27.096.59 28.096.74 33.096.89
       0.0 36.096.79 38.096.82 40.097.04 42.096.49 47.096.29 52.095.69
       0.0 57.096.14 62.095.79 63.395.09 64.894.54 70.094.64 75.094.79
       0.0 79.895.24 85.095.54 88.095.74 91.095.89 94.896.19 99.896.44
       0.0101.596.84103.596.79106.096.94108.097.04109.096.99110.097.29
       0.0114.097.69114.697.79115.097.85118.098.82120.698.87130.098.91
       0.0140.099.06170.099.30
NS     0.0       2.1       2.1       2.1       9.5       9.5 .2    9.6
NS     0.0 .2    9.6       6.7       6.7       6.7 .075  6.7       7.6
NS     0.0 .070  7.6 .2    7.8 .2    7.6       6.7       6.7       6.7
NS     0.0       7.6       7.6 .10   7.6       7.6       7.6       7.6
NS     0.0 .068  7.6 .07   7.6       7.6       6.7       6.7       6.7
NS     0.0 .15   6.7 .25   6.7       6.7       6.7       6.7       9.6
NS     0.0       2.9       9.2       9.2       1.2       1.2       1.2
NS     0.0       1.2       1.2
CAL1   0.0     97.79     360.8
VEL1   0.0                0.00 0.15 0.15 0.15 1.08 0.31 0.80 2.94 1.07
VEL1   0.0 2.37 0.26 0.18 1.27 1.06 2.38 2.54 2.37 2.03 2.77 3.43 3.62
VEL1   0.0 3.76 3.57 2.18 2.21 1.61 1.40 0.16 0.16 0.46 0.15 0.15 0.15
VEL1   0.0 0.03 0.00
CAL2   0.0     97.79     342.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     98.07     544.3
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
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       William River  WM_3 07/25/06
Passage      627
IOC       1101100100001000101000
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 230.0
QARD 260.0
QARD 290.0
QARD 320.0
QARD 342.0
QARD 360.8
QARD 390.0
QARD 420.0
QARD 450.0
QARD 480.0
QARD 510.0
QARD 544.3
QARD 580.0
QARD 620.0
QARD 660.0
QARD 700.0
QARD 750.0
QARD 800.0
QARD 860.0
QARD 920.0
QARD 990.0
QARD1060.0
QARD1130.0
QARD1200.0
QARD1280.0
QARD1360.0
XSEC   0.0       0.0 1.0     96.10   0.03569
       0.0  1.0100.1 34.998.07 36.097.47 38.597.47 41.597.42 45.097.07
       0.0 51.596.87 56.596.97 58.098.10 59.097.27 63.296.87 65.098.42
       0.0 66.597.07 69.096.47 73.096.17 78.096.42 82.096.37 88.096.57
       0.0 93.096.42 97.096.72 99.597.37102.597.17105.097.52110.096.72
       0.0112.097.77115.097.42120.096.67125.596.42132.596.62138.096.72
       0.0141.596.72144.098.07146.098.67153.099.07158.098.57162.596.37
       0.0166.098.57167.596.72172.097.47177.098.42179.597.32186.097.52
       0.0193.097.47195.098.67201.097.57211.097.62212.097.47215.097.57
       0.0215.698.07216.098.81222.4100.1232.0102.0242.0102.9252.0103.6
NS     0.0       1.1       7.9       7.4       7.4       7.5       5.6
NS     0.0 .5    5.7       5.7       5.7       5.7       7.6       7.6
NS     0.0       7.6       7.6       7.6       7.6       7.6 .3    7.6
NS     0.0       6.7       6.7       7.6 .14   7.6       7.6       7.6
NS     0.0 .05   7.6 .048  7.6       6.7       7.6       7.6       7.6
NS     0.0       6.9       9.6       9.6       9.6       9.6       9.6
NS     0.0       9.6       6.9       6.9       9.2       6.9       9.6
NS     0.0       9.2       9.2       9.2       9.2       9.7       9.2
NS     0.0       9.2       9.7       1.8       1.2       1.8       1.8
WSL    0.0     97.62     97.67     97.73     97.77     97.84     97.91
WSL    0.0     97.97     98.03     98.07     98.11     98.16     98.21
WSL    0.0     98.27     98.32     98.36     98.42     98.47     98.53
WSL    0.0     98.58     98.64     98.70     98.77     98.84     98.92
WSL    0.0     99.00     99.08     99.15     99.21     99.29     99.36
CAL1   0.0     98.07     342.0
VEL1   0.0      0.00-0.51-0.46 0.31 0.63 0.32 1.00      1.65 2.46
VEL1   0.0 1.40 1.01 2.92 4.56 2.48 0.82 3.05 2.38 2.43 1.33 2.52 3.43
VEL1   0.0 1.77 5.56 3.48 3.66 4.86 1.50 1.44 0.00                0.16
VEL1   0.0      0.52 0.16      1.28 1.01 0.15      0.15 0.16 0.62 0.15
VEL1   0.0 0.00
CAL2   0.0     98.10     360.8
VEL2   0.0
VEL2   0.0
VEL2   0.0
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VEL2   0.0
VEL2   0.0
CAL3   0.0      98.47      544.3
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```