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Ex. 277-US-441

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Stream: Williamson River
Site: 632
Date: 4/14/2004
Habitat: Pool **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	5.48	105.48		100.00
HP1			6.72	98.76
HP2			6.54	98.94
HP3			6.64	98.84
HP3-glide	6.34	106.10	5.72	99.76
HP3			7.26	98.84
HP2			7.16	98.94
HP1			7.34	98.76
BM			6.11	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	106.10	9.68	0.00	96.42	96.42	
1-R	0							
2-L	18	14	106.10	9.67	0.00	96.43	96.43	
2-R	10							
3-L	34	31	106.10	9.67	0.00	96.43	96.43	
3-R	27							
							Ave Q=	77.2

Note: Only one WSE measured/TR; see entry notes for HC WSE
WSE slope = 0.033%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: na

Date: 6/26/2004
Habitat: Pool **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	6.03	106.03		100.00
HP1			7.26	98.77
HP2			7.09	98.94
HP3			7.19	98.84
BM2	5.62	106.12	5.53	100.50
HP3			7.28	98.84
HP2			7.17	98.95
HP1			7.35	98.77
BM			6.12	100.00

Comment: Turned on BM2.

(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	106.12	10.10	0.00	96.02	96.02	43.3
1-R	0			10.11	0.00	96.01		
2-L	18	14	106.12	10.08	0.00	96.04	96.04	46.0
2-R	10			10.09	0.00	96.03		
3-L	34	31	106.12	10.07	0.00	96.05	96.05	41.0
3-R	27			10.08	0.00	96.04		
							Ave Q=	43.4

Note: HC LWSE=96.02, RWSE=96.02; WSE 60' d/s96.00, 60' u/s 96.16
WSE slope = 0.098%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 4099
Propeller ID: 1A

Date: 8/20/2004
Habitat: Pool **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	5.91	105.91		100.00
HP1			7.13	98.78
HP2			6.95	98.96
HP3			7.05	98.86
TP				
HP3	7.28	106.14		
HP2			7.18	98.96
HP1			7.36	98.78
BM			6.14	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	106.13	10.18	0.00	95.95	95.97	44.7
1-R	0			10.15	0.00	95.98		
2-L	18	14	106.13	10.17	0.00	95.96	95.96	45.4
2-R	10			10.17	0.00	95.96		
3-L	34	31	106.13	10.15	0.00	95.98	95.98	47.7
3-R	27			10.16	0.00	95.97		
							Ave Q=	45.9

Note: HC LWSE FS=10.19; RWSE FS=10.15
WSE slope = 0.033%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: NA

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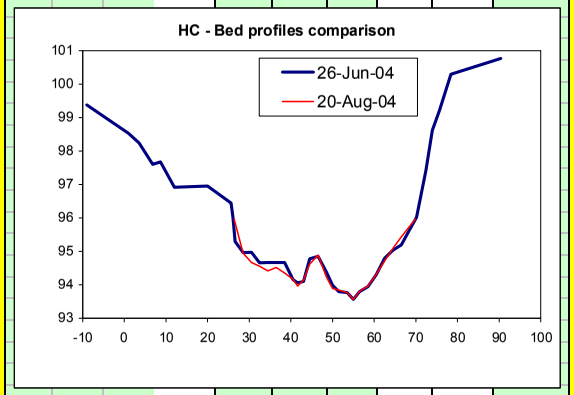
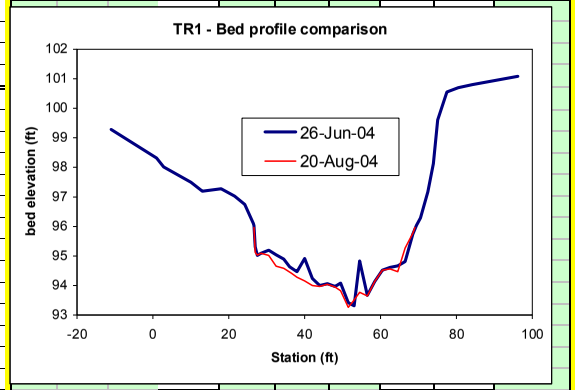
Stream:	Williamson Rive		14-Apr-04									26-Jun-04									20-Aug-04									
Site:	632			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	HC			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Pool													-9.0	6.74	99.38						1.3									
			WE	13.0		96.42	0.00	0.00		0.00	0.00		RWP	1.0	7.59	98.53						1.3									
Survey	HI	Q		14.0		95.82	0.60	0.00		0.01	0.00			3.5	7.88	98.24						1.3									
Date	(ft)	(cfs)		16.5		95.72	0.70	0.00		0.01	0.00			6.8	8.52	97.60						1.3									
4/14/2004	106.10	77.2		19.0		94.92	1.50	0.00		0.01	0.00			8.7	8.44	97.68						1.3									
6/26/2004	106.12			21.5		94.52	1.90	-0.05		-0.08	-0.37			12.0	9.20	96.92						1.3									
8/20/2004	106.13			24.0		94.52	1.90	-0.05		-0.08	-0.37			20.0	9.17	96.95						1.3									
				26.5		94.52	1.90	0.26		0.34	1.63			25.6	9.68	96.44						1.3									
				29.0		94.12	2.30	0.66		0.78	4.05		RWE	26.1	10.09	96.03						3.1									
				31.0		94.12	2.30	0.98		1.14	5.25			26.6		95.30	0.72					3.1	RWE	26.4		95.97	0.00					
				33.0		93.52	2.90	1.54	1.14	1.55	9.01			28.5		94.97	1.05					3.1		28.5		94.95	1.02					
				35.0		93.92	2.50	1.36	0.63	1.16	5.81			30.5		94.98	1.04					3.3		30.5		94.67	1.30					
				37.0		94.42	2.00	1.48		1.71	6.85			32.5		94.66	1.36					3.3		32.5		94.56	1.41					
				39.0		94.02	2.40	1.16		1.35	6.47			34.5		94.67	1.35					3.3		34.5		94.42	1.55					
				41.0		94.02	2.40	1.39		1.61	7.73			36.5		94.67	1.35					3.3		36.5		94.52	1.45					
				43.0		94.02	2.40	1.29		1.50	7.18			38.5		94.67	1.35					3.1		38.5		94.36	1.61					
				45.0		94.12	2.30	0.98		1.14	5.25			40.5		94.16	1.86					3.1		40.5		94.17	1.80					
				47.0		94.22	2.20	0.91		1.06	5.25			41.6		94.06	1.96					3.3		41.6		93.97	2.00					
				49.5		94.52	1.90	0.64		0.76	3.61			43.0		94.11	1.91					3.1		43.0		94.14	1.83					
				52.0		94.52	1.90	0.84		0.98	4.67			44.5		94.78	1.24					3.1		44.5		94.63	1.34					
				54.5		94.82	1.60	0.95		1.11	4.42			46.5		94.86	1.16					3.1		46.5		94.89	1.08					
				57.0		95.12	1.30	0.29		0.37	0.85			48.5		94.38	1.64					3.1		48.5		94.24	1.73					
				58.0		95.52	0.90	-0.04		-0.06	-0.06			50.0		93.99	2.03					3.3		50.0		93.89	2.08					
				59.0		96.02	0.40	-0.07		-0.11	-0.03			51.5		93.80	2.22					3.3		51.5		93.85	2.12					
			WE	59.5		96.42	0.00	0.00		0.00	0.00			53.5		93.77	2.25					3.1		53.5		93.77	2.20					
														55.0		93.57	2.45					3.1		55.0		93.57	2.40					
														56.5		93.80	2.22					3.1		56.5		93.81	2.16					
														58.5		93.95	2.07					3.1		58.5		93.97	2.00					
														60.5		94.31	1.71					3.1		60.5		94.32	1.65					
														62.5		94.80	1.22					3.1		62.5		94.72	1.25					
														64.5		95.04	0.98					2.1		64.5		95.10	0.87					
														66.5		95.20	0.82					2.1		66.5		95.44	0.53					
														68.5		95.64	0.38					2.1		68.5		95.75	0.22					
													LWE	70.2	10.10	96.02	0.00					2.1	LWE	69.9		95.97	0.00					
														72.4	8.71	97.41						2.1									
														74.0	7.50	98.62						2.1									
														75.7	6.91	99.21						3.1									
													LWP	78.4	5.82	100.30						1.3									
														90.4	5.35	100.77						1.3									

Q Transect only. Not HC transect.



Stream:	Williamson Rive	
Site:	632	
Transect:	1	
Habitat:	Pool	

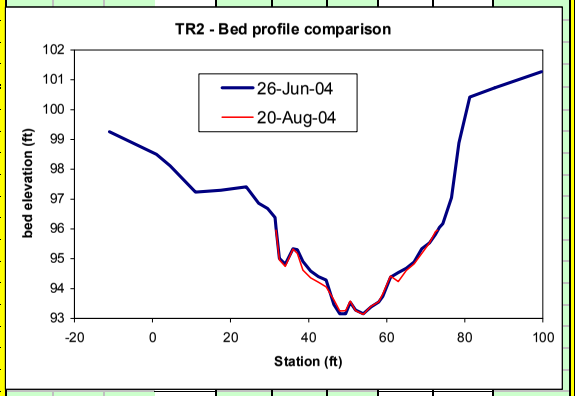
Survey Date	HI (ft)	Q (cfs)
4/14/2004	106.10	
6/26/2004	106.12	43.3
8/20/2004	106.13	44.7



14-Apr-04										26-Jun-04										20-Aug-04									
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) Ave	q (cfs)	substrate		Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) Ave	q (cfs)	substrate		Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	Vel (ft/s) $V_{0.8}$	Vel (ft/s) Ave	q (cfs)	substrate
											-11.0	6.84	99.28						1.3										
										RWP	1.0	7.80	98.32						1.3										
											2.8	8.10	98.02						1.3										
											10.0	8.63	97.49						1.3										
											13.0	8.93	97.19						1.1										
											18.0	8.84	97.28						1.1										
											21.5	9.09	97.03						1.1										
											24.2	9.37	96.75						1.1										
											26.5	10.02	96.10						1.1										
										RWE	26.6	10.09	96.03	0.00	0.00		0.00	0.00	1.1	RWE	26.6		95.97	0.00	0.00		0.00	0.00	
										*	27.0		95.32	0.70	0.02		0.02	0.01	3.1		27.0		95.13	0.84	0.03		0.05	0.02	
											27.5		95.02	1.00	0.29		0.38	0.28	3.3		27.5		95.03	0.94	0.15		0.22	0.15	
											28.5		95.10	0.92	0.12		0.21	0.29	3.1		28.5		95.10	0.87	0.01		0.02	0.02	
											30.5		95.20	0.82	0.56		0.61	1.00	3.1		30.5		95.02	0.95	0.38		0.47	0.90	
											32.5		95.04	0.98	0.93		0.97	1.91	3.3		32.5		94.66	1.31	0.73		0.86	2.26	
											34.5		94.90	1.12	1.03		1.08	2.11	3.3		34.5		94.59	1.38	0.92		1.07	2.96	
											36.0		94.64	1.38	1.08		1.13	2.73	3.3		36.5		94.42	1.55	0.92		1.07	2.91	
											38.0		94.47	1.55	1.07		1.12	3.47	3.3		38.0		94.28	1.69	0.99		1.15	3.41	
											40.0		94.92	1.10	0.99		1.04	2.28	3.3		40.0		94.16	1.81	0.87		1.02	3.68	
											42.0		94.24	1.78	1.04		1.09	3.88	3.3		42.0		94.00	1.97	1.00		1.16	4.58	
											44.0		94.00	2.02	0.95		1.00	4.02	3.3		44.0		93.97	2.00	0.99		1.15	4.61	
											46.0		94.07	1.95	0.72		0.77	3.00	3.3		46.0		94.05	1.92	0.71		0.84	3.22	
											48.0		93.97	2.05	0.88		0.93	3.32	3.1		48.0		93.95	2.02	0.68		0.81	2.85	
											49.5		94.09	1.93	0.94		0.98	3.33	3.1		49.5		93.83	2.14	0.89		1.04	3.89	
											51.5		93.42	2.60	0.64	1.07	0.91	4.12	3.1		51.5		93.27	2.70	0.79	0.61	0.83	3.91	
											53.0		93.32	2.70	0.55	0.70	0.67	2.73	3.1		53.0		93.52	2.45	0.21		0.29	1.06	
											54.5		94.84	1.18	0.16		0.25	0.52	3.9		54.5		93.77	2.20	0.43		0.53	2.04	
											56.5		93.67	2.35	0.36		0.44	2.05	3.1		56.5		93.65	2.32	0.28		0.36	1.69	
											58.5		94.14	1.88	0.13		0.22	0.83	2.1		58.5		94.14	1.83	0.01		0.02	0.06	
										*	60.5		94.52	1.50	0.02		0.02	0.06	2.1		60.5		94.52	1.45	0.06		0.09	0.27	
											62.5		94.62	1.40	0.14		0.23	0.65	2.1		62.5		94.57	1.40	0.06		0.09	0.26	
											64.5		94.67	1.35	0.15		0.24	0.65	2.1		64.5		94.47	1.50	-0.01		-0.02	-0.05	
										*	66.5		94.82	1.20	0.03		0.03	0.07	2.1		66.5		95.27	0.70	0.01		0.02	0.02	
											68.5		95.74	0.28	0.01		0.02	0.01	3.4		68.5		95.77	0.20	0.00		0.01	0.00	
										LWE	69.5	10.08	96.04	0.00	0.00		0.00	0.00	2.1	LWE	69.1		95.97	0.00	0.00		0.00	0.00	
											70.5	9.83	96.29						2.1										
											72.5	8.95	97.17						2.1										
											73.9	7.99	98.13						3.1										
											75.1	6.51	99.61						3.1										
											77.5	5.57	100.55						3.1										
											80.5	5.42	100.70						1.3										
										LWP	84.2	5.32	100.80						1.3										
											96.2	5.04	101.08						3.1										

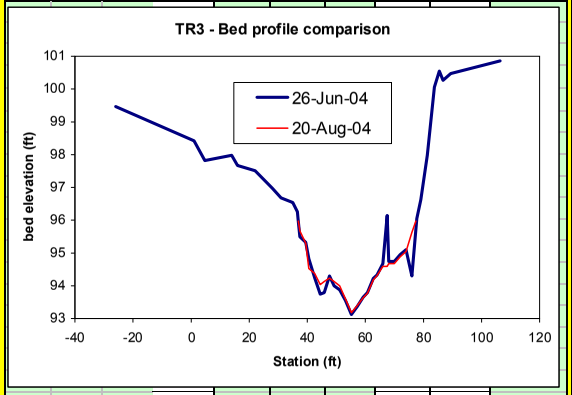
*-Estimated Velocity

Stream:	Williamson Rive		14-Apr-04									26-Jun-04										20-Aug-04									
Site:	632			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:	Pool													-11.0	6.86	99.26						1.3									
													RWP	1.0	7.62	98.50						1.3									
Survey	HI	Q												4.5	8.00	98.12						1.3									
Date	(ft)	(cfs)												11.0	8.88	97.24						1.3									
4/14/2004	106.10													17.5	8.82	97.30						1.3									
6/26/2004	106.12	46.0												24.0	8.71	97.41						1.3									
8/20/2004	106.13	45.4												27.2	9.26	96.86						1.3									
														29.5	9.44	96.68						1.3									
														31.4	9.74	96.38						1.3									
													RWE	31.6	10.07	96.05	0.00	0.00		0.00	0.00	1.3	RWE	31.6		95.96	0.00	0.00		0.00	0.00	
													*	32.5		95.02	1.02	0.05		0.05	0.06	3.1		32.5		94.96	1.00	0.16		0.23	0.28	
														34.0		94.82	1.22	0.53		0.58	1.25	3.1		34.0		94.74	1.22	-0.01		-0.02	-0.03	
													*	36.0		95.34	0.70	0.05		0.05	0.05	3.1		36.0		95.33	0.63	-0.01		-0.02	-0.02	
														37.1		95.31	0.73	0.66		0.71	0.65	3.1		37.1		95.18	0.78	0.49		0.59	0.58	
														38.5		94.92	1.12	0.82		0.87	1.65	3.3		38.5		94.62	1.34	0.72		0.85	1.94	
														40.5		94.59	1.45	0.92		0.96	2.80	3.3		40.5		94.36	1.60	0.84		0.98	3.15	
														42.5		94.41	1.63	1.00		1.05	3.41	3.3		42.5		94.21	1.75	0.94		1.09	3.83	
														44.5		94.29	1.75	0.90		0.94	3.30	3.3		44.5		94.06	1.90	0.90		1.05	3.98	
														46.5		93.47	2.57	0.74	0.99	0.91	4.11	3.4		46.5		93.62	2.34	0.81		0.95	3.89	
														48.0		93.16	2.88	0.48	1.03	0.81	3.50	3.4		48.0		93.25	2.71	0.96	0.91	1.09	4.43	
														49.5		93.16	2.88	0.04	0.94	0.54	2.08	3.4		49.5		93.26	2.70	0.82	0.53	0.80	2.91	
														50.7		93.54	2.50	0.04	0.89	0.51	1.60	3.4		50.7		93.58	2.38	0.42		0.52	1.54	
														52.0		93.29	2.75	0.22	0.99	0.67	3.06	3.4		52.0		93.26	2.70	0.99	0.12	0.67	2.97	
														54.0		93.16	2.88	0.80	1.13	1.02	5.85	3.4		54.0		93.14	2.82	1.04	0.58	0.95	5.36	
														56.0		93.39	2.65	0.56	1.14	0.90	4.78	3.4		56.0		93.41	2.55	1.00	0.59	0.93	4.76	
														58.0		93.56	2.48	0.84		0.89	3.30	3.3		58.0		93.56	2.40	0.62		0.74	2.66	
														59.0		93.74	2.30	0.63		0.68	2.35	3.4		59.0		93.82	2.14	0.51		0.61	1.96	
														61.0		94.39	1.65	0.27		0.36	1.17	2.1		61.0		94.42	1.54	0.31		0.40	1.22	
														63.0		94.54	1.50	0.14		0.23	0.69	2.1		63.0		94.24	1.72	0.00		0.01	0.00	
													*	65.0		94.69	1.35	0.05		0.05	0.14	2.1		65.0		94.61	1.35	0.00		0.01	0.00	
													*	67.0		94.89	1.15	0.05		0.05	0.12	2.1		67.0		94.83	1.13	0.00		0.01	0.00	
													*	69.0		95.34	0.70	0.03		0.03	0.04	2.1		69.0		95.18	0.78	0.00		0.01	0.00	
													*	71.0		95.54	0.50	0.01		0.01	0.01	2.1		71.0		95.53	0.43	0.00		0.01	0.00	
														72.5		95.82	0.22	0.00		0.01	0.00	2.1		72.5		95.91	0.05	0.00		0.01	0.00	
													LWE	73.5	10.07	96.05	0.00	0.00		0.00	0.00	2.1	LWE	73.0		95.96	0.00	0.00		0.00	0.00	
														74.4	9.94	96.18						2.1									
														76.6	9.07	97.05						2.1									
														78.5	7.23	98.89						3.1									
														81.3	5.70	100.42						3.1									
													LWP	87.7	5.39	100.73						1.3									
														99.7	4.85	101.27						3.1									



*-Estimated Velocity

Stream:	Williamson Rive		14-Apr-04									26-Jun-04										20-Aug-04									
Site:	632			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:	Pool													-26.0	6.63	99.47						1.3									
													RWP	1.0	7.70	98.42						1.3									
Survey	HI	Q												4.7	8.30	97.82						1.3									
Date	(ft)	(cfs)												14.0	8.14	97.98						1.3									
4/14/2004	106.10													16.0	8.45	97.67						1.3									
6/26/2004	106.12	41.0												22.0	8.61	97.51						1.3									
8/20/2004	106.13	47.7												28.0	9.15	96.97						1.3									
														31.0	9.44	96.68						1.1									
														35.0	9.58	96.54						1.1									
														36.6	9.86	96.26						1.3									
													RWE	36.8	10.07	96.05	0.00	0.00		0.00	0.00	1.3	RWE	36.9		95.98	0.00	0.00		0.00	0.00	
													*	37.5		95.50	0.55	0.01		0.01	0.01	2.1		37.5		95.68	0.30	0.00		0.01	0.00	
													*	39.5		95.33	0.72	0.01		0.01	0.01	2.1		39.5		95.30	0.68	0.00		0.01	0.00	
													*	40.5		94.83	1.22	0.05		0.05	0.09	2.1		40.5		94.53	1.45	-0.04		-0.06	-0.14	
														42.5		94.25	1.80	0.56		0.61	2.20	3.1		42.5		94.38	1.60	0.19		0.27	0.85	
														44.5		93.75	2.30	0.66		0.71	2.70	3.3		44.5		94.04	1.94	0.71		0.84	2.69	
														45.8		93.80	2.25	0.82		0.87	3.13	3.3		45.8		94.13	1.85	0.83		0.97	2.88	
														47.7		94.30	1.75	0.89		0.93	2.78	3.3		47.7		94.24	1.74	1.02		1.19	3.51	
														49.2		94.00	2.05	0.75		0.80	2.87	3.3		49.2		94.13	1.85	0.96		1.12	3.62	
														51.2		93.88	2.17	0.60		0.65	2.82	3.3		51.2		94.00	1.98	0.86		1.01	3.98	
														53.2		93.55	2.50	0.67	1.04	0.90	4.52	3.4		53.2		93.60	2.38	1.01		1.18	5.59	
														55.2		93.13	2.92	0.70	1.20	1.00	5.85	3.4		55.2		93.18	2.80	1.05	0.65	1.00	5.58	
														57.2		93.37	2.68	0.23	1.32	0.85	4.55	3.4		57.2		93.40	2.58	1.12	0.55	0.98	5.06	
														59.2		93.65	2.40	0.61		0.66	2.77	3.4		59.2		93.64	2.34	0.70		0.83	3.39	
														60.7		93.80	2.25	0.19		0.28	1.11	3.4		60.7		93.78	2.20	0.78		0.92	3.53	
														62.7		94.23	1.82	0.70		0.75	2.25	3.4		62.7		94.18	1.80	0.89		1.04	3.08	
														64.0		94.33	1.72	0.46		0.53	1.49	3.4		64.0		94.31	1.67	0.52		0.62	1.72	
														66.0		94.68	1.37	0.06		0.13	0.18	2.3		66.0		94.60	1.38	0.35		0.44	1.07	
													lwd	67.5		96.15	-0.10					1.1		67.5		94.60	1.38	0.11		0.17	0.23	
													*	68.0		94.75	1.30	0.05		0.05	0.07	2.3		68.0		94.68	1.30	0.02		0.03	0.05	
													*	70.0		94.75	1.30	0.03		0.03	0.08	2.3		70.0		94.68	1.30	-0.03		-0.05	-0.12	
														72.0		94.95	1.10	0.32		0.40	0.89	3.2		72.0		94.89	1.09	0.32		0.41	0.89	
														74.0		95.10	0.95	0.13		0.22	0.42	3.2		74.0		95.05	0.93	0.09		0.14	0.26	
													*	76.0		94.30	1.75	0.05		0.05	0.16	3.2		76.0		95.63	0.35	0.00		0.01	0.00	
													LWE	77.7	10.07	96.05	0.00	0.00		0.00	0.00	2.1	LWE	77.4		95.98	0.00	0.00		0.00	0.00	
														79.1	9.50	96.62						2.1									
														81.3	8.14	97.98						1.3									
														83.8	6.06	100.06						1.3									
														85.5	5.57	100.55						1.3									
														86.7	5.85	100.27						1.3									
													LWP	89.4	5.65	100.47						1.3									
														106.4	5.26	100.86						1.3									



*-Estimated Velocity

```
     Williamson River WM_8 06/26/04
Pool                          LOW                                    TRANSECT 1
IOC       11011000000001000101000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     93.32   0.00033
       0.0-11.0 99.3  1.0 98.3  2.8 98.0 10.0 97.5 13.0 97.2 18.0 97.3
       0.0 21.5 97.0 24.2 96.7 26.5 96.1 26.6 96.0 27.0 95.3 27.5 95.0
       0.0 28.5 95.1 30.5 95.2 32.5 95.0 34.5 94.9 36.0 94.6 38.0 94.5
       0.0 40.0 94.9 42.0 94.2 44.0 94.0 46.0 94.1 48.0 94.0 49.5 94.1
       0.0 51.5 93.4 53.0 93.3 54.5 94.8 56.5 93.7 58.5 94.1 60.5 94.5
       0.0 62.5 94.6 64.5 94.7 66.5 94.8 68.5 95.7 69.5 96.0 70.5 96.3
       0.0 72.5 97.2 73.9 98.1 75.1 99.6 77.5100.6 80.5100.7 84.2100.8
       0.0 96.2101.1
NS     0.0       1.3       1.3       1.3       1.3       1.1       1.1
NS     0.0       1.1       1.1       1.1       1.1 0.2   3.1       3.3
NS     0.0       3.1       3.1       3.3       3.3       3.3       3.3
NS     0.0       3.3       3.3       3.3       3.3       3.1       3.1
NS     0.0       3.1       3.1       3.9       3.1       2.1 0.3   2.1
NS     0.0       2.1       2.1       2.1       3.4       2.1       2.1
NS     0.0       2.1       3.1       3.1       3.1       1.3       1.3
NS     0.0       3.1
CAL1   0.0     96.02      43.9
VEL1   0.0                                                0.00 0.02 0.38
VEL1   0.0 0.21 0.61 0.97 1.08 1.13 1.12 1.04 1.09 1.00 0.77 0.93 0.98
VEL1   0.0 0.91 0.67 0.25 0.44 0.22 0.02 0.23 0.24 0.03 0.02 0.00
VEL1   0.0
CAL2   0.0     96.42      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.97      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

```
     Williamson River WM_8 06/26/04
Pool                          LOW                                    TRANSECT 2
IOC       11011001000010001010000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     93.32   0.00033
       0.0-11.0 99.3  1.0 98.5  4.5 98.1 11.0 97.2 17.5 97.3 24.0 97.4
       0.0 27.2 96.9 29.5 96.7 31.4 96.4 31.6 96.1 32.5 95.0 34.0 94.8
       0.0 36.0 95.3 37.1 95.3 38.5 94.9 40.5 94.6 42.5 94.4 44.5 94.3
       0.0 46.5 93.5 48.0 93.2 49.5 93.2 50.7 93.5 52.0 93.3 54.0 93.2
       0.0 56.0 93.4 58.0 93.6 59.0 93.7 61.0 94.4 63.0 94.5 65.0 94.7
       0.0 67.0 94.9 69.0 95.3 71.0 95.5 72.5 95.8 73.5 96.1 74.4 96.2
       0.0 76.6 97.1 78.5 98.9 81.3100.4 87.7100.7 99.7101.3
NS     0.0       1.3       1.3       1.3       1.3       1.3       1.3
NS     0.0       1.3       1.3       1.3       1.3 .2    3.1       3.1
NS     0.0 .2    3.1       3.1       3.3       3.3       3.3       3.3
NS     0.0       3.4       3.4       3.4       3.4       3.4       3.4
NS     0.0       3.4       3.3       3.4       2.1       2.1 .30   2.1
NS     0.0       2.1       2.1       2.1       2.1       2.1       2.1
NS     0.0       2.1       3.1       3.1       1.3       3.1
WSL    0.0     95.41     95.47     95.61     95.73     95.83     95.92
WSL    0.0     95.99     96.04     96.07     96.12     96.16     96.20
WSL    0.0     96.24     96.28     96.32     96.35     96.39     96.42
WSL    0.0     96.44     96.47     96.50     96.53     96.56     96.59
WSL    0.0     96.62     96.65     96.67     96.70     96.74     96.75
CAL1   0.0     96.04      43.9
VEL1   0.0                                                0.00 0.05 0.58
VEL1   0.0 0.05 0.71 0.87 0.96 1.05 0.94 0.91 0.81 0.54 0.51 0.67 1.02
VEL1   0.0 0.90 0.89 0.68 0.36 0.23 0.05 0.05 0.03 0.01 0.01 0.00
VEL1   0.0
CAL2   0.0     96.43      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.96      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

```
     Williamson River WM_8 06/26/04
Pool                          LOW                                    TRANSECT 3
IOC       11011001000010001010000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     93.32   0.00033
       0.0  1.0 98.4  4.7 97.8 14.0 98.0 16.0 97.7 22.0 97.5 28.0 97.0
       0.0 31.0 96.7 35.0 96.5 36.6 96.3 36.8 96.1 37.5 95.5 39.5 95.3
       0.0 40.5 94.8 42.5 94.2 44.5 93.7 45.8 93.8 47.7 94.3 49.2 94.0
       0.0 51.2 93.9 53.2 93.6 55.2 93.1 57.2 93.4 59.2 93.7 60.7 93.8
       0.0 62.7 94.2 64.0 94.3 66.0 94.7 67.5 96.2 68.0 94.7 70.0 94.7
       0.0 72.0 94.9 74.0 95.1 76.0 94.3 77.7 96.1 79.1 96.6 81.3 98.0
       0.0 83.8100.1 85.5100.6 86.7100.3 89.4100.5
NS     0.0       1.3       1.3       1.3       1.3       1.3       1.3
NS     0.0       1.1       1.1       1.3       1.3 .3    2.1  .25  2.1
NS     0.0 .2    2.1       3.1       3.3       3.3       3.3       3.3
NS     0.0       3.3       3.4       3.4       3.4       3.4 0.12  3.4
NS     0.0       3.4       3.4       2.3       1.1  0.40 2.3 0.6   2.3
NS     0.0       3.2       3.2 .35   3.2 .5    2.1       2.1       1.3
NS     0.0       1.3       1.3       1.3       1.3
WSL    0.0     95.42     95.48     95.62     95.74     95.84     95.93
WSL    0.0     96.00     96.05     96.08     96.12     96.16     96.20
WSL    0.0     96.24     96.28     96.32     96.35     96.39     96.42
WSL    0.0     96.44     96.47     96.50     96.53     96.56     96.59
WSL    0.0     96.62     96.65     96.67     96.70     96.74     96.75
CAL1   0.0     96.05      43.9
VEL1   0.0                                                0.00 0.01 0.01
VEL1   0.0 0.05 0.61 0.71 0.87 0.93 0.80 0.65 0.90 1.00 0.85 0.66 0.28
VEL1   0.0 0.75 0.53 0.13      0.05 0.03 0.40 0.22 0.05 0.00
VEL1   0.0
CAL2   0.0     96.43      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     95.98      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

Stream: Williamson River
Site: 632
Date: 4/14/2004
Habitat: Glide **Flow:** High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	5.48	105.48		100.00
HP1			6.87	98.61
HP2			5.76	99.72
HP3			5.72	99.76
TP				
HP3	6.34	106.10		
HP2			6.38	99.72
HP1			7.50	98.60
BM			6.11	99.99

Comment: Additional BM for Glide TR's

(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	106.10	9.64	0.00	96.46	96.46	
1-R	0							
2-L	48	51	106.10	9.63	0.00	96.47	96.47	
2-R	53							
3-L	119	137	106.10	9.61	0.00	96.49	96.49	
3-R	154							
							Ave Q=	77.2

Note: Only one WSE in each transect was measured
WSE slope = 0.022%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: na

Date: 6/26/2004
Habitat: Glide **Flow:** Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	6.03	106.03		100.00
HP1			7.42	98.61
HP2			6.31	99.72
HP3			6.27	99.76
BM2	5.62	106.12	5.53	100.50
TP				
HP3			6.36	99.76
HP2			6.40	99.72
HP1			7.51	98.61
BM			6.12	100.00

Comment: Turned on BM2

(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	106.12	10.05	0.00	96.07	96.08	44.1
1-R	0			10.04	0.00	96.08		
2-L	48	51	106.12	10.02	0.00	96.10	96.11	43.9
2-R	53			10.01	0.00	96.11		
3-L	119	137	106.12	9.99	0.00	96.13	96.13	45.1
3-R	154			9.99	0.00	96.13		
							Ave Q=	44.4

Note:
WSE slope = 0.040%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 4099
Propeller ID: 1a

Date: 8/20/2004
Habitat: Glide **Flow:** Mid

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	6.13	106.13		100.00
HP1			7.52	98.61
HP2			6.41	99.72
HP3			6.37	99.76
TP				
HP3		106.13		
HP2				
HP1				
BM				

Comment: 2nd Half of loop not shot.

(2) Water Surface Elevation (WSE) Survey

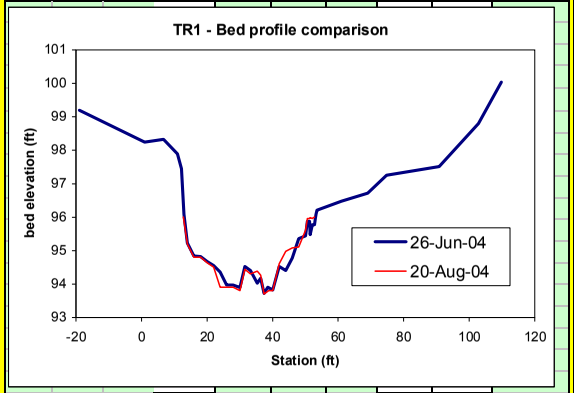
TR	River Station L/R bank (ft)	River Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
1-L	0	0	106.13	10.12	0.00	96.01	96.01	46.4
1-R	0			10.13	0.00	96.00		
2-L	48	51	106.13	10.09	0.00	96.04	96.05	44.1
2-R	53			10.08	0.00	96.05		
3-L	119	137	106.13	10.05	0.00	96.08	96.08	51.9
3-R	154			10.05	0.00	96.08		
							Ave Q=	47.5

Note:
WSE slope = 0.055%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068
Propeller ID: na

Stream:	Williamson Rive		14-Apr-04									26-Jun-04									20-Aug-04									
Site:	632			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:	Glide													-19.0	6.92	99.20						1.3									
													RWP	1.0	7.88	98.24						1.3									
Survey	HI	Q												6.7	7.79	98.33						1.3									
Date	(ft)	(cfs)												11.0	8.23	97.89						1.3									
4/14/2004	106.10													12.2	8.67	97.45						1.3									
6/26/2004	106.12	44.1											RWE	12.9	10.03	96.09	0.00	0.00		0.00	0.00	1.2	RWE	12.8		96.01	0.00	0.00		0.00	0.00	
8/20/2004	106.13	46.4												14.0		95.23	0.85	0.28		0.37	0.48	3.2		14.0		95.21	0.80	0.21		0.29	0.37	
														16.0		94.85	1.23	0.95		1.00	2.45	3.4		16.0		94.81	1.20	0.69		0.82	1.96	
														18.0		94.83	1.25	0.83		0.88	2.19	3.4		18.0		94.81	1.20	0.88		1.03	2.46	
														20.0		94.68	1.40	0.38		0.45	1.27	3.4		20.0		94.64	1.37	0.23		0.31	0.85	
													*	22.0		94.56	1.52	0.03		0.03	0.09	3.2		22.0		94.51	1.50	0.45	0.06	0.06	0.18	
													*	24.0		94.36	1.72	0.10		0.10	0.34	3.4		24.0		93.91	2.10	0.50	0.08	0.08	0.34	
														26.0		93.98	2.10	0.95		1.00	4.18	3.4		26.0		93.91	2.10	0.79		0.93	3.90	
														28.0		93.98	2.10	1.18		1.23	5.18	3.4		28.0		93.91	2.10	1.23		1.43	6.00	
														30.0		93.90	2.18	1.65		1.72	6.56	3.4		30.0		93.81	2.20	1.50		1.74	6.68	
														31.5		94.53	1.55	1.40		1.46	3.62	3.1		31.5		94.45	1.56	1.18		1.37	3.42	
														33.2		94.41	1.67	1.15		1.20	3.82	3.1		33.2		94.31	1.70	1.20		1.39	4.50	
														35.3		94.03	2.05	1.20		1.25	4.12	3.4		35.3		94.39	1.62	1.44		1.67	4.32	
														36.4		94.18	1.90	0.99		1.04	2.07	3.1		36.4		94.27	1.74	1.37		1.59	2.90	
														37.4		93.73	2.35	1.05		1.10	2.71	3.4		37.4		93.71	2.30	1.07		1.24	3.43	
														38.5		93.91	2.17	0.74		0.79	2.23	3.4		38.8		93.81	2.20	0.54		0.65	1.85	
														40.0		93.83	2.25	0.28		0.37	1.44	3.4		40.0		93.81	2.20	0.67		0.79	2.80	
														42.0		94.53	1.55	0.29		0.38	1.16	3.2		42.0		94.61	1.40	0.10		0.16	0.44	
													*	44.0		94.41	1.67	0.05		0.05	0.17	2.1		44.0		94.98	1.03	0.05	0.00	0.00	0.00	
													*	46.0		94.78	1.30	0.02		0.02	0.05	2.1		46.0		95.09	0.92	0.01		0.02	0.03	
														48.0		95.36	0.72	0.00		0.01	0.00	2.1		48.0		95.11	0.90	0.00		0.01	0.00	
														50.0		95.45	0.63	0.00		0.01	0.00	2.1		50.0		95.61	0.40	0.00		0.01	0.00	
														50.6		95.88	0.20	0.00		0.01	0.00	1.2		50.6		95.96	0.05	0.00		0.01	0.00	
														51.3		95.88	0.20	0.00		0.01	0.00	1.2		51.3		95.96	0.05	0.00		0.01	0.00	
														51.5		95.48	0.60	0.00		0.01	0.00	2.1		51.5		95.99	0.02	0.00		0.01	0.00	
														52.1		95.78	0.30	0.00		0.01	0.00	1.2		52.1		95.96	0.05	0.00		0.01	0.00	
														52.8		95.78	0.30	0.00		0.01	0.00	1.2	LWE	52.8		96.01	0.00	0.00		0.00	0.00	
														53.1		95.98	0.10	0.00		0.01	0.00	1.2									
													LWE	53.3	10.03	96.09	0.00	0.00		0.00	0.00	1.2									
														53.5	9.91	96.21						1.2									
														61.0	9.64	96.48						1.2									
														69.0	9.40	96.72						1.2									
													LWP	74.8	8.87	97.25						1.2									
														90.8	8.61	97.51						1.2									
														102.8	7.32	98.80						1.3									
														109.8	6.08	100.04						1.3									

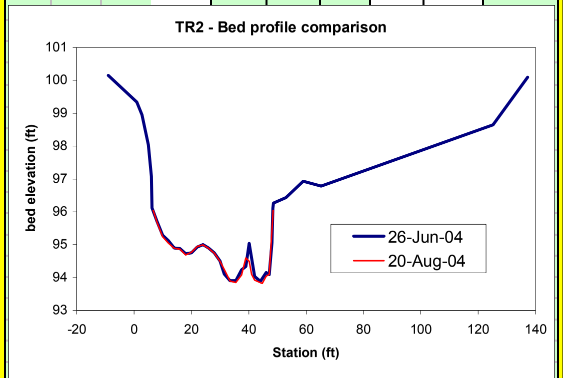


*- Estimated Velocity

Stream:	Williamson River	
Site:	632	
Transect:	2	
Habitat:	Glide	
Survey Date	HI (ft)	Q (cfs)
4/14/2004	106.10	
6/26/2004	106.12	43.9
8/20/2004	106.13	44.1

14-Apr-04

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



26-Jun-04

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate
	-9.0	5.97	100.15						1.3
RWP	1.0	6.78	99.34						1.3
	2.8	7.17	98.95						1.3
	5.0	8.08	98.04						1.3
	6.1	9.04	97.08						1.3
RWE	6.3	10.00	96.12	0.00	0.00		0.00	0.00	2.1
*	8.0		95.73	0.38	0.05		0.05	0.04	2.1
	10.0		95.29	0.82	0.36		0.44	0.72	2.3
	12.0		95.13	0.98	0.06		0.13	0.26	3.2
	14.0		94.91	1.20	0.52		0.58	1.38	3.4
	16.0		94.89	1.22	0.60		0.65	1.59	3.4
	18.0		94.73	1.38	0.16		0.25	0.69	3.4
	20.0		94.76	1.35	0.53		0.58	1.58	3.4
	22.0		94.93	1.18	0.23		0.32	0.76	3.2
	24.0		95.01	1.10	0.36		0.44	0.96	3.3
	26.0		94.91	1.20	0.24		0.33	0.79	3.3
	28.0		94.76	1.35	0.17		0.26	0.70	3.4
	30.0		94.51	1.60	0.67		0.72	2.02	3.1
	31.5		94.11	2.00	0.79		0.84	2.93	3.4
	33.5		93.91	2.20	1.08		1.13	4.97	3.4
	35.5		93.91	2.20	1.17		1.22	5.38	3.4
	37.5		94.24	1.87	1.19		1.24	4.07	3.4
	39.0		94.34	1.77	1.26		1.32	3.03	3.4
	40.1		95.04	1.07	1.57		1.64	2.71	3.1
	42.1		94.04	2.07	0.34		0.42	1.74	3.4
	44.1		93.89	2.22	1.02		1.07	4.74	3.4
	46.1		94.16	1.95	0.89		0.93	2.73	3.3
*	47.1		94.09	2.02	0.05		0.05	0.10	3.3
	48.1		95.06	1.05	0.00		0.01	0.00	2.1
LWE	48.4	10.01	96.11	0.00	0.00		0.00	0.00	2.1
	48.6	9.85	96.27						2.1
	53.0	9.69	96.43						1.2
	59.0	9.19	96.93						1.2
LWP	65.2	9.34	96.78						1.2
	125.2	7.47	98.65						1.3
	137.2	6.02	100.10						1.3

*- Estimated Velocity

20-Aug-04

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate
RWE	6.7		96.05	0.00	0.00		0.00	0.00	
	8.0		95.70	0.35	0.00		0.01	0.00	
	10.0		95.25	0.80	0.08		0.12	0.20	
	12.0		95.05	1.00	0.09		0.14	0.28	
	14.0		94.90	1.15	0.55		0.66	1.51	
	16.0		94.87	1.18	0.52		0.62	1.47	
	18.0		94.69	1.36	0.36		0.45	1.23	
	20.0		94.78	1.27	0.48		0.58	1.48	
	22.0		94.95	1.10	0.55	0.00	0.00	0.00	
	24.0		95.00	1.05	0.73	0.04	0.04	0.08	
	26.0		94.90	1.15	0.70	0.00	0.00	0.00	
	28.0		94.75	1.30	0.73	0.04	0.04	0.10	
	30.0		94.50	1.55	0.51		0.61	1.66	
	31.5		94.25	1.80	0.81		0.95	2.99	
	33.5		93.90	2.15	1.08		1.26	5.40	
	35.5		93.85	2.20	1.30		1.51	6.63	
	37.5		94.08	1.97	1.36		1.58	5.43	
	39.0		94.60	1.45	1.53		1.77	3.34	
	40.1		94.50	1.55	1.61	0.00	0.00	0.00	
	41.0		94.10	1.95	1.42	-0.05	-0.05	-0.10	
	42.1		93.93	2.12	1.36		1.58	6.18	
	44.7		93.83	2.22	0.73		0.86	3.82	
	46.1		94.05	2.00	0.87		1.02	2.44	
	47.1		94.10	1.95	-0.02		-0.03	-0.07	
	48.3		95.75	0.30	0.00		0.01	0.00	
LWE	48.5		96.05	0.00	0.00		0.00	0.00	

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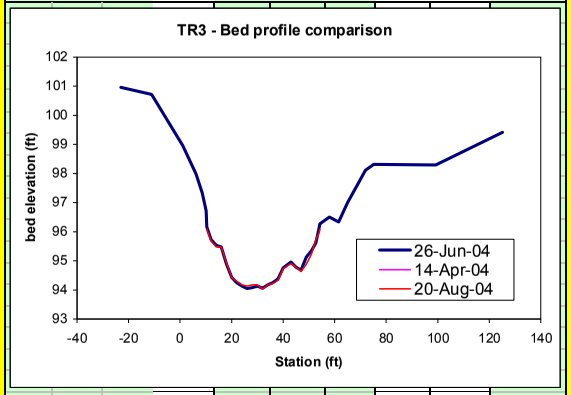
Stream:	Williamson Rive		14-Apr-04									26-Jun-04									20-Aug-04									
Site:	632			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q			Sta	FS	Ground	Depth	Vel (ft/s)			q	
Transect:	3			(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate		(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
Habitat:	Glide													-23.0	5.14	100.96						3.1										
														-11.0	5.40	100.72						3.1										
Survey	HI	Q											RWP	1.0	7.16	98.96						3.1										
Date	(ft)	(cfs)												6.2	8.13	97.99						3.1										
4/14/2004	106.10													8.5	8.78	97.34						1.3										
6/26/2004	106.12	45.1												10.1	9.40	96.72						1.2										
8/20/2004	106.13	51.9											RWE	10.4	9.95	96.17	0.00	0.00		0.00	0.00	1.2	RWE	10.4		96.08	0.00	0.00		0.00	0.00	
													*	12.0		95.73	0.40	0.02		0.02	0.01	2.1		12.0		95.68	0.40	0.00		0.01	0.00	
													*	14.0		95.53	0.60	0.03		0.03	0.04	2.1		14.0		95.48	0.60	0.00		0.01	0.00	
													*	16.0		95.48	0.65	0.05		0.05	0.07	2.1		16.0		95.48	0.60	0.00		0.01	0.00	
													*	18.0		94.88	1.25	0.03		0.03	0.08	2.1		18.0		94.93	1.15	0.05		0.08	0.18	
														20.0		94.43	1.70	0.52		0.58	1.96	3.2		20.0		94.43	1.65	0.42		0.52	1.71	
														22.0		94.25	1.88	0.48		0.54	2.04	3.3		22.0		94.30	1.78	0.65		0.77	2.75	
														24.0		94.13	2.00	1.04		1.09	4.35	3.4		24.0		94.18	1.90	0.92		1.07	4.07	
														26.0		94.05	2.08	0.97		1.02	4.23	3.4		26.0		94.13	1.95	1.22		1.42	5.52	
														28.0		94.08	2.05	0.90		0.94	3.87	3.4		28.0		94.18	1.90	1.10		1.28	4.86	
														30.0		94.13	2.00	1.02		1.07	4.27	8.3		30.0		94.18	1.90	1.18		1.37	5.21	
														32.0		94.06	2.07	1.07		1.12	4.64	8.3		32.0		94.03	2.05	1.21		1.40	5.76	
														34.0		94.18	1.95	1.08		1.13	4.41	8.3		34.0		94.18	1.90	1.12		1.30	4.95	
														36.0		94.25	1.88	0.98		1.03	3.86	3.3		36.0		94.22	1.86	1.06		1.23	4.59	
														38.0		94.38	1.75	0.89		0.93	3.27	3.3		38.0		94.33	1.75	1.10		1.28	4.48	
														40.0		94.76	1.37	0.53		0.58	2.00	3.1		40.0		94.73	1.35	0.50		0.60	2.03	
														43.0		94.96	1.17	0.57		0.62	1.81	3.3		43.0		94.91	1.17	0.53		0.64	1.86	
														45.0		94.78	1.35	0.77		0.82	2.21	3.3		45.0		94.78	1.30	0.72		0.85	2.21	
														47.0		94.68	1.45	0.59		0.64	1.86	3.4		47.0		94.63	1.45	0.45		0.55	1.60	
													*	49.0		95.13	1.00	0.03		0.03	0.06	2.1		49.0		94.88	1.20	0.05		0.08	0.19	
													*	51.0		95.35	0.78	0.03		0.03	0.04	2.1		51.0		95.23	0.85	0.00		0.01	0.00	
														52.7		95.61	0.52	0.00		0.01	0.00	2.1		52.7		95.73	0.35	0.00		0.01	0.00	
													LWE	54.0	9.97	96.15	0.00	0.00		0.00	0.00	1.2		54.0		95.98	0.10	0.00		0.01	0.00	
														54.2	9.85	96.27						1.2	LWE	54.2		96.08	0.00	0.00		0.00	0.00	
														58.0	9.62	96.50						1.2										
														61.5	9.79	96.33						1.2										
														65.0	9.12	97.00						1.2										
														69.2	8.45	97.67						1.3										
														72.0	8.01	98.11						1.3										
													LWP	75.2	7.80	98.32						1.3										
														99.2	7.83	98.29						1.3										
														125.2	6.70	99.42						1.3										



Field Note: Best Q

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   Williamson River   WM_8 06/26/04
Glide                         Low                                    TRANSECT 1
IOC       11011000000001000101000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     93.73   0.000403
       0.0-19.0 99.2  1.0 98.2  6.7 98.3 11.0 97.9 12.2 97.4 12.9 96.1
       0.0 14.0 95.2 16.0 94.8 18.0 94.8 20.0 94.7 22.0 94.6 24.0 94.4
       0.0 26.0 94.0 28.0 94.0 30.0 93.9 31.5 94.5 33.2 94.4 35.3 94.0
       0.0 36.4 94.2 37.4 93.7 38.5 93.9 40.0 93.8 42.0 94.5 44.0 94.4
       0.0 46.0 94.8 48.0 95.4 50.0 95.4 50.6 95.9 51.3 95.9 51.5 95.5
       0.0 52.1 95.8 52.8 95.8 53.1 96.0 53.3 96.1 53.5 96.2 61.0 96.5
       0.0 69.0 96.7 74.8 97.2 90.8 97.5102.8 98.8109.8100.0
NS     0.0       1.3       1.3       1.3       1.3       1.3       1.2
NS     0.0       3.2       3.4       3.4       3.4 0.3   3.2 0.15  3.4
NS     0.0       3.4       3.4 .035  3.4 .035  3.1       3.1       3.4
NS     0.0       3.1       3.4       3.4       3.4       3.2 .25   2.1
NS     0.0 .30   2.1 0.4   2.1 0.4   2.1 0.4   1.2 0.4   1.2  0.4  2.1
NS     0.0 0.4   1.2 0.4   1.2       1.2       1.2       1.2       1.2
NS     0.0       1.2       1.2       1.2       1.3       1.3
CAL1   0.0     96.08      43.9
VEL1   0.0                          0.00 0.37 1.00 0.88 0.45 0.03 0.10
VEL1   0.0 1.00 1.23 1.72 1.46 1.20 1.25 1.04 1.10 0.79 0.37 0.38 0.05
VEL1   0.0 0.02 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.00
VEL1   0.0
CAL2   0.0     96.46      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.01      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

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   Williamson River   WM_8 06/26/04
Glide                        Low                                    TRANSECT 2
IOC       11011001000010001010000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     94.03   0.000403
       0.0 -9.0100.2  1.0 99.3  2.8 98.9  5.0 98.0  6.1 97.1  6.3 96.1
       0.0  8.0 95.7 10.0 95.3 12.0 95.1 14.0 94.9 16.0 94.9 18.0 94.7
       0.0 20.0 94.8 22.0 94.9 24.0 95.0 26.0 94.9 28.0 94.8 30.0 94.5
       0.0 31.5 94.1 33.5 93.9 35.5 93.9 37.5 94.2 39.0 94.3 40.1 95.0
       0.0 42.1 94.0 44.1 93.9 46.1 94.2 47.1 94.1 48.1 95.1 48.4 96.1
       0.0 48.6 96.3 53.0 96.4 59.0 96.9 65.2 96.8125.2 98.7137.2100.1
NS     0.0       1.3       1.3       1.3       1.3       1.3       2.1
NS     0.0       2.1       2.3       3.2       3.4       3.4       3.4
NS     0.0       3.4       3.2       3.3       3.3       3.4       3.1
NS     0.0       3.4       3.4       3.4       3.4       3.4       3.1
NS     0.0       3.4       3.4       3.3       3.3       2.1       2.1
NS     0.0       2.1       1.2       1.2       1.2       1.3       1.3
WSL    0.0     95.50     95.54     95.68     95.78     95.89     95.98
WSL    0.0     96.05     96.09     96.12     96.16     96.21     96.25
WSL    0.0     96.29     96.33     96.37     96.41     96.44     96.48
WSL    0.0     96.49     96.52     96.56     96.59     96.62     96.65
WSL    0.0     96.68     96.71     96.74     96.77     96.81     96.82
CAL1   0.0     96.11      43.9
VEL1   0.0                          0.00 0.05 0.44 0.13 0.58 0.65 0.25
VEL1   0.0 0.58 0.32 0.44 0.33 0.26 0.72 0.84 1.13 1.22 1.24 1.32 1.64
VEL1   0.0 0.42 1.07 0.93 0.05 0.01 0.00
CAL2   0.0     96.47      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.05      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```

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Williamson River WM-8      06/24/04
Glide                       Low                                    TRANSECT 3
IOC       1101100100001000101000
QARD  18.0
QARD  20.0
QARD  25.0
QARD  30.0
QARD  35.0
QARD  40.0
QARD  43.9
QARD  46.7
QARD  49.0
QARD  52.0
QARD  55.0
QARD  58.0
QARD  61.0
QARD  64.0
QARD  67.0
QARD  70.0
QARD  73.0
QARD  76.0
QARD  77.2
QARD  80.0
QARD  83.0
QARD  86.0
QARD  89.0
QARD  92.0
QARD  95.0
QARD  98.0
QARD 101.0
QARD 104.0
QARD 108.0
QARD 110.0
XSEC   0.0       0.0 1.0     94.75   0.000403
       0.0-23.0101.0-11.0100.7  1.0 99.0  6.2 98.0  8.5 97.3 10.1 96.7
       0.0 10.4 96.2 12.0 95.7 14.0 95.5 16.0 95.5 18.0 94.9 20.0 94.4
       0.0 22.0 94.2 24.0 94.1 26.0 94.1 28.0 94.1 30.0 94.1 32.0 94.1
       0.0 34.0 94.2 36.0 94.2 38.0 94.4 40.0 94.8 43.0 95.0 45.0 94.8
       0.0 47.0 94.7 49.0 95.1 51.0 95.3 52.7 95.6 54.0 96.2 54.2 96.3
       0.0 58.0 96.5 61.5 96.3 65.0 97.0 69.2 97.7 72.0 98.1 75.2 98.3
       0.0 99.2 98.3125.2 99.4
NS     0.0       3.1       3.1       3.1       3.1       1.3       1.2
NS     0.0       1.2       2.1       2.1       2.1 0.2   2.1       3.2
NS     0.0       3.3       3.4       3.4       3.4       8.3       8.3
NS     0.0       8.3       3.3       3.3       3.1       3.3       3.3
NS     0.0 .04   3.4 0.3   2.1 0.3   2.1 0.4   2.1       1.2       1.2
NS     0.0       1.2       1.2       1.2       1.3       1.3       1.3
NS     0.0       1.3       1.3
WSL    0.0     95.56     95.60     95.73     95.83     95.93     96.02
WSL    0.0     96.08     96.12     96.16     96.20     96.25     96.28
WSL    0.0     96.32     96.36     96.40     96.44     96.47     96.51
WSL    0.0     96.52     96.55     96.58     96.61     96.64     96.67
WSL    0.0     96.70     96.73     96.76     96.79     96.83     96.84
CAL1   0.0     96.13      43.9
VEL1   0.0                                0.00 0.02 0.03 0.05 0.03 0.58
VEL1   0.0 0.54 1.09 1.02 0.94 1.07 1.12 1.13 1.03 0.93 0.58 0.62 0.82
VEL1   0.0 0.64 0.03 0.03 0.01 0.00
VEL1   0.0
CAL2   0.0     96.49      77.2
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
CAL3   0.0     96.08      46.7
VEL3   0.0
VEL3   0.0
VEL3   0.0
VEL3   0.0
ENDJ
```