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Ex. 277-US-463

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Stream: Spring Creek
Site: 640
Date: 9/24/1997
Habitat: Run Flow: Mid

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM 2	1.66	101.66		
HP3			4.12	97.54
HP2			3.66	98
TP HP2	3.78	101.78		
BM 1			2.33	99.45
TP BM1	3.27	102.72		
HP1			5.04	97.68
TP HP1	5.00	102.68		
BM1			3.23	99.45
TP BM1	2.12	101.57		
TR2			3.58	97.99
TP TR2	3.62	101.61		
TR3			4.07	97.54
BM2			1.61	100.00

Comment: LEVEL LOOP SURVEYED ON 9/23/97
WSE'S AND Q DONE ON 9/24/97

(2) Water Surface Elevation (WSE) Survey

	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod Depth (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE	0	101.64	7.58	1.27	95.33	95.34	253.7
	RWSE	0		7.43	1.13	95.34		
TR2	LWSE	435	101.69	9.13	2.80	95.36	95.36	257.9
	RWSE	297		9.40	3.07	95.36		
TR3	LWSE	737	101.47	7.69	1.59	95.37	95.38	249.8
	RWSE	610		7.25	1.16	95.38		
							Ave Q=	253.8

Note:
WSE slope = 0.006%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068 **NOTE:** No meter noted, calibration changed to
Propeller ID: NA 1.00 per cmh instructions

Date: 5/14/1998
Habitat: Run Flow: High

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM1	2.19	101.64		99.45
HP1			3.95	97.69
TP BM1	2.20	101.65		
HP2			3.65	98.00
TP HP2	3.82	101.82		
HP3			4.27	97.55
TP HP3	4.56	102.11		
HP2			4.11	98.00
TP HP2	3.64	101.64		
BM1			2.19	99.45
TP BM1	2.36	101.81		
HP 1			4.13	97.68

Comment: BM 2 was not usable

(2) Water Surface Elevation (WSE) Survey

	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod Depth (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE		101.81	7.56	1.09	95.34	95.34	
	RWSE							
TR2	LWSE		101.71	7.17	0.84	95.38	95.38	268.6
	RWSE							
TR3	LWSE		102.65	8.31	1.06	95.40	95.40	
	RWSE							
							Ave Q=	268.6

Note: RWSE not collected
WSE slope = ?

(3) Meter and propeller ID for Velocity Correction

Meter ID: 0068 **NOTE:** No meter noted, calibration changed to
Propeller ID: NA 1.00 per cmh instructions

Date:
Habitat: Run Flow: Low

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM		100.00		
HP1				100.00
HP2				100.00
HP3				100.00
TP HP3		100.00		
HP2				100.00
HP1				100.00
BM				100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

	L/R WSE	Sta (ft)	HI (ft)	FS (ft)	Rod Depth (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
TR1	LWSE		100.00			100.00	#####	
	RWSE					100.00		
TR2	LWSE		100.00			100.00	#####	
	RWSE					100.00		
TR3	LWSE		100.00			100.00	#####	
	RWSE					100.00		
							Ave Q=	

Note:
WSE slope = ?

(3) Meter and propeller ID for Velocity Correction

Meter ID: _____
Propeller ID: _____

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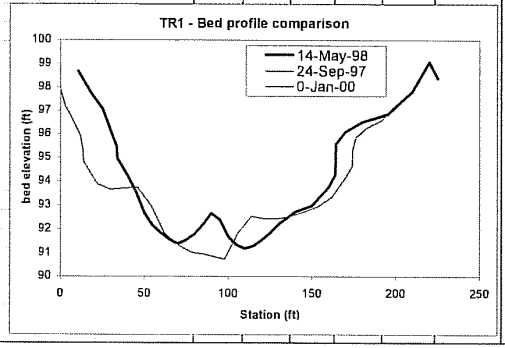
Stream:	Spring Creek	
Site:	640	
Transect:	1	
Habitat:	Run	
Survey	HI	Q
Date	(ft)	(cfs)
9/24/1997	101.64	253.7
5/14/1998	100.77	
1/0/1900	100.00	

	24-Sep-97								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
LWP	0.0	3.72	97.92						1.1
	3.0	4.47	97.17						1.1
	6.0	4.83	96.81						1.1
	9.0	5.29	96.35						1.1
	12.0	5.70	95.94						1.1
LWE	13.4		95.34	0.00	0.00		0.00	0.00	1.1
	13.8		94.84	0.50	0.02		0.02	0.04	3.5
	22.0		93.89	1.45	0.26		0.26	3.05	2.3
	30.0		93.64	1.70	0.42		0.42	5.71	3.5
	38.0		93.69	1.65	0.48		0.48	6.34	8.3
	46.0		93.74	1.60	0.12		0.12	1.54	8.3
	54.0		92.99	2.35	0.15		0.15	2.82	8.5
	62.0		91.84	3.50	0.73	0.27	0.50	14.00	5.3
	70.0		91.34	4.00	0.56	0.24	0.40	12.80	5.3
	78.0		91.04	4.30	1.11	0.70	0.91	31.13	6.3
	86.0		90.94	4.40	0.87	0.31	0.59	25.96	6.3
	98.0		90.74	4.60	0.68	0.45	0.57	25.99	3.6
	106.0		91.84	3.50	0.73	0.73	0.73	20.44	3.5
	114.0		92.54	2.80	0.86	0.92	0.89	19.94	3.5
	122.0		92.44	2.90	0.68	0.77	0.73	16.82	3.5
	130.0		92.44	2.90	1.06	0.93	1.00	23.08	3.5
	138.0		92.54	2.80	1.11	0.77	0.94	21.06	3.5
	146.0		92.74	2.60	0.83	0.56	0.70	14.46	3.3
	154.0		92.94	2.40	0.37		0.37	7.10	3.2
	162.0		93.34	2.00	0.07		0.07	1.12	2.3
	170.0		94.14	1.20	0.05		0.05	0.36	2.2
	174.0		94.64	0.70	-0.02		-0.02	-0.03	2.3
RWE	174.3		95.34	0.00	0.00		0.00	0.00	1.1
	176.0	5.82	95.82						1.1
	182.0	5.42	96.22						1.1
	192.0	5.05	96.59						1.1
RWP	198.1	4.52	97.12						1.1



	14-May-98								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
HI=100.77									
LWP	10.6	2.10	98.67						
	19.0	3.12	97.65						
	25.0	3.70	97.07						
	31.0	4.86	95.91						
LWE	33.5	5.28	95.49						
	34.0	5.82	94.95						
LWS	40.0	6.54	94.23						
LWS	45.0	7.22	93.55						
	50.0	8.12	92.65						
	55.0	8.63	92.14						
	60.0	8.95	91.82						
	65.0	9.20	91.57						
	70.0	9.40	91.37						
	75.0	9.25	91.52						
	80.0	8.99	91.78						
	85.0	8.60	92.17						
	90.0	8.13	92.64						
	95.0	8.38	92.39						
	100.0	9.10	91.67						
	105.0	9.44	91.33						
	110.0	9.60	91.17						
	115.0	9.50	91.27						
	120.0	9.25	91.52						
	125.0	8.94	91.83						
	130.0	8.58	92.19						
	140.0	8.06	92.71						
RWS	150.0	7.80	92.97						
RWS	160.0	7.02	93.75						
	164.0	6.50	94.27						
RWE	164.3	5.20	95.57						
	170.0	4.69	96.08						
	180.0	4.27	96.50						
	195.0	3.94	96.83						
	210.0	2.96	97.81						
	220.0	1.70	99.07						
RWP	225.1	2.40	98.37						

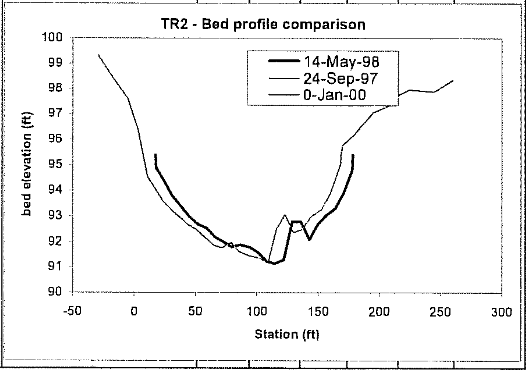
Contro Profile.
HI is in R5.

	0-Jan-00								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate

Stream:	Spring Creek	
Site:	640	
Transect:	2	
Habitat:	Run	
Survey Date	HI (ft)	Q (cfs)
9/24/1997	101.77	257.9
5/14/1998	101.71	268.6
1/0/1900	100.00	

24-Sep-97

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate
	-30.0	2.40	99.37						1.1
	-20.0	3.14	98.63						1.1
	-5.0	4.19	97.58						1.1
LWP	0.0	4.94	96.83						1.1
	3.0	5.39	96.38						1.1
	5.0	5.84	95.93						1.1
LWE	7.3		95.36	0.00	0.00		0.00	0.00	1.1
	11.0		94.51	0.85	0.09		0.09	0.33	2.2
	16.0		94.16	1.20	0.25		0.25	1.80	2.2
	23.0		93.61	1.75	0.12		0.12	1.47	2.2
	30.0		93.26	2.10	0.25		0.25	3.68	2.2
	37.0		92.96	2.40	0.25		0.25	4.20	3.3
	44.0		92.66	2.70	0.60	0.49	0.55	10.30	3.3
	51.0		92.46	2.90	0.69	0.53	0.61	12.38	3.3
	58.0		92.16	3.20	0.77	0.65	0.71	15.90	3.5
	65.0		91.86	3.50	0.90	0.67	0.79	19.23	3.5
	72.0		91.76	3.60	0.97	0.72	0.85	21.29	3.5
	79.0		91.96	3.40	0.81	0.72	0.77	18.21	3.3
	86.0		91.61	3.75	0.66	0.56	0.61	16.01	3.5
	93.0		91.46	3.90	0.78	0.69	0.74	22.93	3.5
	102.0		91.36	4.00	0.67	0.63	0.65	20.80	9.3
	109.0		91.16	4.20	0.88	0.69	0.79	23.08	3.5
	116.0		92.46	2.90	0.90	0.59	0.75	15.12	5.3
	123.0		93.06	2.30	0.93		0.93	14.97	5.3
	130.0		92.36	3.00	0.66	0.60	0.63	13.23	5.3
	137.0		92.46	2.90	0.51	0.51	0.51	10.35	2.3
	144.0		92.96	2.40	0.37		0.37	7.10	2.3
	153.0		93.26	2.10	0.18		0.18	3.02	2.2
	160.0		93.86	1.50	0.21		0.21	2.43	2.1
	168.4		95.01	0.35	0.00		0.01	0.02	1.2
RWE	168.6		95.36	0.00	0.00		0.00	0.00	1.1
	170.0	6.01	95.76						1.1
	180.0	5.57	96.20						1.1
	195.0	4.72	97.05						1.1
	210.0	4.41	97.36						1.1
RWP	213.0	4.10	97.67						1.1
	225.0	3.81	97.96						1.1
	245.0	3.90	97.87						1.1
	260.0	3.43	98.34						1.1



14-May-98

	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate
LWE	17.2		95.38	0.00	0.00		0.00	0.00	
	18.0		94.88	0.50	0.01		0.01	0.02	
	24.0		94.38	1.00	0.09		0.09	0.59	
	31.0		93.78	1.60	0.16		0.16	1.79	
	38.0		93.38	2.00	0.21		0.21	2.94	
	45.0		92.98	2.40	0.25		0.25	4.20	
	52.0		92.68	2.70	0.61	0.42	0.52	9.73	
	59.0		92.53	2.85	0.66	0.59	0.63	12.47	
	66.0		92.18	3.20	0.76	0.69	0.73	16.24	
	73.0		91.98	3.40	0.92	0.79	0.86	20.35	
	80.0		91.78	3.60	0.93	0.84	0.89	22.30	
	87.0		91.88	3.50	0.97	0.88	0.93	22.66	
	94.0		91.78	3.60	0.76	0.59	0.68	17.01	
	101.0		91.58	3.80	0.78	0.63	0.71	18.75	
	108.0		91.23	4.15	0.69	0.64	0.67	19.32	
	115.0		91.13	4.25	0.64	0.68	0.66	19.64	
	122.0		91.28	4.10	0.75	0.66	0.71	20.23	
	129.0		92.78	2.60	0.90	0.87	0.89	16.11	
	136.0		92.78	2.60	0.70	0.74	0.72	13.10	
	143.0		92.08	3.30	0.60	0.45	0.53	12.13	
	150.0		92.68	2.70	0.55	0.39	0.47	8.88	
	157.0		93.03	2.35	0.33		0.33	5.43	
	164.0		93.28	2.10	0.19		0.19	2.79	
	171.0		93.88	1.50	0.18		0.18	1.89	
	178.0		94.78	0.60	0.01		0.01	0.02	
RWE	178.5		95.38	0.00	0.00		0.00	0.00	

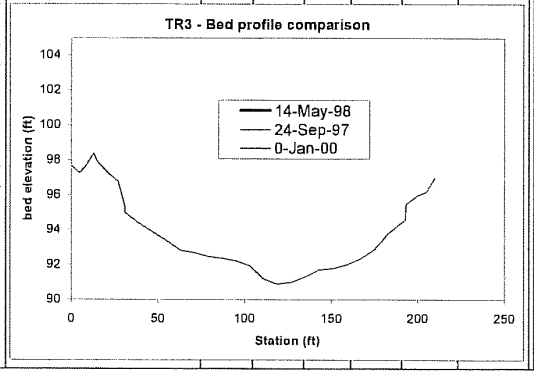
0-Jan-00

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

Stream:	Spring Creek	
Site:	640	
Transect:	3	
Habitat:	Run	

Survey Date	HI (ft)	Q (cfs)
9/24/1997	101.47	249.8
5/14/1998	102.65	
1/0/1900	100.00	

	24-Sep-97								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate
LWP	0.0	3.79	97.68						1.0
	5.0	4.21	97.26						1.1
	8.0	3.87	97.60						1.1
	13.0	3.11	98.36						1.1
	15.5	3.60	97.87						1.1
	22.0	4.27	97.20						1.1
	27.0	4.70	96.77						1.1
LWE	30.8		95.38	0.00	0.00		0.00	0.00	1.1
	31.0		94.98	0.40	0.01		0.01	0.02	2.2
	39.0		94.38	1.00	0.22		0.22	1.76	2.3
	47.0		93.88	1.50	0.42		0.42	5.04	3.2
	55.0		93.38	2.00	0.59		0.59	9.44	3.3
	63.0		92.83	2.55	0.73	0.61	0.67	13.67	3.3
	71.0		92.68	2.70	0.76	0.53	0.65	13.93	5.3
	79.0		92.48	2.90	0.69	0.55	0.62	14.38	5.3
	87.0		92.38	3.00	0.74	0.62	0.68	16.32	3.5
	95.0		92.23	3.15	0.71	0.59	0.65	16.38	3.5
	103.0		91.93	3.45	0.71	0.64	0.68	18.63	3.5
	111.0		91.18	4.20	0.70	0.50	0.60	20.16	5.3
	119.0		90.88	4.50	0.68	0.39	0.54	19.26	5.6
	127.0		90.98	4.40	0.59	0.39	0.49	17.25	5.3
	135.0		91.28	4.10	0.73	0.52	0.63	20.50	5.3
	143.0		91.68	3.70	0.67	0.54	0.61	17.91	5.3
	151.0		91.78	3.60	0.62	0.49	0.56	15.98	3.5
	159.0		91.98	3.40	0.59	0.44	0.52	14.01	3.5
	167.0		92.33	3.05	0.43	0.32	0.38	9.15	3.5
	175.0		92.88	2.50	0.24	0.14	0.19	3.80	2.2
	183.0		93.78	1.60	0.15		0.15	2.12	2.3
	192.7		94.58	0.80	0.01		0.01	0.04	2.3
RWE	193.3		95.38	0.00	0.00		0.00	0.00	1.1
	193.5	5.98	95.49						1.1
	200.0	5.50	95.97						1.1
	205.0	5.29	96.18						1.1
RWP	210.0	4.49	96.98						1.1



	14-May-98								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate

	0-Jan-00								
	Sta	FS	Ground	Depth	Vel (ft/s)			q	
	(ft)	(ft)	(ft)	(ft)	$V_{0.2/0.6}$	$V_{0.8}$	Ave	(cfs)	substrate

Stream: Spring Creek
Site: WM-17
Date: 6/27/2004
Habitat: Spawning **Flow:** Mid

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	1.94	101.94		100.00
HP1			5.69	96.25
HP2			6.09	95.85
TP				
HP2	6.18	102.03		95.85
HP1			5.79	96.24
BM			2.04	99.99

Comment: HP's removed, use BM to re-set HP's if necessary

(2) Water Surface Elevation (WSE) Survey

TR	Station L/R bank (ft)	Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
WEIR	0	0	102.03	8.22	0.00	93.81	93.88	
	0			8.08	0.00	93.95		
1-L	36	37	102.03	7.97	0.00	94.06	94.03	287.6
1-R	37			8.03	0.00	94.00		
2-L	68	67	102.03	7.93	0.00	94.10	94.08	280.8
2-R	66			7.97	0.00	94.06		
							Ave Q=	284.2

Note: 120' u/s of TR2 FS=7.87, wse=94.16
WSE slope = 0.299%

(3) Meter and propeller ID for Velocity Correction

Meter ID: 3602
Propeller ID: 3a

Date:
Habitat: Spawning **Flow:**

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM		100.00		
HP1				100.00
HP2				100.00
HP3				100.00
TP				
HP3		100.00		
HP2				100.00
HP1				100.00
BM				100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	Station L/R bank (ft)	Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
WEIR			100.00			100.00	#####	
						100.00		
1-L			100.00			100.00	#####	
1-R						100.00		
2-L			100.00			100.00	#####	
2-R						100.00		
							Ave Q=	

Note:
WSE slope = ?

(3) Meter and propeller ID for Velocity Correction

Meter ID: _____
Propeller ID: _____

Date:
Habitat: Spawning **Flow:**

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM		100.00		
HP1				100.00
HP2				100.00
HP3				100.00
TP				
HP3		100.00		
HP2				100.00
HP1				100.00
BM				100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	Station L/R bank (ft)	Station Ave (ft)	HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)
WEIR			100.00			100.00	#####
						100.00	
1-L			100.00			100.00	#####
1-R						100.00	
2-L			100.00			100.00	#####
2-R						100.00	
							Ave Q=

Note:
WSE slope = ?

(3) Meter and propeller ID for Velocity Correction

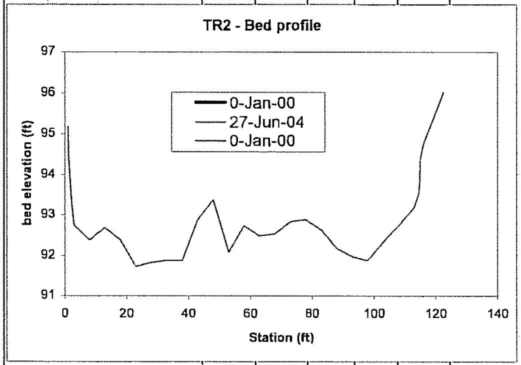
Meter ID: _____
Propeller ID: _____

Stream:	Spring Creek	
Site:	WM-17	
Transect:	2	
Habitat:	Spawning	
Survey Date	HI (ft)	Q (cfs)
6/27/2004	102.03	280.8
1/0/1900	100.00	
1/0/1900	100.00	

27-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
RWP	1.0	6.87	95.16						1.1
	1.2	7.57	94.46						1.1
RBE	2.3		93.26	0.82	0.19		0.24	0.07	2.1
	3.0		92.74	1.34	0.48		0.50	1.91	3.4
	8.0		92.38	1.70	1.52		1.55	13.16	4.5
	13.0		92.68	1.40	1.06		1.09	7.61	4.5
	18.0		92.38	1.70	1.28		1.31	11.13	5.4
	23.0		91.73	2.35	0.94		0.97	11.36	5.3
	28.0		91.83	2.25	1.46		1.49	16.75	4.5
	33.0		91.88	2.20	0.98		1.01	11.08	4.5
	38.0		91.88	2.20	0.95		0.98	10.74	5.4
	43.0		92.88	1.20	2.09		2.12	12.71	5.4
	48.0		93.38	0.70	2.43		2.46	8.61	4.5
	53.0		92.08	2.00	2.30		2.33	23.30	5.4
	58.0		92.73	1.35	2.37		2.40	16.21	5.4
	63.0		92.48	1.60	2.19		2.22	17.76	5.4
	68.0		92.53	1.55	2.39		2.42	18.76	4.5
	73.0		92.83	1.25	2.79		2.82	17.64	4.5
	78.0		92.88	1.20	2.54		2.57	15.43	5.4
	83.0		92.63	1.45	1.75		1.78	12.88	5.4
	88.0		92.18	1.90	1.30		1.33	12.63	4.5
	93.0		91.98	2.10	1.52		1.55	16.26	5.4
	98.0		91.88	2.20	1.25		1.28	14.07	5.4
	103.0		92.33	1.75	0.53		0.55	4.80	5.4
	108.0		92.73	1.35	0.57		0.59	3.98	5.4
	113.0		93.18	0.90	0.60		0.62	1.81	5.3
	114.5		93.53	0.55	0.15		0.20	0.10	5.3
LBE	114.8		93.78	0.30	0.00		0.01	0.00	1.2
	115.0	7.67	94.36						1.1
	116.0	7.29	94.74						1.1
LWP	122.5	6.02	96.01						1.1

Left UCB = 0.2'
Right UCB = 0.5'

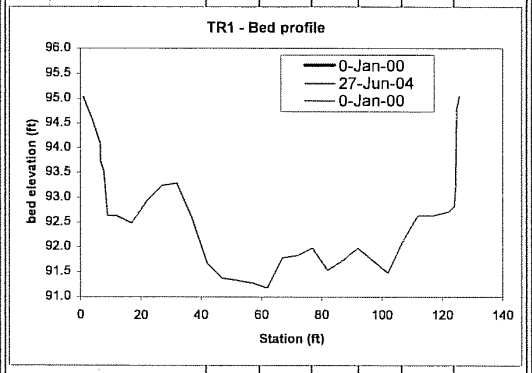
0-Jan-00									
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate



0-Jan-00									
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) $V_{0.2/0.6}$	$V_{0.8}$	Ave	q (cfs)	substrate

Stream:	Spring Creek		27-Jun-04									0-Jan-00									0-Jan-00								
Site:	WM-17			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:	Spawning		RWP	1.0	7.00	95.03						1.1																			
				4.0	7.45	94.58						1.1																			
Survey	HI	Q		6.6	7.95	94.08						1.1																			
Date	(ft)	(cfs)	RBE	6.7		93.73	0.30	0.00		0.00	0.00	9.2																			
6/27/2004	102.03	287.6		7.7		93.53	0.50	0.10		0.16	0.09	9.1																			
1/0/1900	100.00			9.0		92.63	1.40	2.27		2.30	6.92	8.4																			
1/0/1900	100.00			12.0		92.63	1.40	2.35		2.38	13.33	5.4																			
				17.0		92.48	1.55	2.48		2.51	19.46	5.4																			
				22.0		92.93	1.10	2.57		2.60	14.31	4.5																			
				27.0		93.23	0.80	2.46		2.49	9.97	5.4																			
				32.0		93.28	0.75	2.04		2.07	7.76	4.5																			
				37.0		92.58	1.45	1.54		1.57	11.37	5.4																			
				42.0		91.68	2.35	1.79		1.82	21.35	5.4																			
				47.0		91.38	2.65	2.17	1.40	1.81	24.04	5.4																			
				52.0		91.33	2.70	1.35	0.95	1.18	15.90	5.4																			
				57.0		91.28	2.75	2.07	1.71	1.92	26.37	5.4																			
				62.0		91.18	2.85	0.72	0.65	0.71	10.07	5.4																			
				67.0		91.78	2.25	1.49		1.52	17.09	5.4																			
				72.0		91.83	2.20	1.65		1.68	18.45	5.4																			
				77.0		91.98	2.05	0.85		0.88	8.97	5.4																			
				82.0		91.53	2.50	1.38	0.64	1.04	12.94	5.4																			
				87.0		91.73	2.30	0.19		0.24	2.76	5.4																			
				92.0		91.98	2.05	0.27		0.31	3.21	5.4																			
				97.0		91.73	2.30	1.21		1.24	14.25	5.4																			
				102.0		91.48	2.55	1.17	0.85	1.04	13.22	4.5																			
				107.0		92.13	1.90	0.79		0.81	7.73	5.4																			
				112.0		92.63	1.40	0.23		0.28	1.94	5.4																			
				117.0		92.63	1.40	0.47		0.49	3.44	5.4																			
				122.0		92.71	1.32	0.51		0.53	2.44	4.5																			
				124.0		92.83	1.20	0.10		0.16	0.23	2.4																			
			LBE	124.4		93.22	0.81	0.10		0.16	0.03	2.1																			
				124.8	7.23	94.80						1.1																			
			LWP	125.7	6.99	95.04						1.1																			

Left UCB = 0.2'
Right UCB = 0.1'



```
        Spring Creek WM_17 09/24/97
Run                          MID                                    TRANSECT 1
IOC       11001001000010001010000
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
QARD 170.0
QARD 180.0
QARD 190.0
QARD 200.0
QARD 210.0
QARD 220.0
QARD 230.0
QARD 250.0
QARD 253.8
QARD 268.8
QARD 290.0
QARD 310.0
QARD 330.0
QARD 350.0
QARD 370.0
QARD 390.0
QARD 410.0
QARD 430.0
QARD 450.0
QARD 470.0
QARD 490.0
QARD 510.0
QARD 530.0
QARD 550.0
QARD 575.0
QARD 600.0
XSEC   0.0       0.01.00    90.74  0.0000600
       0.0  0.0 97.9  3.0 97.2  6.0 96.8  9.0 96.3 12.0 95.9 13.4 95.3
       0.0 13.8 94.8 22.0 93.9 30.0 93.6 38.0 93.7 46.0 93.7 54.0 93.0
       0.0 62.0 91.8 70.0 91.3 78.0 91.0 86.0 90.9 98.0 90.7106.0 91.8
       0.0114.0 92.5122.0 92.4130.0 92.4138.0 92.5146.0 92.7154.0 92.9
       0.0162.0 93.3170.0 94.1174.0 94.6174.3 95.3176.0 95.8182.0 96.2
       0.0192.0 96.6198.1 97.1
NS     0.0       1.0       1.0       1.0       1.0       1.0       1.0
NS     0.0 .16   3.5       2.3       3.5       8.3       8.3       8.5
NS     0.0       5.3       5.3       6.3       6.3       3.6       3.5
NS     0.0       3.5       3.5       3.5       3.5       3.0       3.2
NS     0.0 .15   2.3 .15   2.0       2.3       1.0       1.0       1.0
NS     0.0       1.0       1.0
WSL    0.0     94.91     94.95     94.99     95.03     95.07     95.11
WSL    0.0     95.14     95.18     95.21     95.24     95.27     95.33
WSL    0.0     95.34     95.38     95.44     95.49     95.54     95.59
WSL    0.0     95.63     95.68     95.72     95.76     95.80     95.84
WSL    0.0     95.89     95.93     95.98     96.02     96.08     96.13
CAL1   0.0    95.340     253.8
VEL1   0.0                          0.00 0.02 0.26 0.42 0.48 0.12 0.15
VEL1   0.0 0.50 0.40 0.91 0.59 0.57 0.73 0.89 0.73 1.00 0.94 0.70 0.37
VEL1   0.0 0.07 0.05-0.02 0.00
CAL2   0.0    95.340     268.6
VEL2   0.0
VEL2   0.0
VEL2   0.0
ENDJ
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        Spring Creek WM_17 09/24/97
Run                          MID                                    TRANSECT 2
IOC       1100100100001000101000
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
QARD 170.0
QARD 180.0
QARD 190.0
QARD 200.0
QARD 210.0
QARD 220.0
QARD 230.0
QARD 250.0
QARD 253.8
QARD 268.6
QARD 290.0
QARD 310.0
QARD 330.0
QARD 350.0
QARD 370.0
QARD 390.0
QARD 410.0
QARD 430.0
QARD 450.0
QARD 470.0
QARD 490.0
QARD 510.0
QARD 530.0
QARD 550.0
QARD 575.0
QARD 600.0
XSEC   0.0       0.0 1.0     91.16  0.000060
       0.0-30.0 99.4-20.0 98.6 -5.0 97.6  0.0 96.8  3.0 96.4  5.0 95.9
       0.0  7.3 95.4 11.0 94.5 16.0 94.2 23.0 93.6 30.0 93.3 37.0 93.0
       0.0 44.0 92.7 51.0 92.5 58.0 92.2 65.0 91.9 72.0 91.8 79.0 92.0
       0.0 86.0 91.6 93.0 91.5102.0 91.4109.0 91.2116.0 92.5123.0 93.1
       0.0130.0 92.4137.0 92.5144.0 93.0153.0 93.3160.0 93.9168.4 95.0
       0.0168.6 95.4170.0 95.8180.0 96.2195.0 97.1210.0 97.4213.0 97.7
       0.0225.0 98.0245.0 97.9260.0 98.3
NS     0.0       1.0       1.0       1.0       1.0       1.0       1.0
NS     0.0       1.0 .075  2.0       2.0       2.0       2.0       3.0
NS     0.0       3.0       3.0       3.5       3.5       3.5       3.0
NS     0.0       3.5       3.5       9.3       3.5       5.3 .023  5.3
NS     0.0       5.3       2.3       2.3       2.0       2.1 .07   1.2
NS     0.0       1.0       1.0       1.0       1.0       1.0       1.0
NS     0.0       1.0       1.0       1.0
WSL    0.0     94.95     94.99     95.02     95.06     95.10     95.14
WSL    0.0     95.17     95.20     95.23     95.26     95.29     95.35
WSL    0.0     95.36     95.40     95.46     95.51     95.56     95.61
WSL    0.0     95.65     95.70     95.74     95.78     95.82     95.86
WSL    0.0     95.91     95.95     96.00     96.05     96.11     96.16
CAL1   0.0    95.360     253.8
VEL1   0.0                                0.00 0.09 0.25 0.12 0.25 0.25
VEL1   0.0 0.55 0.61 0.71 0.79 0.85 0.77 0.61 0.74 0.65 0.79 0.75 0.93
VEL1   0.0 0.63 0.51 0.37 0.18 0.21 0.01 0.00
VEL1   0.0
CAL2   0.0    95.380     268.6
VEL2   0.0
VEL2   0.0
VEL2   0.0
VEL2   0.0
ENDJ
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        Spring Creek WM_17 09/24/97
Run                          MID                                    TRANSECT 3
IOC       1100100100001000101000
QARD 130.0
QARD 140.0
QARD 150.0
QARD 160.0
QARD 170.0
QARD 180.0
QARD 190.0
QARD 200.0
QARD 210.0
QARD 220.0
QARD 230.0
QARD 250.0
QARD 253.8
QARD 268.6
QARD 290.0
QARD 310.0
QARD 330.0
QARD 350.0
QARD 370.0
QARD 390.0
QARD 410.0
QARD 430.0
QARD 450.0
QARD 470.0
QARD 490.0
QARD 510.0
QARD 530.0
QARD 550.0
QARD 575.0
QARD 600.0
XSEC   0.0       0.0 1.0     90.88  0.000060
       0.0  0.0 97.7  5.0 97.3  8.0 97.6 13.0 98.4 15.5 97.9 22.0 97.2
       0.0 27.0 96.8 30.8 95.4 31.0 95.0 39.0 94.4 47.0 93.9 55.0 93.4
       0.0 63.0 92.8 71.0 92.7 79.0 92.5 87.0 92.4 95.0 92.2103.0 91.9
       0.0111.0 91.2119.0 90.9127.0 91.0135.0 91.3143.0 91.7151.0 91.8
       0.0159.0 92.0167.0 92.3175.0 92.9183.0 93.8192.7 94.6193.3 95.4
       0.0193.5 95.5200.0 96.0205.0 96.2210.0 97.0
NS     0.0       1.0       1.0       1.0       1.0       1.0       1.0
NS     0.0       1.0       1.0 .2    2.0       2.3       3.2       3.0
NS     0.0       3.0       5.3       5.3       3.5       3.5       3.5
NS     0.0       5.3       5.6       5.3       5.3       5.3       3.5
NS     0.0       3.5       3.5       2.0       2.3 .20   2.3 .1    1.0
NS     0.0       1.0       1.0       1.0       1.0
WSL    0.0     94.97     95.01     95.04     95.08     95.12     95.16
WSL    0.0     95.18     95.22     95.25     95.28     95.30     95.36
WSL    0.0     95.37     95.41     95.47     95.53     95.58     95.63
WSL    0.0     95.67     95.72     95.76     95.80     95.84     95.88
WSL    0.0     95.93     95.97     96.02     96.06     96.12     96.17
CAL1   0.0    95.380     253.8
VEL1   0.0                                    0.00 0.01 0.22 0.42 0.59
VEL1   0.0 0.67 0.65 0.62 0.68 0.65 0.68 0.60 0.54 0.49 0.63 0.61 0.56
VEL1   0.0 0.52 0.38 0.19 0.15 0.01 0.00
CAL2   0.0    95.400     268.6
VEL2   0.0
VEL2   0.0
VEL2   0.0
ENDJ
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     Williamson River WM17 06/27/04
SPAWNING                    MID                                    TRANSECT 1
IOC       11000001000010001000000
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 220.0
QARD 240.0
QARD 260.0
QARD 284.2
QARD 290.0
QARD 310.0
QARD 330.0
QARD 350.0
QARD 370.0
QARD 390.0
QARD 410.0
QARD 430.0
QARD 450.0
QARD 470.0
QARD 490.0
QARD 510.0
QARD 530.0
QARD 550.0
QARD 570.0
QARD 590.0
QARD 610.0
QARD 630.0
QARD 650.0
QARD 680.0
QARD 710.0
XSEC   0.0      0.00 1.0     91.18   0.00300
       0.0  1.0 95.0  4.0 94.6  6.6 94.1  6.7 93.7  7.7 93.5  9.0 92.6
       0.0 12.0 92.6 17.0 92.5 22.0 92.9 27.0 93.2 32.0 93.3 37.0 92.6
       0.0 42.0 91.7 47.0 91.4 52.0 91.3 57.0 91.3 62.0 91.2 67.0 91.8
       0.0 72.0 91.8 77.0 92.0 82.0 91.5 87.0 91.7 92.0 92.0 97.0 91.7
       0.0102.0 91.5107.0 92.1112.0 92.6117.0 92.6122.0 92.7124.0 92.8
       0.0124.4 93.2124.8 94.8125.7 95.0
NS     0.0       1.1       1.1       1.1       9.2 .1    9.1       8.4
NS     0.0       5.4       5.4       4.5       5.4       4.5       5.4
NS     0.0       5.4       5.4       5.4       5.4       5.4       5.4
NS     0.0       5.4       5.4       5.4       5.4       5.4       5.4
NS     0.0       4.5       5.4 .30   5.4       5.4       4.5 .2    2.4
NS     0.0 .2    2.1 .2    1.1       1.1
WSL    0.0     93.41     93.50     93.59     93.68     93.75     93.82
WSL    0.0     93.89     93.96     94.03     94.05     94.11     94.17
WSL    0.0     94.22     94.28     94.33     94.38     94.44     94.48
WSL    0.0     94.53     94.58     94.63     94.67     94.72     94.76
WSL    0.0     94.81     94.85     94.90     94.94     95.00     95.06
CAL1   0.0     94.03     284.2
VEL1   0.0               0.00 0.16 2.30 2.38 2.51 2.60 2.49 2.07 1.57
VEL1   0.0 1.82 1.81 1.18 1.92 0.71 1.52 1.68 0.88 1.04 0.24 0.31 1.24
VEL1   0.0 1.04 0.81 0.28 0.49 0.53 0.16 0.16
CAL2   0.0     94.03    284.21
VEL2   0.0
VEL2   0.0
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     Williamson River WM17 06/27/04
SPAWNING                    MID                                    TRANSECT 2
IOC       11000001000010001000000
QARD 120.0
QARD 140.0
QARD 160.0
QARD 180.0
QARD 200.0
QARD 220.0
QARD 240.0
QARD 260.0
QARD 284.2
QARD 290.0
QARD 310.0
QARD 330.0
QARD 350.0
QARD 370.0
QARD 390.0
QARD 410.0
QARD 430.0
QARD 450.0
QARD 470.0
QARD 490.0
QARD 510.0
QARD 530.0
QARD 550.0
QARD 570.0
QARD 590.0
QARD 610.0
QARD 630.0
QARD 650.0
QARD 680.0
QARD 710.0
XSEC   0.0      0.00 1.0     91.73   0.00300
       0.0  1.0 95.2  1.2 94.5  2.3 93.3  3.0 92.7  8.0 92.4 13.0 92.7
       0.0 18.0 92.4 23.0 91.7 28.0 91.8 33.0 91.9 38.0 91.9 43.0 92.9
       0.0 48.0 93.4 53.0 92.1 58.0 92.7 63.0 92.5 68.0 92.5 73.0 92.8
       0.0 78.0 92.9 83.0 92.6 88.0 92.2 93.0 92.0 98.0 91.9103.0 92.3
       0.0108.0 92.7113.0 93.2114.5 93.5114.8 93.8115.0 94.4116.0 94.7
       0.0122.5 96.0
NS     0.0       1.1       1.1 .1    2.1 .1    3.4       4.5       4.5
NS     0.0       5.4       5.3       4.5       4.5       5.4       5.4
NS     0.0       4.5       5.4       5.4       5.4       4.5       4.5
NS     0.0       5.4       5.4       4.5       5.4       5.4       5.4
NS     0.0       5.4       5.3 .12   5.3 .12   1.2       1.1       1.1
NS     0.0       1.1
WSL    0.0     93.47     93.56     93.65     93.72     93.80     93.87
WSL    0.0     93.94     94.00     94.08     94.10     94.16     94.22
WSL    0.0     94.27     94.33     94.38     94.44     94.49     94.54
WSL    0.0     94.59     94.64     94.69     94.74     94.78     94.83
WSL    0.0     94.88     94.92     94.97     95.01     95.07     95.14
CAL1   0.0     94.08     284.2
VEL1   0.0           0.24 0.50 1.55 1.09 1.31 0.97 1.49 1.01 0.98 2.12
VEL1   0.0 2.46 2.33 2.40 2.22 2.42 2.82 2.57 1.78 1.33 1.55 1.28 0.55
VEL1   0.0 0.59 0.62 0.20 0.01
CAL2   0.0     94.08    284.21
VEL2   0.0
VEL2   0.0
```