

11-5-2008

Ex. 280-US-459

Unknown

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Stream: NF Sprague River
 Site: 650
 Date: 9/26/1990
 Habitat: Run

Flow: Low

Date: 4/8/1991
 Habitat: Run

Flow: Mid

Date: 5/16/1993
 Habitat: Run

Flow: High

(1) Level Loop Survey (BM & HP)

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	6.27	106.27		100.00
HP1			5.08	101.19
HP2			4.88	101.39
HP3			5.56	100.71
TP				
HP3	5.51	106.22		
HP2			4.83	101.39
HP1			5.03	101.19
BM			6.22	100.00

Comment:

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	7.03	107.03		100.00
HP3			6.32	100.71
HP2			5.64	101.39
HP1			5.84	101.19
TP				
HP1	5.74	106.93		
HP2			5.54	101.39
HP3			6.22	100.71
BM			6.93	100.00

Comment: Field note: WSE dropped about 4" during survey

(1) Level Loop Survey

BM/HP (ft)	BS (ft)	HI (ft)	FS (ft)	Elev (ft)
BM	6.04	106.04		100.00
HP1			4.97	101.07
HP2			4.64	101.40
HP3			5.44	100.60
TP				
HP3	5.80	106.40		
HP2			5.00	101.40
HP1			5.33	101.07
BM			6.40	100.00

Comment:

(2) Water Surface Elevation (WSE) Survey

TR	River Station		HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	106.22	11.20	0.00	95.02	95.01	29.8
1-R	0	0	11.22	11.22	0.00	95.00	95.00	29.8
2-L	95	87	106.22	11.16	0.00	95.06	95.06	25.9
2-R	78	78	11.17	11.17	0.00	95.05	95.05	25.9
3-L	183	162	106.23	11.14	0.00	95.09	95.08	25.1
3-R	141	141	11.16	11.16	0.00	95.07	95.07	25.1

Note: WSE slope = 0.043%

Ave Q = 26.9

(2) Water Surface Elevation (WSE) Survey

TR	River Station		HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	106.93	11.79	0.00	95.14	95.14	45.7
1-R	0	0	11.80	11.80	0.00	95.13	95.13	45.7
2-L	95	87	106.93	11.75	0.00	95.18	95.18	46.9
2-R	78	78	11.76	11.76	0.00	95.17	95.17	46.9
3-L	183	162	106.93	11.79	0.00	95.14	95.14	48.5
3-R	141	141	11.79	11.79	0.00	95.14	95.14	48.5

Note: WSE slope = 0.003%

Ave Q = 47.1

(2) Water Surface Elevation (WSE) Survey

TR	River Station		HI (ft)	FS (ft)	Rod (ft)	WSE (ft)	Ave WSE (ft)	Q (cfs)
	L/R bank (ft)	Ave (ft)						
1-L	0	0	106.40	7.00	0.00	99.40	99.41	499.6
1-R	0	0	6.99	6.99	0.00	99.41	99.41	499.6
2-L	95	87	106.40	6.87	0.00	99.53	99.53	
2-R	78	78	6.88	6.88	0.00	99.52	99.52	
3-L	183	162	106.40	6.92	0.00	99.48	99.47	
3-R	141	141	6.95	6.95	0.00	99.45	99.45	

Note: WSE slope = 0.037%

Ave Q = 499.6

(3) Meter and propeller ID for Velocity Correction

Meter ID: NA
 Propeller ID: NA

(3) Meter and propeller ID for Velocity Correction

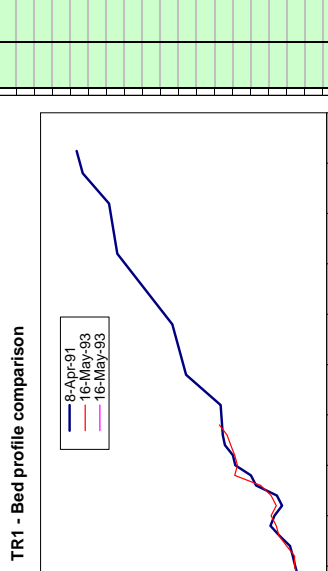
Meter ID: NA
 Propeller ID: NA

(3) Meter and propeller ID for Velocity Correction

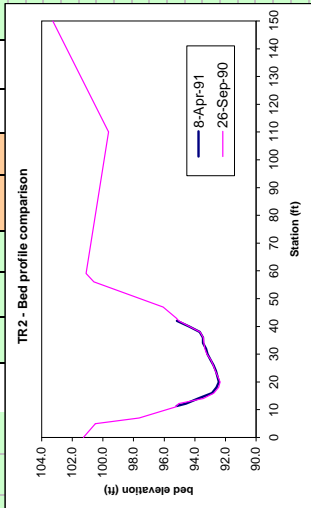
Meter ID: NA
 Propeller ID: NA

Stream: NF Sprague Riv	26-Sep-90							8-Apr-91							16-May-93										
	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) V _{0.20/6} V _{0.8}	NV _{0.8} NV _{0.20/6} NV _{0.8} Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) V _{0.20/6} V _{0.8}	NV _{0.8} NV _{0.20/6} NV _{0.8} Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	Vel (ft/s) V _{0.20/6} V _{0.8}	NV _{0.8} NV _{0.20/6} NV _{0.8} Ave	q (cfs)	Angle (deg)	substrate
	LWP	0.0	5.17	101.05																					
	LWE	7.6	11.20	95.02	0.00																				

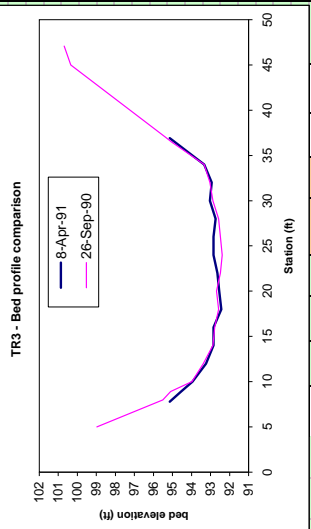
Flow Transect



Stream: NF Sprague Riv		26-Sep-90										8-Apr-91										16-May-93																	
Site: 650	Transect: 2	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.30.6}	V _{0.3}	NV _{0.30.6}	NV _{0.3}	Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.30.6}	V _{0.3}	NV _{0.30.6}	NV _{0.3}	Ave	q (cfs)	substrate	Sta (ft)	FS (ft)	Ground (ft)	Depth (ft)	V _{0.30.6}	V _{0.3}	NV _{0.30.6}	NV _{0.3}	Ave	q (cfs)	substrate					
		LWP	0.0	4.94	101.28							1.1																											
			5.0	5.73	100.49							2.2																											
			7.0	8.58	97.64							1.1																											
			11.0	10.98	95.24							1.1																											
			14.0	93.46								1.1																											
			16.0	92.76								1.1																											
			18.0	92.46								1.1																											
			20.0	92.36								1.1																											
			22.0	92.51								1.1																											
			24.0	92.66								1.1																											
			26.0	92.81								1.1																											
			28.0	92.96								1.1																											
			30.0	93.21								1.1																											
			32.0	93.36								1.1																											
			34.0	93.41								1.1																											
			36.0	93.46								1.1																											
			38.0	93.66								1.1																											
			40.0	94.36								1.1																											
			REW	42.0	11.17	95.05						1.1																											
				43.0	11.02	95.20						1.1																											
				47.0	10.15	96.07						1.1																											
				56.0	5.63	100.59						1.1																											
				RWP	59.1	5.12	101.10					1.1																											
					110.0	6.58	99.64					1.1																											
					150.0	2.95	103.27					1.1																											



Stream: NF Sprague Riv				26-Sep-90						8-Apr-91						16-Mar-93																					
Site	FS	Ground	Depth	Vel (ft/s)	V_{10k}	NV_{10k}	Ave	q	substrate	Sta	FS	Ground	Depth	Vel (ft/s)	V_{10k}	NV_{10k}	Ave	q	substrate	Sta	FS	Ground	Depth	Vel (ft/s)	V_{10k}	NV_{10k}	Ave	q	substrate								
g50	(ft)	(ft)	(ft)					(cfs)		(ft)	(ft)	(ft)	(ft)					(cfs)		(ft)	(ft)	(ft)	(ft)					(cfs)		(ft)	(ft)	(ft)					
Transect	Run	HL	Q																																		
9/26/1990	106.23	25.1																																			
4/8/1991	106.93	48.5																																			
5/16/1993	106.40																																				
LWP	0.0	5.65	100.58						1.1																												
	5.0	7.25	96.98						1.1																												
	8.0	10.73	95.50						1.1																												
LEW	8.9	11.14	95.09	0.00	0.00					7.8	11.79	95.14	0.00	0.00																							
	10.0		93.98	1.10	0.00					8.9		94.54	0.60	0.00																							
	12.0		93.38	1.70	0.00					10.0		93.94	1.20	0.07																							
	14.0		92.88	2.20	0.00					12.0		93.24	1.90	0.28																							
	16.0		92.78	2.30	0.16					14.0		92.84	2.30	0.46																							
	18.0		92.58	2.50	0.79	0.36				16.0		92.84	2.30	0.86																							
	20.0		92.68	2.40	0.83	0.83				18.0		92.44	2.70	1.12	0.81																						
	22.0		92.48	2.60	0.95	0.83				20.0		92.54	2.60	1.20	0.95																						
	24.0		92.58	2.70	0.96	1.04				22.0		92.64	2.50	1.09	0.70																						
	26.0		92.48	2.60	0.85	1.09				24.0		92.84	2.30	1.24	1.24																						
	28.0		92.58	2.50	0.32	0.65				26.0		92.74	2.40	1.26	1.26																						
	30.0		92.88	2.20	0.00	0.00				28.0		92.74	2.40	1.26	1.26																						
	32.0		93.03	2.05	0.00	0.00				30.0		93.04	2.10	0.83	0.83																						
REW	34.0		93.33	1.75	0.00	0.00				32.0		92.94	2.20	0.43	0.43																						
	37.0		10.87	95.36						34.0		93.34	1.80	0.57	0.57																						
	45.0		5.89	100.34						36.9		95.14	0.00	0.00	0.00																						
	47.1		5.54	100.69						47.0																											



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RUN          MID          TRANSECT 1
IOC          1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
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 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0    0.00 1.0    91.94    0.0040
1000.0  0.0101.1  3.0100.5  6.795.14  8.093.84  9.093.44  10.092.79
1000.0  11.092.04  12.091.94  13.091.94  14.092.14  15.092.24  16.092.24
1000.0  17.092.54  18.092.84  19.092.94  20.093.14  21.092.94  22.093.14
1000.0  23.093.54  24.094.54  25.094.44  26.094.54  27.094.69  28.094.84
1000.0  29.095.13  31.095.08  34.096.41  39.096.93  46.099.05  51.099.37
1000.0  54.0100.4  56.2100.6
NS 1000.0    1.1    1.1 0.2  1.1    9.3 .13  9.3    9.3
NS 1000.0    3.2    4.3    3.2    3.2    3.2    3.2    3.2
NS 1000.0    3.2    3.2    9.3    9.3    9.3    9.3    3.3
NS 1000.0    9.3 .20  9.3 .11  2.2    2.2    2.2 .2  2.1
NS 1000.0 .3  1.1 .4  1.1    1.1    1.1    1.1    1.1
NS 1000.0    1.1    1.1
WSL 1000.0   94.87   94.92   95.00   95.02   95.10   95.17
WSL 1000.0   95.26   95.41   95.45   95.54   95.61   95.78
WSL 1000.0   95.91   96.16   96.40   96.60   96.81   97.01
WSL 1000.0   97.19   97.36   97.54   97.72   97.98   98.22
WSL 1000.0   98.44   98.66   98.86   99.06   99.24   99.41
CAL11000.0   95.14   47.1
VEL11000.0    0.00 0.83 1.24 1.18 1.11 1.22 1.26 1.09 1.30 1.22
VEL11000.0  1.16 1.23 1.22 1.16 1.05 0.97 0.91 0.16 0.79 0.64 0.31 .001
VEL11000.0  0.00
CAL21000.0   95.01   26.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0   99.41   498.1
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ

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RUN                                MID                                TRANSECT 2
IOC      1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
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 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0      0.00 1.0      94.95      0.0040
1000.0  0.0101.3  5.0100.5  7.097.64 11.095.24 11.395.18 12.294.58
1000.0 14.093.78 16.092.88 18.092.58 20.092.43 22.092.53 24.092.63
1000.0 26.092.78 28.092.98 30.093.18 32.093.28 34.093.48 36.093.48
1000.0 38.093.68 40.094.38 42.095.17 43.095.20 47.096.07 56.0100.6
1000.0 59.1101.1110.099.64150.0103.3
NS 1000.0      1.1      2.2      1.1      1.1      1.1      1.3
NS 1000.0      9.3      9.3      3.2      3.2      3.2      3.2
NS 1000.0      3.2      3.2      3.2      3.2      3.2      3.2
NS 1000.0      9.3      9.3      1.1      1.1      1.1      1.1
NS 1000.0      1.1      1.1      1.1
WSL 1000.0     94.90     94.95     95.03     95.05     95.13     95.20
WSL 1000.0     95.29     95.45     95.49     95.58     95.65     95.82
WSL 1000.0     95.95     96.21     96.45     96.66     96.87     97.07
WSL 1000.0     97.26     97.42     97.61     97.79     98.05     98.30
WSL 1000.0     98.52     98.74     98.95     99.14     99.33     99.50
CAL11000.0     95.18     47.1
VEL11000.0      0.00 0.29 0.40 0.41 0.47 0.70 0.94 1.13
VEL11000.0  1.00 1.12 1.16 0.98 0.94 0.65 0.62 0.30 0.00
VEL11000.0
CAL21000.0     95.06     26.9
VEL21000.0
VEL21000.0
VEL21000.0
CAL31000.0     99.53     498.1
VEL31000.0
VEL31000.0
VEL31000.0
ENDJ

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Sprague River SP10 04/08/91

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RUN                                MID                                TRANSECT 3
IOC      1101100100001000101000
QARD 15.0
QARD 20.0
QARD 25.0
QARD 26.9
QARD 30.0
QARD 35.0
QARD 40.0
QARD 47.1
QARD 50.0
QARD 55.0
QARD 60.0
QARD 70.0
QARD 80.0
QARD 100.0
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 290.0
QARD 320.0
QARD 350.0
QARD 380.0
QARD 410.0
QARD 440.0
QARD 470.0
QARD 498.1
XSEC1000.0      0.00 1.0      92.44      0.0040
      1000.0  0.0100.6  5.098.98  7.895.14  8.994.54  10.093.94  12.093.24
      1000.0  14.092.84  16.092.84  18.092.44  20.092.54  22.092.64  24.092.84
      1000.0  26.092.84  28.092.74  30.093.04  32.092.94  34.093.34  36.995.14
      1000.0  37.095.36  45.0100.3  47.1100.7
NS 1000.0      1.1      1.1 .9      1.1 .8      1.1 .7      9.3      9.3
NS 1000.0      9.3      9.3      3.2      3.2 .16      3.2      3.2
NS 1000.0 .13  3.2      3.2      9.3 .25      9.3      9.3      1.1
NS 1000.0      1.1      1.1      1.1
WSL 1000.0      94.92      94.97      95.05      95.07      95.15      95.22
WSL 1000.0      95.31      95.47      95.51      95.60      95.66      95.84
WSL 1000.0      95.97      96.22      96.46      96.67      96.88      97.09
WSL 1000.0      97.27      97.44      97.63      97.81      98.07      98.31
WSL 1000.0      98.54      98.75      98.96      99.15      99.34      99.50
CAL11000.0      95.14      47.1
VEL11000.0      0.00 0.00 0.07 0.28 0.46 0.86 0.97 1.08 0.90 1.24
VEL11000.0  1.38 1.26 0.83 0.43 0.57 0.00
CAL21000.0      95.08      26.9
VEL21000.0
VEL21000.0
CAL31000.0      99.47      498.1
VEL31000.0
VEL31000.0
ENDJ

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