APPENDIX 2.1 CROSS SECTION PHOTOS

The photo captions include the following information:

- the year, month, and day the photo was taken, in the eight-digit "yyyymmdd" format;
- the site of the photo, represented by the abbreviations used in the report, Below Jordanelle Dam Site (BJ), River Road Site (RR), Never-Channelized Site (NC), and Charleston Site (CA);
- the site cross section, represented by a one-digit number,
- the abbreviation for the point from which the photo was taken, upstreaam (US), downstream (DS), right bank (RB), and left bank (LB).

For example, if the caption reads "20050504NC1US," the photo was taken in the year 2005, in May (05), on the 4th day of the month (04), at the Never-Channelized Site (NC), at cross section 1 (1), looking upstream (US).

Photo 1. 20060413BJ1USBW.JPG

Photo 2. 20060413BJ1RBBW.JPG

Photo 3. 20060413BJ1LBBW.JPG

Photo 4. 20060413BJ1DSBW.JPG

Photo 5. 20060413BJ2USBW.JPG

Photo 6. 20060413BJ2RBBW.JPG

Photo 7. 20060413BJ2LBBW.JPG

Photo 8. 20060413BJ2DSBW.JPG

Photo 9. 20060413BJ3USBW.JPG

Photo 10. 20060413BJ3RBBW.JPG

Photo 11. 20060413BJ3LBBW.JPG

Photo 12. 20060413BJ3DSBW.JPG

Photo 13. 20060413BJ3.5USBW.JPG

Photo 14. 20060413BJ3.5RBBW.JPG

Photo 15. 20060413BJ3.5LBBW.JPG

Photo 16. 20060413BJ3.5DSBW.JPG

Photo 17. 20060414BJ4USBW.JPG

Photo 18. 20060414BJ4RBBW.JPG

Photo 19. 20060414BJ4LBBW.JPG

Photo 20. 20060414BJ4DSBW.JPG

Photo 21. 20060413BJ5USBW.JPG

Photo 22. 20060413BJ5RBBW.JPG

Photo 23. 20060413BJ5LBBW.JPG

Photo 24. 20060413BJ5DSBW.JPG

Photo 25. 20060413BJ6USBW.JPG

Photo 26. 20060413BJ6RBBW.JPG

Photo 27. 20060413BJ6LBBW.JPG

Photo 28. 20060413BJ6DSBW.JPG

Photo 29. 20060413RR1USBW.JPG

Photo 30. 20060413RR1RBBW.JPG

Photo 51. 20060413RR1LBBW.JPG

Photo 32. 20060413RR1DSBW.JPG

Photo 33. 20060413RR2USBW.JPG

Photo 34. 20060413RR2RBBW.JPG

Photo 35. 20060413RR2LBBW.JPG

Photo 36. 20060413RR2DSBW.JPG

Photo 37. 20060413RR3USBW.JPG

Photo 38. 20060413RR3SCUSBW.JPG

Photo 39. 20060413RR3SCDSBW.JPG

Photo 40. 20060413RR3RBBW.JPG

Photo 41. 20060413RR3LBALLBW.JPG

Photo 42. 20060413RR3DSBW.JPG

Photo 43. 20060822RR3US-SCBW.JPG

Photo 44. 20060822RR3USBW.JPG

Photo 45. 20060822RR3RBBW.JPG

Photo 46. 20060822RR3LBBW.JPG

Photo 47. 20060822RR3DS-SCBW.JPG

Photo 48. 20060822RR3DSBW.JPG

Photo 49. 20060414RRLBBW.JPG

Photo 50. 20060413RR4USBW.JPG

Photo 51. 20060413RR4RBBW.JPG

Photo 52. 20060413RR4DSBW.JPG

Photo 53. 20060821RR4USBW.JPG

Photo 54. 20060821RR4RBBW.JPG

Photo 55. 20060821RR4LBBW.JPG

Photo 56. 20060821RR4DSBW.JPG

Photo 57. 20060413RR5USBW.JPG

Photo 58. 20060413RR5SCUSBW.JPG

Photo 59. 20060413RR5SCDSBW.JPG

Photo 60. 20060413RR5RBBW.JPG

Photo 61. 20060413RR5LBMAINBW.JPG

Photo 62. 20060413RR5LBALLBW.JPG

Photo 63. 20060413RR5DSBW.JPG

Photo 64. 20060822RR5US-SCBW.JPG

Photo 65. 20060822RR5USBW.JPG

Photo 66. 20060822RR5RBBW.JPG

Photo 67. 20060822RR5LBBW.JPG

Photo 68. 20060822RR5DS-SCBW.JPG

Photo 69. 20060822RR5DSBW.JPG

Photo 70. 20060414RR6LBSCBW.JPG

Photo 71. 20060413RR6USBW.JPG

Photo 72. 20060413RR6RBBW.JPG

Photo 73. 20060413RR6LBBW.JPG

Photo 74. 20060413RR6DSBW.JPG

Photo 75. 20060821SC2.JPG

Photo 76. 20060821SC.JPG

Photo 77. 20060821RR6USBW.JPG

Photo 78. 20060821RR6rbbw.JPG

Photo 79. 20060821RR6LBBW.JPG

Photo 80. 20060821RR6DSBW.JPG

Photo 86. 20060412NC1USBW.JPG

Photo 87. 20060412NC1RBBW.JPG

Photo 88. 20060412NC1LBBW.JPG

Photo 89. 20060412NC1DSBW.JPG

Photo 85. 20060823NC1USBW.JPG

Photo 86. 20060823NC1US-2BW.JPG

Photo 87. 20060823NC1LBBW.JPG

Photo 88. 20060823NC1DSBW.JPG

Photo 89. 20060823NC1DS-2BW.JPG

Photo 90. 20060412NC2USBW.JPG

Photo 91. 20060412NC2RBBW.JPG

Photo 92. 20060412NC2LBBW.JPG

Photo 93. 20060412NC2DSBW.JPG

Photo 94. 20060823NC2USBW.JPG

Photo 95. 20060823NC2RB.JPG

Photo 96. 20060823NC2LB-REP.JPG

Photo 97. 20060823NC2LB-IP2.JPG

Photo 98. 20060823NC2DSBW.JPG

Photo 99. 20060412NC3USBW.JPG

Photo 100. 20060412NC3RBBW.JPG

Photo 101. 20060412NC3LBBW.JPG

Photo 102. 20060412NC3DSBW.JPG

Photo 103. 20060822NC3USBW.JPG

Photo 104. 20060822NC3RBBW.JPG

Photo 105. 20060822NC3LBBW.JPG

Photo 106. 20060822NC3DSBW.JPG

Photo 107. 20060412NC4US.JPG

Photo 108. 20060412NC4RBBW.JPG

Photo 109. 20060412NC4LBBW.JPG

Photo 110. 20060412NC4DSBW.JPG

Photo 1110. 20060822NC4USBW.JPG

Photo 112. 20060822NC4RBBW.JPG

Photo 113. 20060822NC4LBBW.JPG

Photo 114. 20060822NC4DSBW.JPG

Photo 115. 20060412NC5USBW.JPG

Photo 116. 20060412NC5RBBW.JPG

Photo 117. 20060412NC5LBBW.JPG

Photo 118. 20060412NC5DSBW.JPG

Photo 119. 20060822NC5USBW.JPG

Photo 120. 20060822NC5RBBW.JPG

Photo 121. 20060822NC5LBBW.JPG

Photo 122. 20060822NC5DSBW.JPG

Photo 123. 20060412NC6USBW.JPG

Photo 124. 20060412NC6RBBW.JPG

Photo 125. 20060412NC6LBBW.JPG

Photo 126. 20060412NC6DSBW.JPG

Photo 127. 20060822NC6USBW.JPG

Photo 128. 20060822NC6RBBW.JPG

Photo 129. 20060822NC6LBBW.JPG

Photo 130. 20060822NC6DSBW.JPG

Photo 1311. 20060412CA1USBW.JPG

Photo 132. 20060412CA1RBBW.JPG

Photo 133. 20060412CA1LBBW.JPG

Photo 134. 20060412CA1DSBW.JPG

Photo 135. 20060821CA1USBW.JPG

Photo 136. 20060821CA1RBBW.JPG

Photo 137. 20060821CA1LBBW.JPG

Photo 138. 20060821CA1DSBW.JPG

Photo 139. 20060412CA2USBW.JPG

Photo 140. 20060412CA2RBBW.JPG

Photo 141. 20060412CA2LBBW.JPG

Photo 142. 20060412CA2DSBW.JPG

Photo 143. 20060821CA2USBW.JPG

Photo 144. 20060821CA2RBBW.JPG

Photo 145. 20060821CA2LBBW.JPG

Photo 146. 20060821CA2DSBW.JPG

Photo 147. 20060412CA3USBW.JPG

Photo 148. 20060412CA3RBBW.JPG

Photo 149. 20060412CA3LBBW.JPG

Photo 150. 20060412CA3DSBW.JPG

Photo 151. 20060821CA3USBW.JPG

Photo 152. 20060821CA3RBBW.JPG

Photo 153. 20060821CA3LBBW.JPG

Photo 154. 20060821CA3DSBW.JPG

Photo 155. 20060412CA4USBW.JPG

Photo 156. 20060412CA4RBBW.JPG

Photo 157. 20060412CA4LBBW.JPG

Photo 158. 20060412CA4DSBW.JPG

Photo 159. 20060821CA4USBW.JPG

Photo 160. 20060821CA4RBBW.JPG

Photo 161. 20060821CA4LBBW.JPG

Photo 162. 20060821CA4DSBW.JPG

Photo 163. 20060412CA5USBW.JPG

Photo 164. 20060412CA5RBBW.JPG

Photo 165. 20060412CA5LBBW.JPG

Photo 166. 20060412CA5DSBW.JPG

Photo 167. 20060821CA5USBW.JPG

Photo 168. 20060821CA5RBBW.JPG

Photo 169. 20060821CA5LBBW.JPG

Photo 170. 20060821CA5DSBW.JPG

Photo 171. 20060412CA6USBW.JPG

Photo 172. 20060412CA6SCUSBW.JPG

Photo 173. 20060412CA6SCDSBW.JPG

Photo 174. 20060412CA6RBBW.JPG

Photo 175. 20060412CA6LBBW.JPG

Photo 176. 20060412CA6DSBW.JPG

Photo 177. 20060412CA6ALLATRBBW.JPG

Photo 178. 20060821CA6US-SC.JPG

Photo 179. 20060821CA6USBW.JPG

Photo 180. 20060821CA6RB-SC.JPG

Photo 181. 20060821CA6RBBW.JPG

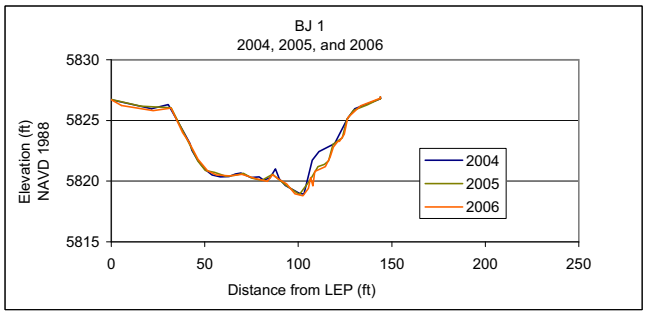
Photo 182. 20060821CA6LB-SC.JPG

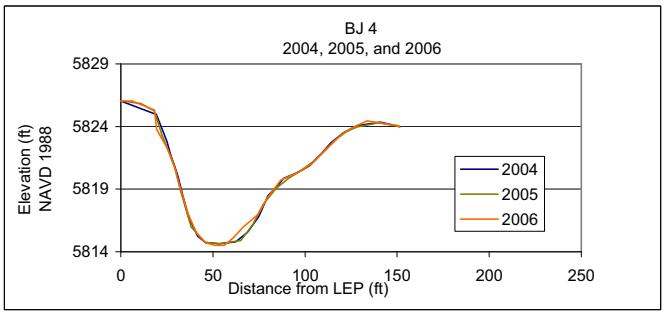
Photo 183. 20060821CA6LBBW.JPG

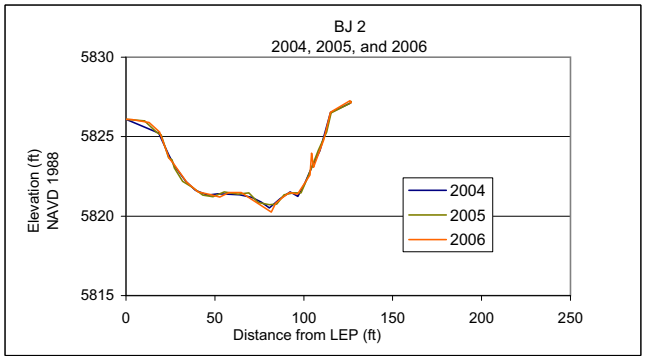
Photo 184. 20060821CA6DS-SC.JPG

Photo 185. 20060821CA6DSBW.JPG

APPENDIX 2.2A CROSS SECTION PLOTS


BJ 1
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5830
5825
5820
5815
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 4
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5829
5824
5819
5814
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 2
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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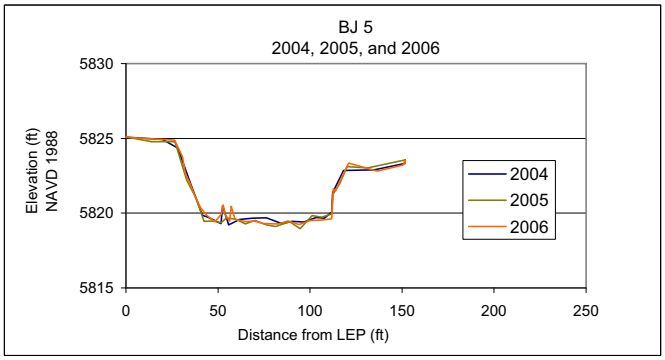
5825
5820
5815
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 5
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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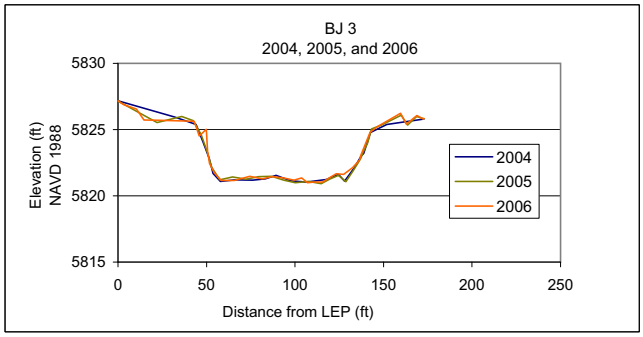
5825
5820
5815
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 3
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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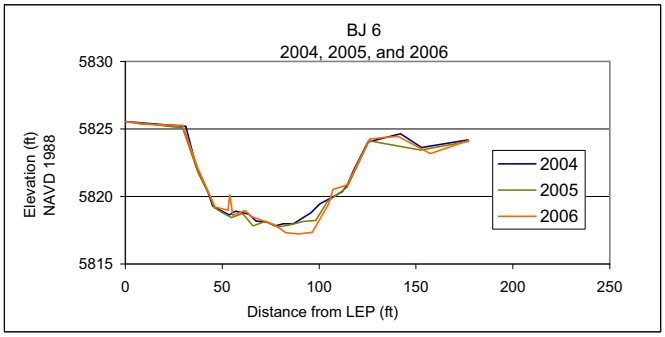
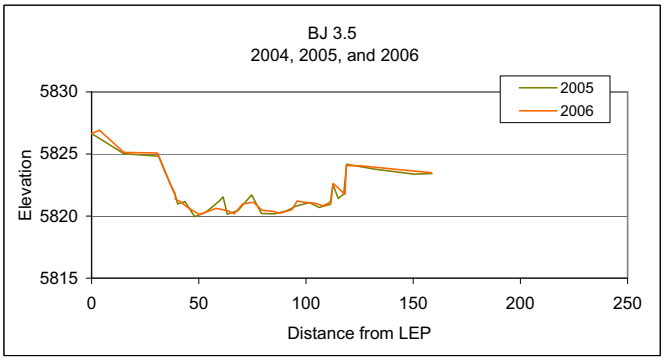
5825
5820
5815
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 6
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5830
5825
5820
5815
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


BJ 3.5
2004, 2005, and 2006
Elevation
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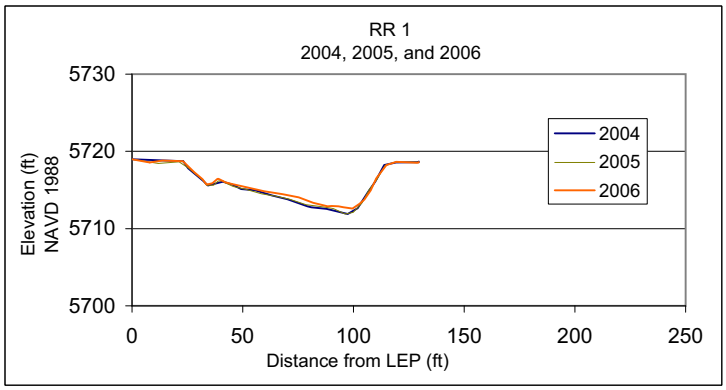
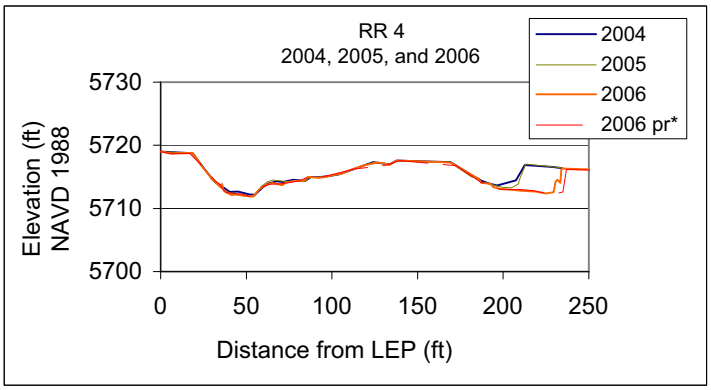
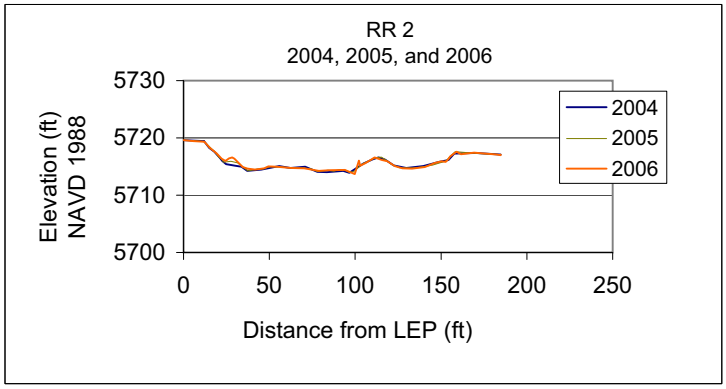
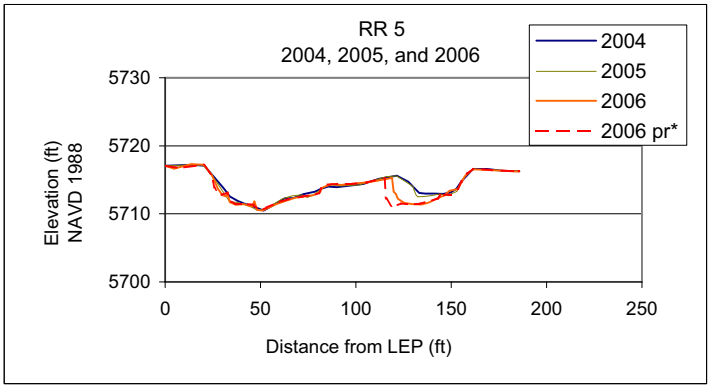
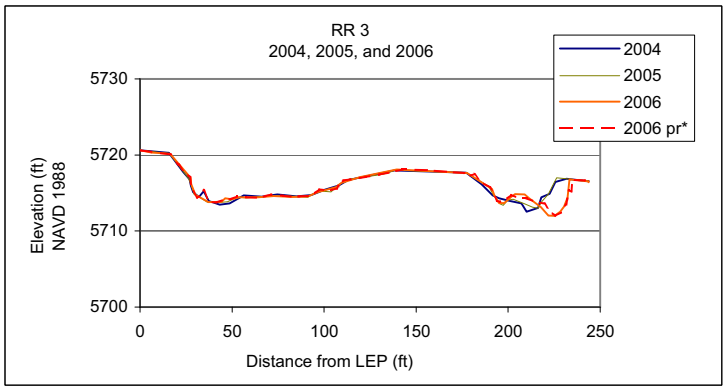
5825
5820
5815
0
50
100
150
200
250
Distance from LEP
2005
2006

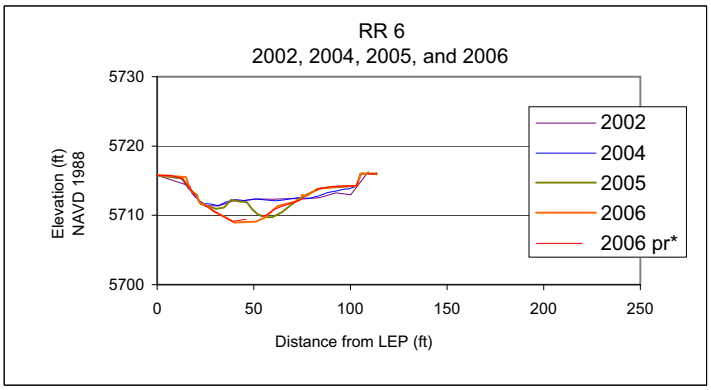

RR 1
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5730
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


RR 4
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5730
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


RR 2
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5730
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006


RR 5
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5730
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


RR 3
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5730
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


RR 6
2002, 2004, 2005, and 2006
Elevation (ft) NAVD 1988
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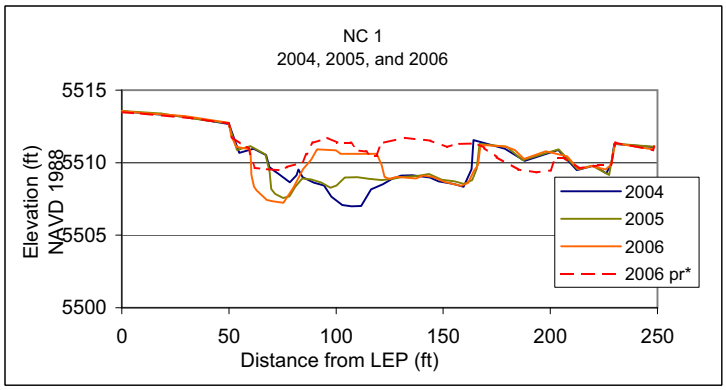
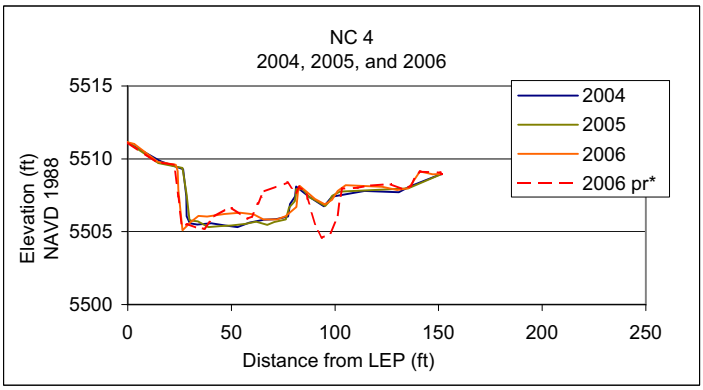
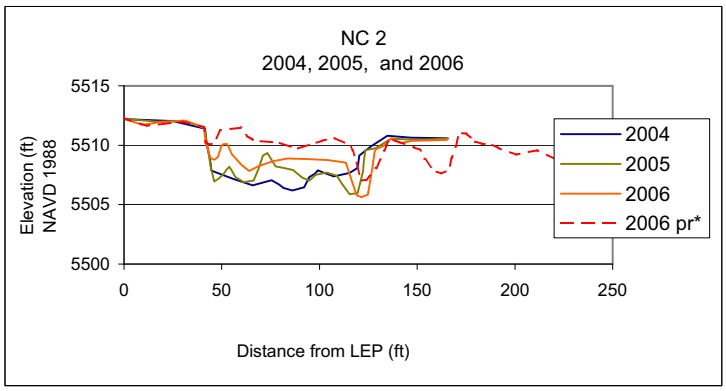
5720
5710
5700
0
50
100
150
200
250
Distance from LEP (ft)
2002
2004
2005
2006
2006 pr*


NC 1
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5515
5510
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


NC 4
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5515
5510
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


NC 2
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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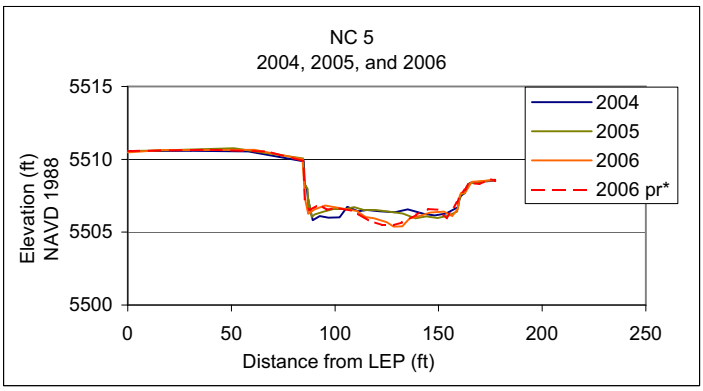
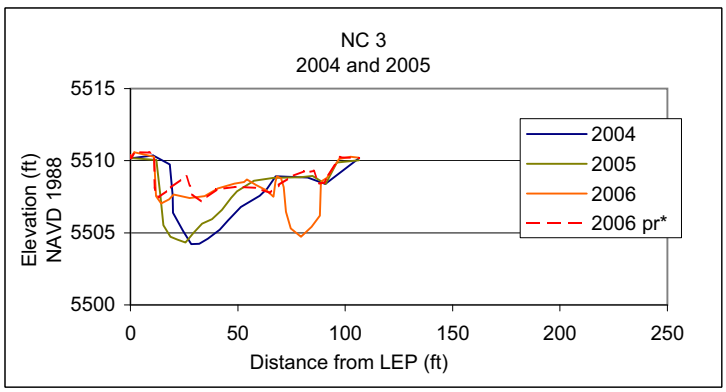
5510
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


NC 5
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5515
5510
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


NC 3
2004 and 2005
Elevation (ft) NAVD 1988
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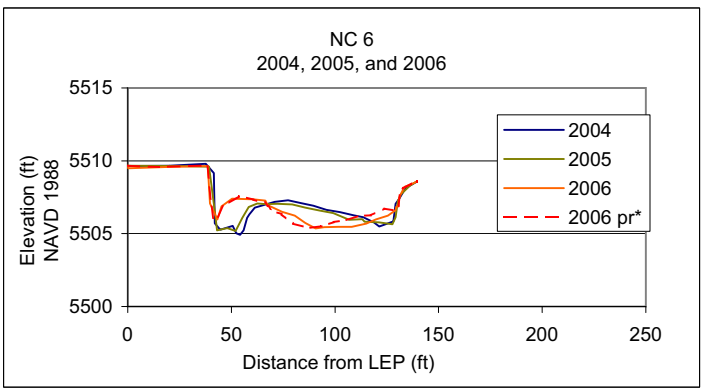
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


NC 6
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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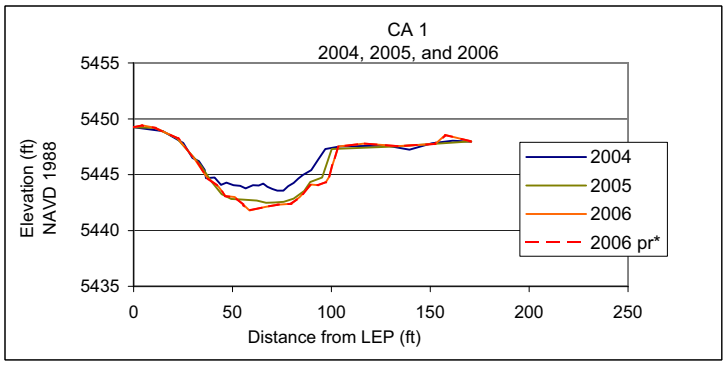
5510
5505
5500
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 1
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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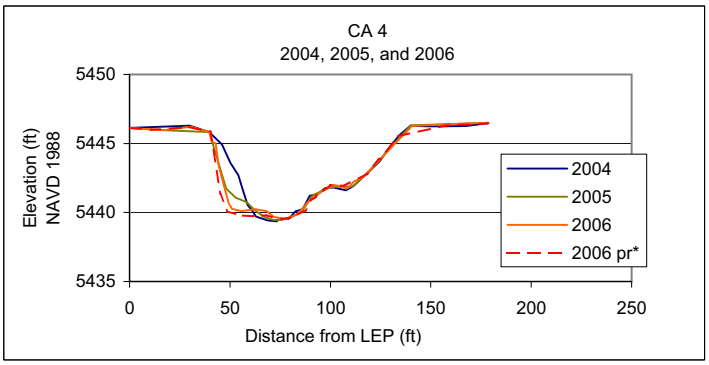
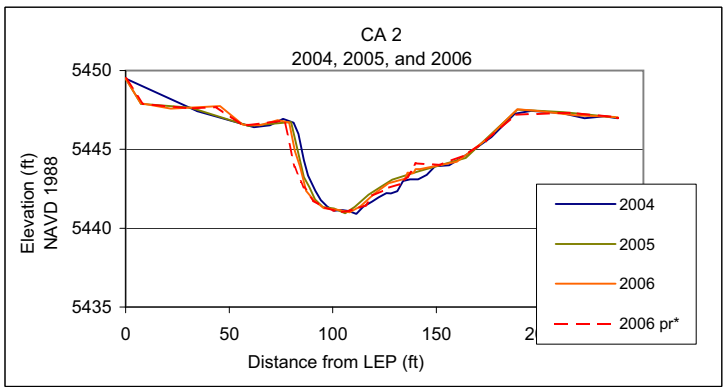
5445
5440
5435
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 4
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5450
5445
5440
5435
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 2
2004, 2005, and 2006
Elevation (ft) NAVD 1988
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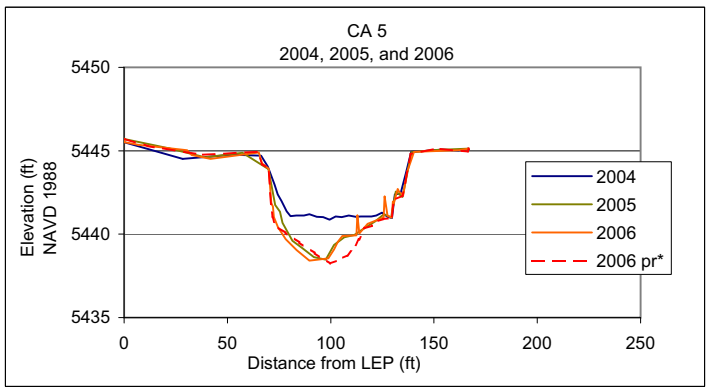
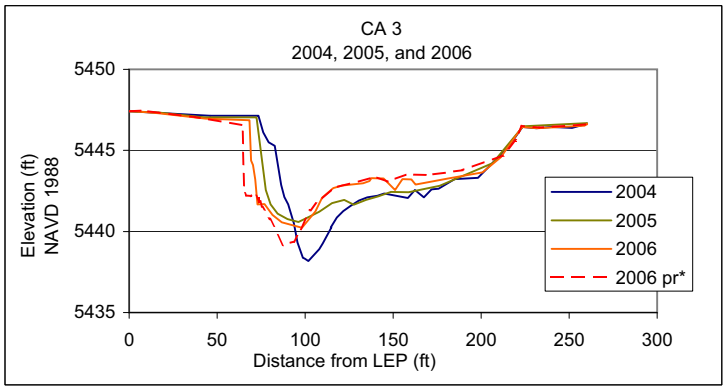
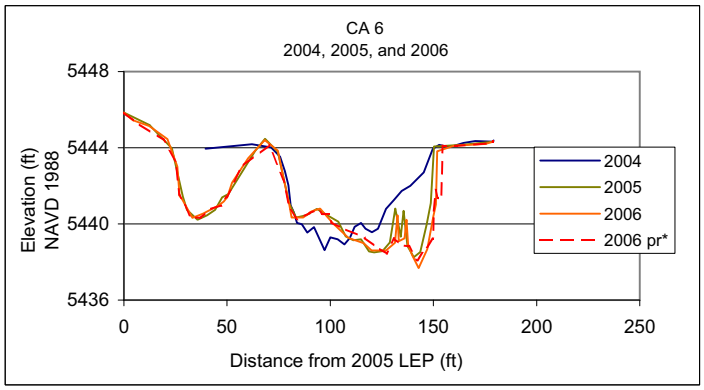
5445
5440
5435
0
50
100
150
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 5
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5450
5445
5440
5435
0
50
100
150
200
250
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 3
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5450
5445
5440
5435
0
50
100
150
200
250
300
Distance from LEP (ft)
2004
2005
2006
2006 pr*


CA 6
2004, 2005, and 2006
Elevation (ft) NAVD 1988
5448
5444
5440
5436
0
50
100
150
200
250
Distance from 2005 LEP (ft)
2004
2005
2006
2006 pr*

APPENDIX 2.2B CROSS SECTION DATA

BELOW JORDANELLE SITE CROSS SECTION 1 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7381916.43	1658896.14	0.00	5826.72	bj-lep-1
38	7381911.08	1658895.40	5.40	5826.24	grass
37	7381894.18	1658893.06	22.46	5825.81	grass
36	7381884.73	1658891.76	32.00	5826.02	tbank
35	7381878.57	1658890.94	38.21	5824.00	bank
34	7381875.36	1658890.50	41.46	5823.25	lew
33	7381870.41	1658889.82	46.45	5821.80	ic
32	7381865.33	1658889.12	51.57	5820.85	ic
31	7381860.79	1658888.49	56.16	5820.50	ic
30	7381853.78	1658887.53	63.23	5820.42	ic
29	7381847.30	1658886.64	69.77	5820.58	ic
28	7381839.67	1658885.59	77.47	5820.19	ic
27	7381833.74	1658884.77	83.47	5819.99	ic
26	7381831.06	1658884.41	86.17	5820.55	ic
25	7381828.07	1658883.99	89.19	5820.20	ic
24	7381823.57	1658883.38	93.73	5819.76	ic
23	7381819.10	1658882.76	98.24	5818.96	ic
22	7381814.90	1658882.18	102.49	5818.80	ic
21	7381812.02	1658881.81	105.39	5819.41	ic
20	7381810.82	1658881.65	106.60	5820.30	ic boulder
19	7381809.65	1658881.35	107.79	5819.60	ic
18	7381808.59	1658881.38	108.85	5820.81	ic
17	7381803.07	1658880.53	114.43	5821.21	ic
16	7381800.56	1658880.19	116.96	5821.98	ic
15	7381798.80	1658879.94	118.73	5822.80	ic
13	7381796.33	1658879.67	121.22	5823.27	ic
12	7381795.63	1658879.64	121.92	5823.28	rew
11	7381793.00	1658879.15	124.59	5823.86	cobb
10	7381791.21	1658878.91	126.40	5825.22	grass
9	7381784.43	1658877.97	133.24	5826.21	grass
8	7381774.65	1658876.63	143.11	5826.77	grass
5	7381773.88	1658876.49	143.90	5826.80	bj-rep-1
3	7381773.81	1658876.47	143.97	5826.95	bj-rep-1

BELOW JORDANELLE SITE CROSS SECTION 2 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7381902.34	1658922.77	0.00	5826.10	bj-lep-2
30	7381898.86	1658922.77	3.49	5826.07	veg
29	7381889.42	1658922.76	12.92	5825.89	veg
28	7381883.44	1658922.67	18.91	5825.29	veg
27	7381878.12	1658922.82	24.23	5823.64	bnk
26	7381875.59	1658922.74	26.75	5823.29	lew
25	7381873.59	1658922.89	28.75	5822.97	ic
24	7381868.20	1658922.72	34.14	5822.13	ic
23	7381861.80	1658922.67	40.54	5821.53	ic
22	7381855.16	1658922.71	47.18	5821.36	ic
21	7381849.68	1658922.70	52.66	5821.20	ic
20	7381844.40	1658922.69	57.94	5821.48	ic
19	7381837.56	1658922.86	64.78	5821.48	ic
18	7381820.55	1658922.59	81.79	5820.26	ic
17	7381818.07	1658922.65	84.27	5820.83	ic
16	7381814.19	1658922.65	88.15	5821.19	ic
15	7381810.41	1658922.64	91.93	5821.48	ic
14	7381805.89	1658922.63	96.45	5821.38	ic
13	7381803.11	1658922.63	99.23	5821.84	ic
12	7381798.94	1658922.62	103.40	5822.58	ic
11	7381797.96	1658922.62	104.39	5823.97	topbldr
10	7381796.86	1658922.62	105.48	5823.08	rew
9	7381791.10	1658922.61	111.24	5824.81	bnk
8	7381787.33	1658922.61	115.01	5826.53	topbnk
7	7381776.41	1658922.59	125.93	5827.26	veg
3	7381775.95	1658922.59	126.40	5827.12	bj-rep-2
4	7381775.87	1658922.59	126.48	5827.21	bj-rep-2

BELOW JORDANELLE SITE CROSS SECTION 3 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
3	7381919.15	1658985.32	0.00	5827.16	bj-lep-3
40	7381915.99	1658985.07	3.18	5826.88	veg
39	7381908.64	1658984.30	10.56	5826.53	veg
38	7381904.66	1658984.05	14.55	5825.72	veg
37	7381895.15	1658983.22	24.09	5825.71	veg
36	7381876.37	1658981.58	42.95	5825.63	veg
35	7381873.41	1658981.32	45.92	5824.52	bnk
34	7381869.52	1658980.98	49.82	5825.02	log
33	7381868.81	1658980.90	50.54	5823.34	veg
32	7381868.25	1658980.87	51.10	5822.96	lew
31	7381867.69	1658980.82	51.65	5822.45	ic
30	7381864.94	1658980.58	54.42	5821.73	ic
29	7381861.07	1658980.24	58.31	5821.16	ic
28	7381853.77	1658979.60	65.64	5821.15	ic
27	7381845.04	1658978.79	74.40	5821.48	ic
26	7381837.87	1658978.21	81.59	5821.29	ic
25	7381832.30	1658977.59	87.19	5821.45	ic
24	7381826.05	1658977.18	93.46	5821.36	ic
23	7381820.09	1658976.66	99.44	5821.19	ic
22	7381815.71	1658976.28	103.84	5821.36	ic
21	7381812.50	1658976.00	107.06	5820.98	ic
20	7381808.93	1658975.68	110.64	5821.03	ic
19	7381804.11	1658975.26	115.48	5821.04	ic
18	7381800.23	1658974.92	119.38	5821.36	ic
17	7381796.40	1658974.59	123.22	5821.65	ic
16	7381792.17	1658974.22	127.46	5821.61	ic
15	7381787.22	1658973.79	132.44	5822.11	ic
14	7381783.13	1658973.43	136.54	5822.71	ic
13	7381782.50	1658973.37	137.17	5823.08	rew
12	7381777.25	1658972.91	142.45	5824.82	veg
11	7381772.87	1658972.53	146.84	5825.24	veg
10	7381760.06	1658971.41	159.70	5826.24	veg
9	7381756.86	1658971.13	162.91	5825.40	veg
8	7381750.97	1658970.62	168.82	5826.07	veg
7	7381747.33	1658970.30	172.48	5825.80	veg
4	7381747.03	1658970.27	172.78	5825.84	bj-rep-3
2	7381746.96	1658970.27	172.85	5825.81	bj-rep-3

BELOW JORDANELLE SITE CROSS SECTION 3.5 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7381895.23	1659057.03	0.00	5826.65	bj-lep-3.5
37	7381891.59	1659056.52	3.68	5826.90	veg
36	7381880.28	1659055.00	15.08	5825.12	veg
35	7381864.75	1659052.73	30.78	5825.07	topbnk
34	7381862.08	1659052.36	33.47	5823.86	bnk
33	7381858.25	1659051.82	37.34	5822.34	bnk
32	7381856.70	1659051.60	38.91	5821.84	lew
31	7381856.57	1659051.56	39.05	5821.36	ic
30	7381854.23	1659051.33	41.40	5821.15	ic
29	7381850.87	1659050.77	44.80	5820.70	ic
28	7381845.37	1659050.16	50.33	5820.12	ic
27	7381837.81	1659048.94	57.99	5820.63	ic
26	7381832.36	1659048.52	63.44	5820.43	ic
25	7381829.37	1659047.69	66.52	5820.19	ic
24	7381825.48	1659047.08	70.46	5820.99	ic
23	7381820.44	1659046.55	75.53	5821.12	ic
22	7381816.43	1659045.91	79.58	5820.48	ic
21	7381811.74	1659045.17	84.33	5820.40	ic
20	7381808.16	1659044.66	87.94	5820.24	ic
19	7381802.68	1659044.21	93.43	5820.53	ic
18	7381800.25	1659043.87	95.89	5821.22	ic
17	7381796.63	1659043.37	99.54	5821.10	ic
16	7381791.96	1659042.47	104.29	5821.02	ic
15	7381788.43	1659041.97	107.86	5820.84	ic
14	7381785.00	1659041.28	111.35	5821.14	ic
13	7381783.67	1659041.30	112.67	5822.63	icbldr
12	7381778.11	1659040.52	118.28	5821.76	rew
10	7381777.64	1659040.45	118.75	5824.08	topbnk
9	7381770.80	1659039.49	125.66	5824.06	veg
8	7381753.09	1659036.89	143.56	5823.72	veg
7	7381738.64	1659034.96	158.14	5823.51	veg
4	7381738.18	1659034.89	158.60	5823.45	bj-rep-3.5
3	7381738.18	1659034.89	158.60	5823.42	bj-rep-3.5

BELOW JORDANELLE SITE CROSS SECTION 4 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7381845.69	1659164.06	0.00	5826.05	bj-lep-4
25	7381840.78	1659160.35	6.16	5826.03	veg
24	7381831.08	1659153.03	18.30	5825.31	tbank
23	7381830.16	1659152.34	19.45	5823.77	bank
22	7381826.06	1659149.25	24.59	5822.40	bank
21	7381824.87	1659148.35	26.08	5821.91	lew
20	7381822.04	1659146.22	29.62	5820.56	ic
19	7381820.01	1659144.69	32.16	5819.17	ic
18	7381816.38	1659141.95	36.71	5816.98	ic
meas	---	---	41.08	5815.51	ic
meas	---	---	46.08	5814.71	ic
meas	---	---	51.08	5814.51	ic
meas	---	---	56.08	5814.51	ic
meas	---	---	61.08	5815.11	ic
meas	---	---	66.08	5815.91	ic
16	7381786.24	1659119.09	74.54	5817.00	ic
15	7381781.84	1659115.91	79.96	5818.38	ic
14	7381776.27	1659111.71	86.94	5819.73	ic
13	7381768.64	1659105.96	96.50	5820.36	ic
12	7381762.08	1659101.01	104.71	5821.21	ic
11	7381758.48	1659098.29	109.23	5821.89	rew
10	7381752.80	1659094.07	116.30	5822.88	rock
9	7381746.18	1659088.89	124.71	5823.83	veg
8	7381739.14	1659083.59	133.52	5824.45	veg rebar
7	7381725.53	1659073.34	150.55	5824.06	veg
5	7381724.88	1659072.86	151.37	5823.99	bj-rep-4
3	7381724.88	1659072.83	151.39	5823.94	bj-rep-4

BELOW JORDANELLE SITE CROSS SECTION 5 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7381705.53	1659257.40	0.00	5825.09	bj-lep-5
38	7381700.33	1659252.36	7.23	5825.01	veg
37	7381686.49	1659238.95	26.51	5824.89	veg
36	7381683.49	1659236.04	30.69	5823.75	tbank
35	7381682.37	1659235.16	32.10	5822.69	bank
34	7381680.28	1659233.16	35.00	5821.95	bank
32	7381678.87	1659231.55	37.13	5821.22	lew
31	7381676.46	1659229.18	40.51	5820.37	ic
30	7381674.04	1659226.87	43.85	5819.85	ic
29	7381670.79	1659223.71	48.39	5819.43	ic
28	7381668.36	1659221.39	51.74	5819.93	ic
27	7381667.61	1659220.63	52.81	5820.55	ic rock
26	7381666.84	1659219.85	53.91	5819.89	ic
25	7381665.06	1659218.12	56.40	5819.48	ic
24	7381664.47	1659217.56	57.21	5820.46	icrock
23	7381662.99	1659216.15	59.25	5819.59	ic
22	7381658.78	1659212.07	65.11	5819.42	ic
21	7381655.29	1659208.69	69.97	5819.47	ic
20	7381651.87	1659205.28	74.80	5819.30	ic
19	7381646.16	1659199.77	82.73	5819.28	ic
18	7381642.39	1659196.04	88.04	5819.47	ic
17	7381638.02	1659191.79	94.14	5819.23	ic
16	7381633.53	1659187.56	100.30	5819.53	ic
15	7381629.12	1659183.28	106.45	5819.54	ic
14	7381625.34	1659179.62	111.71	5819.62	ic
13	7381624.65	1659178.95	112.67	5821.63	boulder
12	7381623.74	1659178.07	113.94	5821.51	rewboulder
11	7381621.38	1659175.77	117.23	5822.38	bank
10	7381618.71	1659173.18	120.95	5823.34	tbank
9	7381607.54	1659162.39	136.49	5822.81	veg
8	7381597.35	1659152.57	150.63	5823.21	veg
3	7381596.66	1659151.89	151.60	5823.55	bj-rep-5
7	7381596.64	1659151.88	151.62	5823.35	bj-rep-5

BELOW JORDANELLE SITE CROSS SECTION 6 DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
3	7381637.75	1659331.36	0.00	5825.55	bj-lep-6
31	7381633.25	1659324.49	8.21	5825.35	veg
30	7381621.45	1659306.52	29.72	5825.25	tbank
28	7381617.23	1659299.98	37.50	5822.06	bank
27	7381613.51	1659294.36	44.23	5819.91	lew
26	7381612.39	1659292.66	46.27	5819.23	ic
25	7381608.73	1659286.94	53.06	5818.98	ic
24	7381608.34	1659286.34	53.78	5820.12	ic rock
23	7381607.45	1659284.96	55.42	5818.61	ic
22	7381603.81	1659279.49	61.99	5818.96	ic
21	7381602.10	1659276.88	65.11	5818.50	ic
20	7381599.29	1659272.46	70.35	5818.24	ic
19	7381595.61	1659266.90	77.01	5817.91	ic
18	7381592.67	1659262.02	82.70	5817.33	ic
17	7381588.81	1659256.68	89.29	5817.22	ic
16	7381584.86	1659250.66	96.49	5817.35	ic
15	7381580.29	1659243.68	104.83	5819.43	ic
14	7381579.73	1659242.82	105.86	5819.86	rew
13	7381579.02	1659241.74	107.15	5820.53	cob bould
12	7381575.03	1659235.66	114.42	5820.86	cob bould
11	7381568.61	1659225.87	126.13	5824.26	veg
10	7381560.76	1659213.67	140.64	5824.46	veg
8	7381551.39	1659199.83	157.35	5823.18	veg
7	7381541.11	1659184.04	176.19	5824.10	veg
6	7381540.84	1659183.35	176.92	5824.10	bj-rep-6
2	7381540.83	1659183.31	176.96	5824.20	bj-rep-6

RIVER ROAD SITE CROSS SECTION 1 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372987.21	1658569.52	0.00	5718.97	rr-lep-1
36	7372982.76	1658562.85	8.01	5718.57	veg
35	7372979.59	1658558.10	13.73	5718.83	veg
34	7372974.45	1658550.39	23.00	5718.72	tbank
33	7372971.61	1658546.14	28.10	5717.34	bank
32	7372969.59	1658543.11	31.75	5716.39	lew
31	7372968.52	1658541.50	33.68	5715.72	ic
30	7372967.09	1658539.37	36.25	5715.86	ic
29	7372965.86	1658537.52	38.46	5716.41	ws
28	7372965.67	1658537.24	38.80	5716.45	sand
27	7372965.41	1658536.85	39.28	5716.43	ws
26	7372963.80	1658534.43	42.18	5716.01	ic
25	7372962.30	1658532.18	44.89	5715.79	ic
24	7372960.07	1658528.84	48.90	5715.52	ic
23	7372954.12	1658519.86	59.67	5714.83	ic
22	7372949.58	1658513.05	67.86	5714.46	ic
21	7372945.45	1658506.84	75.32	5714.05	ic
20	7372941.91	1658501.43	81.79	5713.35	ic
19	7372938.08	1658496.08	88.36	5712.89	ic
17	7372937.22	1658494.43	90.21	5712.94	ic
18	7372935.03	1658492.22	93.26	5712.88	ic
16	7372934.20	1658490.05	95.52	5712.77	ic
15	7372932.09	1658486.64	99.54	5712.58	ic
14	7372930.16	1658484.08	102.74	5713.20	ic
13	7372928.93	1658482.20	104.98	5713.74	ic
12	7372927.32	1658479.85	107.84	5714.97	ic
11	7372925.93	1658477.77	110.33	5716.47	rew
10	7372924.77	1658475.91	112.52	5717.36	bank
9	7372923.44	1658473.90	114.93	5718.25	tbank
8	7372921.02	1658470.11	119.43	5718.64	veg
7	7372915.87	1658462.38	128.72	5718.50	veg
3	7372915.34	1658461.75	129.54	5718.57	rr-rep-1
6	7372915.32	1658461.75	129.55	5718.59	rr-rep-1

RIVER ROAD SITE CROSS SECTION 2 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372900	1658695	0	5719.6044	rr-lep-2
47	7372895	1658692	5.858238972	5719.465059	veg
46	7372890	1658689	12.07870499	5719.323215	tbank
45	7372887	1658687	15.37502971	5718.259629	bank
44	7372883	1658685	19.23724529	5717.327655	bank
43	7372881	1658684	22.1849948	5716.378076	backwater ws
42	7372879	1658683	24.42862203	5715.98162	backwater
41	7372877	1658682	26.41042605	5716.415673	backwater ws
40	7372876	1658681	28.33519178	5716.582634	sand
39	7372874	1658680	29.72571308	5716.385101	lew
38	7372870	1658678	34.42651956	5714.904689	ic
37	7372868	1658676	37.20568353	5714.657868	ic
36	7372864	1658674	41.70578426	5714.447469	ic
35	7372860	1658671	46.89286318	5714.674257	ic
34	7372857	1658670	49.3486152	5715.02079	ic
33	7372853	1658668	53.99982386	5714.971877	ic
32	7372846	1658663	62.62762772	5714.768454	ic
31	7372839	1658659	70.2646782	5714.697773	ic
30	7372832	1658655	78.88919372	5714.27188	ic
29	7372827	1658652	84.90951832	5714.339791	ic
28	7372819	1658647	93.90038207	5714.392196	ic
27	7372814	1658644	99.8207676	5713.697134	ic
26	7372812	1658643	102.1757752	5716.029961	ic boulder
25	7372811	1658643	102.90316	5715.152382	ic
24	7372809	1658641	105.8569127	5715.609014	ic
23	7372806	1658640	109.2702505	5716.175313	ic
22	7372804	1658639	111.2979666	5716.612601	top isws
21	7372800	1658637	115.5055959	5716.134528	sc
20	7372797	1658635	118.8370995	5715.919212	sc
19	7372794	1658633	123.0191782	5715.085403	sc
18	7372790	1658630	127.4494863	5714.666692	sc
17	7372785	1658628	133.1263454	5714.655002	sc
16	7372779	1658624	140.4904835	5714.920165	sc
15	7372774	1658621	146.5264605	5715.621499	sc
14	7372771	1658619	150.2117215	5715.901772	sc
13	7372768	1658618	152.7601924	5715.785386	sc
12	7372767	1658617	154.2025038	5716.277183	rew
11	7372766	1658616	155.3682889	5716.787239	veg
10	7372763	1658614	158.9340153	5717.621001	veg
9	7372761	1658613	161.6313349	5717.128929	veg
8	7372754	1658609	169.2982068	5717.414885	veg
7	7372743	1658602	182.4365381	5717.082722	veg
3	7372741	1658601	184.7626022	5716.958	rr-rep-2
4	7372741	1658601	184.7917337	5717.105096	rr-rep-2
5	7372741	1658601	184.8016762	5717.096074	rr-rep-2
6	7372891	1658759		5718.572873	bs
1	5000	5000		100	junk
48	7372891	1658759		5718.567854	bs

RIVER ROAD SITE CROSS SECTION 3 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372882.87	1658810.17	0.00	5720.63	rr-lep-3
43	7372877.86	1658806.70	6.09	5720.34	dirt
42	7372869.45	1658800.88	16.32	5720.17	tbank
41	7372860.31	1658794.54	27.44	5716.98	bank
40	7372859.94	1658794.30	27.88	5716.16	rew
39	7372858.15	1658793.04	30.07	5714.78	ic
38	7372852.22	1658788.96	37.27	5713.81	ic
37	7372846.37	1658784.89	44.40	5713.86	ic
36	7372844.85	1658783.85	46.24	5714.29	ic
35	7372841.96	1658781.85	49.75	5714.16	ic
34	7372838.40	1658779.33	54.11	5714.42	ic
33	7372830.29	1658773.71	63.98	5714.43	ic
32	7372823.20	1658768.80	72.60	5714.61	ic
31	7372814.77	1658763.01	82.83	5714.46	ic
30	7372807.80	1658758.19	91.30	5714.58	ic
29	7372803.50	1658755.31	96.48	5715.13	ic
28	7372795.13	1658749.52	106.66	5715.77	ic
27	7372792.89	1658748.04	109.34	5716.33	ws
26	7372784.64	1658742.20	119.45	5717.08	is
25	7372768.20	1658730.93	139.38	5718.10	is
24	7372736.65	1658709.13	177.73	5717.62	is tbank
23	7372725.65	1658701.43	191.16	5715.51	is bank
22	7372724.26	1658700.80	192.66	5714.59	ws
21	7372722.30	1658699.30	195.12	5713.67	sc
20	7372720.01	1658697.72	197.90	5713.66	sc
19	7372716.61	1658695.22	202.13	5714.59	ws bar
18	7372715.26	1658694.18	203.83	5714.85	bar
17	7372711.06	1658691.27	208.94	5714.82	bar
16	7372708.75	1658690.13	211.49	5714.31	ws bar
15	7372703.66	1658686.19	217.91	5713.13	sc
14	7372700.50	1658684.00	221.75	5712.02	sc
13	7372697.92	1658681.85	225.11	5711.98	sc
12	7372695.15	1658680.21	228.31	5712.56	sc
11	7372693.42	1658679.01	230.41	5713.23	sc
10	7372692.01	1658677.79	232.27	5714.40	rew
9	7372690.95	1658677.59	233.26	5716.78	tbank
8	7372683.01	1658671.88	243.04	5716.55	veg
4	7372682.44	1658671.52	243.71	5716.55	rr-rep-3
3	7372682.43	1658671.52	243.72	5716.42	rr-rep-3

RIVER ROAD SITE CROSS SECTION 3 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372882.87	1658810.17	0.00	5720.63	lep3
63	7372869.47	1658800.91	16.29	5720.09	lb
62	7372865.79	1658798.32	20.78	5718.73	lb
61	7372862.84	1658796.28	24.37	5717.64	lb
60	7372860.36	1658794.63	27.35	5717.07	lb
59	7372860.00	1658794.38	27.78	5715.77	lew
58	7372857.26	1658792.49	31.11	5714.37	ic
57	7372855.53	1658791.30	33.22	5714.65	ic
56	7372854.23	1658790.31	34.85	5715.36	ic
55	7372852.32	1658788.98	37.18	5713.82	ic
54	7372848.63	1658786.46	41.65	5713.77	ic
53	7372845.60	1658784.40	45.31	5714.10	ic
52	7372841.92	1658781.87	49.77	5714.22	ic
51	7372839.42	1658780.10	52.84	5714.54	ic
50	7372835.44	1658777.34	57.68	5714.44	ic
49	7372830.31	1658773.78	63.93	5714.40	ic
48	7372826.68	1658771.27	68.34	5714.58	ic
47	7372824.25	1658769.59	71.29	5714.82	ic
46	7372819.04	1658765.93	77.65	5714.64	ic
45	7372814.77	1658763.01	82.83	5714.49	ic
44	7372811.69	1658760.88	86.58	5714.55	ic
43	7372806.67	1658757.33	92.72	5714.60	ic
42	7372802.73	1658754.78	97.41	5715.47	ic
41	7372798.04	1658751.67	103.04	5715.30	ic
40	7372794.90	1658749.28	106.98	5715.62	ic
39	7372794.30	1658748.87	107.71	5715.89	ws
38	7372793.24	1658748.14	109.00	5716.36	is willow
37	7372791.99	1658747.28	110.51	5716.64	is willow
36	7372788.81	1658745.11	114.37	5716.78	is edgewillow
35	7372781.92	1658740.30	122.76	5717.12	is
34	7372776.00	1658735.99	130.08	5717.41	is
33	7372770.56	1658732.39	136.61	5717.76	is
32	7372765.40	1658729.06	142.75	5718.07	is
31	7372753.91	1658721.18	156.68	5718.00	is
30	7372744.20	1658714.48	168.47	5717.75	is
29	7372737.74	1658710.02	176.33	5717.64	is
28	7372735.94	1658708.78	178.51	5717.26	is
27	7372733.51	1658707.10	181.47	5717.45	is
26	7372730.36	1658704.93	185.30	5716.42	is edgewillow
25	7372726.29	1658702.12	190.24	5715.72	is
24	7372724.54	1658700.91	192.37	5714.74	is
23	7372723.21	1658700.00	193.98	5713.97	bw
22	7372721.95	1658699.13	195.51	5713.83	bw
21	7372720.37	1658698.04	197.43	5713.94	bw
20	7372716.91	1658695.52	201.71	5714.77	cobble
19	7372713.55	1658693.20	205.79	5714.30	ws
18	7372710.33	1658690.55	209.95	5714.33	sc ic
17	7372707.35	1658689.01	213.27	5713.96	sc ic
16	7372702.23	1658685.33	219.57	5713.58	sc ic
15	7372699.81	1658683.49	222.62	5712.63	sc ic
14	7372697.52	1658681.54	225.61	5711.98	sc ic
13	7372694.61	1658680.05	228.85	5712.45	sc ic
12	7372692.20	1658678.69	231.60	5713.46	sc ic
11	7372691.90	1658678.32	232.07	5714.14	rew
10	7372691.16	1658677.87	232.93	5715.38	grassclump
9	7372690.02	1658677.09	234.31	5715.21	grassclump
8	7372689.55	1658676.81	234.85	5716.71	rb
7	7372683.96	1658672.72	241.77	5716.68	veg
5	7372682.44	1658671.52	243.71	5716.55	rep3
3	7372682.43	1658671.52	243.72	5716.42	rep3
4	7372682.41	1658671.51	243.74	5716.55	rep3

RIVER ROAD SITE CROSS SECTION 4 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372779.83	1658925.04	0.00	5719.00	rr-lep-4
54	7372776.53	1658919.50	6.45	5718.69	veg
53	7372770.36	1658909.12	18.52	5718.81	tbank
52	7372767.38	1658904.12	24.34	5716.58	bank
51	7372764.62	1658899.43	29.77	5714.81	lew
50	7372762.96	1658896.64	33.02	5713.91	ic
49	7372762.11	1658895.21	34.69	5713.44	ic
48	7372761.51	1658894.18	35.88	5713.88	ic rock
47	7372761.07	1658893.45	36.74	5712.78	ic
46	7372760.26	1658892.08	38.33	5712.57	ic
45	7372758.69	1658889.34	41.48	5712.12	ic
44	7372757.10	1658886.56	44.69	5712.21	ic
43	7372754.09	1658881.69	50.41	5711.96	ic
42	7372752.29	1658878.71	53.89	5711.88	ic
41	7372750.42	1658875.48	57.63	5713.03	ic
40	7372748.66	1658872.58	61.02	5713.68	ic
39	7372746.55	1658869.03	65.15	5714.06	ic
38	7372743.47	1658863.96	71.08	5713.71	ic
37	7372742.39	1658861.92	73.38	5714.14	ic
36	7372740.11	1658858.25	77.71	5714.33	ic
35	7372737.14	1658853.01	83.73	5714.40	ic
34	7372735.98	1658851.13	85.93	5714.98	ic
33	7372732.70	1658845.60	92.36	5714.84	ic
32	7372730.65	1658842.15	96.38	5714.97	ic
31	7372729.55	1658840.29	98.54	5715.13	ws
30	7372727.47	1658836.64	102.73	5715.43	is
29	7372726.16	1658834.43	105.30	5715.46	is
28	7372724.00	1658830.78	109.55	5715.96	is
27	7372719.75	1658823.60	117.89	5716.77	is
26	7372715.09	1658815.67	127.09	5717.26	is
25	7372711.69	1658809.92	133.76	5716.91	is
24	7372709.54	1658806.30	137.98	5717.58	is
23	7372693.38	1658779.56	169.22	5717.29	is
22	7372685.19	1658765.52	185.48	5714.70	is
21	7372684.27	1658764.03	187.23	5714.06	is
20	7372683.20	1658761.91	189.59	5713.97	ws
19	7372681.62	1658759.27	192.67	5713.89	sc
18	7372680.82	1658758.02	194.16	5713.38	sc
17	7372679.03	1658754.99	197.67	5713.13	sc
16	7372676.92	1658751.55	201.71	5713.02	sc
15	7372672.74	1658744.51	209.90	5712.80	sc
14	7372668.03	1658736.72	219.00	5712.68	sc
13	7372664.99	1658731.60	224.95	5712.39	sc
12	7372662.80	1658727.59	229.53	5712.59	sc
11	7372662.28	1658726.78	230.48	5714.25	rew
10	7372661.74	1658725.69	231.70	5714.52	slump
9	7372660.67	1658724.29	233.45	5714.05	slump
8	7372660.47	1658723.93	233.86	5716.16	tbank
4	7372660.19	1658723.38	234.47	5716.31	rr-rep-4
3	7372660.15	1658723.30	234.57	5716.32	rr-rep-4
6	7372645.03	1658697.80	264.21	5716.04	rep4 2006

RIVER ROAD SITE CROSS SECTION 4 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372779.83	1658925.04	0.00	5719.00	lep4
39	7372777.06	1658920.35	5.44	5718.66	veg
38	7372771.03	1658910.43	17.05	5718.69	veg
37	7372767.29	1658904.02	24.47	5716.69	lb
36	7372763.29	1658897.42	32.19	5714.27	lew
35	7372762.48	1658896.08	33.75	5713.97	ic
34	7372760.27	1658892.33	38.11	5712.51	ic
33	7372755.79	1658884.12	47.45	5712.27	ic
32	7372753.32	1658880.04	52.22	5711.89	ic
31	7372751.95	1658877.89	54.77	5712.54	ic
30	7372749.54	1658873.15	60.08	5713.52	ic
29	7372747.49	1658870.10	63.75	5713.83	ic
28	7372744.78	1658865.24	69.31	5713.88	ic
27	7372741.56	1658860.19	75.29	5714.07	ic
26	7372738.79	1658855.35	80.87	5714.38	ic
25	7372736.37	1658851.21	85.66	5714.88	ws
24	7372731.62	1658844.02	94.27	5714.99	is cob
23	7372728.85	1658839.05	99.96	5715.34	is wil
22	7372722.48	1658828.37	112.40	5716.21	is wil
21	7372712.10	1658811.11	132.53	5716.87	is
20	7372708.63	1658805.26	139.34	5717.61	is
19	7372691.83	1658776.65	172.51	5716.77	is
18	7372684.47	1658764.04	187.11	5714.16	is
17	7372681.76	1658759.92	192.04	5713.90	is
16	7372679.84	1658757.40	195.19	5713.29	ws
15	7372677.80	1658753.57	199.52	5712.96	ic sch
14	7372673.63	1658745.36	208.71	5713.03	ic sch
13	7372669.16	1658737.97	217.35	5712.81	ic sch
12	7372665.59	1658731.51	224.73	5712.43	ic sch
11	7372662.58	1658726.46	230.60	5712.29	ic sch
10	7372660.20	1658722.85	234.93	5712.63	ic sch
9	7372660.05	1658722.38	235.40	5713.56	rew
8	7372658.96	1658721.26	236.92	5716.15	top rb sch
7	7372655.80	1658715.80	243.23	5716.11	veg
6	7372645.75	1658698.84	262.94	5716.01	veg
3	7372645.03	1658697.80	264.21	5716.04	rep4
4	7372645.02	1658697.79	264.22	5716.06	rr rep4open

RIVER ROAD SITE CROSS SECTION 5 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2.00	7372657.18	1658939.83	0.00	5717.07	rr-lep-5
46.00	7372656.41	1658935.19	4.71	5716.62	veg
45.00	7372654.97	1658926.46	13.56	5717.29	veg
44.00	7372653.88	1658919.88	20.22	5717.21	tbank
43.00	7372653.18	1658915.65	24.51	5715.72	bank
42.00	7372652.67	1658912.55	27.65	5713.68	lew
41.00	7372652.27	1658910.14	30.10	5712.75	ic
40.00	7372651.95	1658908.22	32.04	5712.54	ic
39.00	7372651.84	1658907.58	32.69	5713.09	rock ic
38.00	7372651.65	1658906.41	33.88	5711.71	ic
37.00	7372651.12	1658903.23	37.10	5711.35	ic
36.00	7372650.47	1658899.00	41.38	5711.45	ic
35.00	7372649.77	1658894.95	45.49	5711.06	ic
34.00	7372649.65	1658893.68	46.76	5711.86	rock ic
33.00	7372649.32	1658892.26	48.22	5710.58	ic
32.00	7372648.80	1658889.59	50.94	5710.46	ic
31.00	7372647.74	1658882.39	58.22	5711.44	ic
30.00	7372646.08	1658872.70	68.05	5712.35	ic
29.00	7372644.49	1658863.13	77.75	5712.76	ic
28.00	7372643.94	1658859.62	81.30	5713.27	ic
27.00	7372643.95	1658859.27	81.65	5713.56	ws
26.00	7372643.81	1658858.41	82.52	5713.89	is
25.00	7372642.93	1658853.69	87.32	5714.39	is
24.00	7372642.16	1658849.03	92.04	5714.23	is
23.00	7372639.74	1658834.10	107.17	5714.68	is
22.00	7372637.78	1658822.46	118.97	5715.27	is top bank
21.00	7372637.66	1658821.71	119.73	5713.25	is bank
20.00	7372637.46	1658820.50	120.96	5712.92	ws
19.00	7372637.29	1658819.49	121.98	5712.22	sc
18.00	7372636.89	1658816.22	125.27	5711.61	sc
17.00	7372636.18	1658811.89	129.65	5711.44	sc
16.00	7372635.28	1658807.12	134.51	5711.37	sc
15.00	7372634.69	1658803.42	138.26	5711.68	sc
14.00	7372633.80	1658798.15	143.60	5712.41	sc
13.00	7372633.33	1658795.33	146.46	5712.72	sc
12.00	7372632.90	1658793.84	148.00	5713.12	rew
11.00	7372632.71	1658792.68	149.18	5713.39	cobbould
10.00	7372632.03	1658788.61	153.30	5713.62	bbank
9.00	7372631.49	1658784.72	157.22	5715.58	tbank
8.00	7372630.80	1658780.54	161.47	5716.55	tbank
7.00	7372626.91	1658757.06	185.26	5716.24	veg
3.00	7372626.89	1658756.71	185.61	5716.25	rr-rep-5
6.00	7372626.90	1658756.70	185.62	5716.26	rr-rep-5
4.00	7372626.89	1658756.70	185.63	5716.25	rr-rep-5

RIVER ROAD SITE CROSS SECTION 5 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372657.18	1658939.83	0.00	5717.07	lep5
46	7372656.00	1658932.70	7.23	5716.73	veg
45	7372653.93	1658920.19	19.92	5717.20	veg
44	7372653.18	1658915.61	24.55	5715.71	lb
43	7372652.95	1658914.28	25.90	5713.84	lb
42	7372652.68	1658912.70	27.50	5713.15	lew
41	7372652.33	1658910.58	29.66	5712.78	ic
40	7372651.83	1658907.56	32.72	5713.12	ic
39	7372651.71	1658906.64	33.64	5712.00	ic
38	7372651.29	1658903.82	36.49	5711.46	ic
37	7372650.26	1658898.54	41.87	5711.47	ic
36	7372649.49	1658893.98	46.50	5711.35	ic
35	7372649.08	1658890.63	49.87	5710.49	ic
34	7372648.45	1658887.34	53.21	5710.89	ic
33	7372647.65	1658882.01	58.61	5711.63	ic
32	7372646.59	1658875.90	64.81	5712.18	ic
31	7372645.39	1658868.64	72.16	5712.57	ic
30	7372644.16	1658861.76	79.16	5712.86	ic
29	7372644.04	1658860.23	80.69	5713.09	ws
28	7372643.81	1658859.03	81.91	5713.67	is
27	7372643.24	1658855.84	85.14	5714.31	iswillow
26	7372642.54	1658850.75	90.28	5714.38	iswillow
25	7372641.29	1658843.16	97.97	5714.40	iswillow
24	7372640.00	1658835.30	105.94	5714.62	iswillow
23	7372638.47	1658826.22	115.14	5715.25	is
22	7372638.44	1658825.59	115.77	5712.24	ws
21	7372637.71	1658822.42	119.02	5711.00	ic
20	7372636.94	1658817.77	123.73	5711.51	ic
19	7372636.17	1658813.11	128.45	5711.37	ic
18	7372635.49	1658807.97	133.64	5711.47	ic
17	7372634.67	1658802.96	138.72	5711.84	ic
16	7372634.09	1658798.90	142.81	5712.26	ic
15	7372633.66	1658796.68	145.08	5713.22	boulder
14	7372633.44	1658795.36	146.41	5712.80	ic
13	7372633.03	1658792.84	148.97	5712.84	ic
12	7372632.87	1658791.85	149.97	5712.84	rew
11	7372632.27	1658788.39	153.49	5713.73	veg
10	7372631.97	1658786.31	155.58	5714.76	veg
9	7372631.37	1658783.39	158.56	5715.88	veg
8	7372630.92	1658780.62	161.37	5716.65	veg
7	7372629.40	1658771.64	170.47	5716.44	veg
6	7372627.44	1658759.76	182.51	5716.27	veg
3	7372626.89	1658756.71	185.61	5716.25	rep5
4	7372626.89	1658756.70	185.62	5716.25	rep5

RIVER ROAD SITE CROSS SECTION 6 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	ESCRIPTION
2	7372543.43	1658868.30	0.00	5715.78	rr-lep-6
29	7372545.71	1658863.82	5.02	5715.72	veg
28	7372550.23	1658854.97	14.96	5715.52	rock
27	7372551.04	1658853.30	16.82	5713.82	bank
26	7372552.77	1658849.92	20.62	5712.68	lew
25	7372553.35	1658848.78	21.89	5711.85	ic
24	7372555.26	1658845.02	26.12	5711.30	ic
23	7372556.75	1658842.09	29.40	5710.51	ic
22	7372559.21	1658837.24	34.84	5709.81	ic
21	7372561.73	1658832.79	39.95	5708.96	ic
20	7372563.30	1658830.20	42.97	5708.99	ic
19	7372566.35	1658822.83	50.92	5709.10	ic
18	7372568.55	1658818.96	55.37	5709.59	ic
17	7372571.75	1658812.67	62.43	5711.34	ic
16	7372576.36	1658803.61	72.59	5712.03	ic
15	7372577.16	1658801.80	74.56	5712.38	ic
14	7372577.33	1658801.48	74.93	5712.95	onrock
13	7372578.05	1658800.05	76.53	5712.77	ic
12	7372578.66	1658798.85	77.88	5712.87	rew
11	7372580.91	1658794.43	82.84	5713.79	cobgrav
10	7372585.90	1658784.58	93.88	5714.16	edgewill
9	7372590.20	1658776.15	103.34	5714.28	bbank
8	7372591.10	1658774.39	105.32	5716.00	tbank
7	7372594.47	1658767.78	112.74	5716.00	veg
3	7372594.83	1658767.13	113.48	5715.94	rr-rep-6
4	7372594.84	1658767.13	113.49	5716.03	rr-rep-6
6	7372594.83	1658767.12	113.49	5716.04	rr-rep-6

RIVER ROAD SITE CROSS SECTION 6 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7372543.43	1658868.30	0.00	5715.78	lep6
28	7372546.71	1658861.89	7.21	5715.76	veg
27	7372549.53	1658856.37	13.40	5715.27	veg
26	7372550.85	1658853.58	16.48	5713.88	lb
25	7372552.24	1658851.09	19.33	5713.10	lb
24	7372552.94	1658849.76	20.83	5712.20	lew
23	7372552.99	1658849.50	21.09	5711.99	ic
22	7372555.34	1658844.97	26.20	5711.17	ic
21	7372558.78	1658838.55	33.48	5709.94	ic
20	7372560.92	1658833.52	38.93	5709.12	ic
19	7372564.05	1658828.78	44.58	5709.35	ic
18	7372565.72	1658825.12	48.59	5709.43	ic
17	7372567.24	1658821.54	52.47	5709.78	ic
16	7372569.02	1658818.09	56.36	5710.02	ic
15	7372570.84	1658814.36	60.51	5710.84	ic
14	7372573.42	1658809.41	66.08	5711.44	ic
13	7372575.78	1658804.97	71.12	5711.93	ic
12	7372577.31	1658802.07	74.40	5712.27	rew
11	7372580.73	1658794.85	82.38	5713.77	cob
10	7372584.32	1658787.63	90.44	5714.15	ewil st cob
9	7372590.20	1658776.30	103.21	5714.27	veg
8	7372591.52	1658774.35	105.54	5716.01	veg
7	7372594.67	1658767.50	113.08	5715.95	veg
3	7372594.83	1658767.13	113.48	5715.94	rep6
5	7372594.86	1658767.10	113.52	5716.01	rr rep6 open
4	7372594.86	1658767.08	113.54	5716.02	rr rep6 open

NEVER CHANNELIZED SITE CROSS SECTION 1 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
162	7355452.09	1654251.25	0.00	5513.47	lep1 open
160	7355444.78	1654247.10	8.40	5513.38	veg
159	7355423.47	1654235.12	32.85	5513.06	veg
158	7355408.55	1654226.74	49.96	5512.70	tlb
157	7355407.28	1654226.05	51.40	5511.77	lb
156	7355402.88	1654223.58	56.45	5511.21	lb
155	7355400.40	1654222.14	59.33	5510.98	lb
154	7355399.90	1654221.86	59.90	5510.59	lew
153	7355397.87	1654220.79	62.19	5509.63	ic
152	7355393.96	1654218.51	66.71	5509.56	ic
151	7355388.39	1654215.37	73.11	5509.49	ic
150	7355384.75	1654213.32	77.28	5509.71	ic
149	7355378.65	1654209.89	84.28	5509.99	ic
148	7355377.04	1654209.03	86.10	5510.60	ws
147	7355374.32	1654207.50	89.23	5511.35	bar
146	7355368.40	1654204.18	96.01	5511.71	bar
145	7355364.41	1654201.94	100.59	5511.38	bar
144	7355359.08	1654198.94	106.71	5511.35	bar
143	7355356.46	1654197.47	109.71	5510.85	bar
142	7355352.81	1654195.41	113.91	5510.76	bar
141	7355351.09	1654194.45	115.88	5510.46	bar
140	7355348.57	1654193.11	118.73	5510.47	bar
139	7355346.54	1654191.96	121.06	5511.33	bar
138	7355336.70	1654186.37	132.38	5511.72	bar
137	7355326.42	1654180.60	144.17	5511.51	bar
136	7355319.69	1654176.82	151.89	5511.07	bar
135	7355315.82	1654174.64	156.33	5511.29	bar
134	7355308.00	1654170.25	165.30	5511.31	bar
133	7355304.58	1654168.33	169.22	5511.03	ws
132	7355299.56	1654165.51	174.98	5510.39	ic
131	7355290.77	1654160.47	185.11	5509.53	ic
130	7355283.44	1654156.35	193.51	5509.34	ic
129	7355277.73	1654153.14	200.06	5509.47	ic
128	7355275.91	1654152.12	202.15	5510.32	ic
127	7355271.95	1654149.89	206.70	5510.33	wet veg
126	7355265.85	1654146.58	213.63	5509.62	wet veg
125	7355257.93	1654142.13	222.72	5509.81	wet veg
124	7355253.01	1654139.37	228.36	5509.85	wet veg
123	7355251.76	1654138.66	229.80	5511.05	rew
122	7355251.20	1654138.35	230.44	5511.38	veg
121	7355235.99	1654129.72	247.92	5510.85	veg
120	7355235.47	1654129.43	248.52	5511.12	rep1

NEVER CHANNELIZED SITE CROSS SECTION 1 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7355452.12	1654251.22	0.00	5513.56	nc-lep-1
52	7355447.73	1654248.76	5.03	5513.47	grass
51	7355426.48	1654236.84	29.40	5513.22	grass
50	7355408.67	1654226.85	49.82	5512.75	tbank
49	7355407.58	1654226.24	51.07	5511.86	bank
48	7355405.48	1654225.08	53.47	5511.10	bank
47	7355400.07	1654222.02	59.68	5510.92	bank
46	7355399.61	1654221.81	60.18	5510.37	lew
45	7355399.29	1654221.63	60.55	5509.16	ic
44	7355398.26	1654221.02	61.74	5508.37	ic
43	7355397.27	1654220.46	62.89	5508.10	ic
42	7355393.31	1654217.80	67.64	5507.44	ic
41	7355390.88	1654216.96	70.17	5507.35	ic
40	7355386.42	1654214.22	75.40	5507.23	ic
39	7355382.35	1654212.12	79.98	5508.28	ic
38	7355378.26	1654209.67	84.74	5509.57	ic
37	7355375.06	1654207.87	88.42	5510.22	ws
36	7355372.65	1654206.57	91.15	5510.92	bar
35	7355365.08	1654202.32	99.84	5510.84	bar
34	7355363.11	1654201.21	102.10	5510.62	bar
33	7355348.40	1654192.94	118.97	5510.61	bar
32	7355346.34	1654191.86	121.30	5509.84	ws
31	7355345.24	1654191.21	122.58	5509.02	ic
30	7355343.45	1654190.20	124.63	5508.89	ic
29	7355340.17	1654188.36	128.39	5509.03	ic
28	7355332.51	1654184.06	137.18	5508.92	ic
27	7355329.55	1654182.40	140.56	5509.11	ic
26	7355325.73	1654180.25	144.95	5509.02	ic
25	7355320.62	1654177.43	150.79	5508.66	ic
24	7355314.13	1654173.79	158.23	5508.40	ic
23	7355311.25	1654172.18	161.53	5508.61	ic
22	7355308.80	1654170.80	164.34	5509.42	ic
21	7355307.14	1654169.87	166.24	5509.83	rew
20	7355306.13	1654169.30	167.41	5511.24	tbank
19	7355296.03	1654163.63	178.99	5511.13	veg
18	7355292.17	1654161.53	183.38	5510.87	veg
17	7355288.40	1654159.34	187.74	5510.25	veg
16	7355279.68	1654154.25	197.83	5510.78	veg
15	7355270.79	1654149.48	207.92	5510.44	veg
14	7355266.41	1654147.03	212.94	5509.57	veg
13	7355263.77	1654145.54	215.97	5509.63	veg
12	7355261.05	1654144.02	219.09	5509.77	veg
11	7355255.19	1654140.72	225.81	5509.53	veg
10	7355253.01	1654139.50	228.31	5509.86	veg
9	7355251.24	1654138.54	230.32	5511.34	veg
8	7355236.09	1654130.04	247.70	5510.93	veg
3	7355235.53	1654129.34	248.53	5511.08	nc-rep-1
4	7355235.51	1654129.33	248.55	5511.12	nc-rep-1

NEVER CHANNELIZED SITE CROSS SECTION 2 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7355385.86	1654309.63	0.00	5512.22	nc-lep-2
42	7355382.63	1654307.15	4.07	5512.00	veg
41	7355378.48	1654303.96	9.31	5511.71	veg
40	7355371.70	1654298.77	17.84	5511.94	veg
39	7355360.86	1654290.45	31.51	5512.06	veg
38	7355353.38	1654284.74	40.93	5511.50	tbank
37	7355352.78	1654284.28	41.68	5510.19	bank
36	7355351.95	1654283.64	42.72	5509.80	lew
35	7355350.96	1654282.90	43.97	5508.94	ic
34	7355349.23	1654281.57	46.15	5508.77	ic
33	7355347.78	1654280.47	47.96	5509.01	ic
32	7355346.46	1654279.45	49.63	5509.83	ws
31	7355345.78	1654278.93	50.49	5510.08	bar
30	7355344.10	1654277.64	52.61	5510.13	bar
29	7355343.62	1654277.28	53.20	5509.98	ws
28	7355342.03	1654276.06	55.21	5509.24	ic
27	7355338.07	1654273.03	60.20	5508.31	ic
26	7355335.04	1654270.74	64.00	5507.83	ic
25	7355331.25	1654267.81	68.78	5508.23	ic
24	7355325.51	1654263.44	76.00	5508.64	ic
23	7355319.48	1654258.71	83.67	5508.88	ic
22	7355310.99	1654252.31	94.29	5508.84	ic
21	7355303.00	1654246.20	104.35	5508.75	ic
20	7355295.78	1654240.68	113.44	5508.53	ic
19	7355293.03	1654238.57	116.90	5506.82	ic
18	7355291.45	1654237.24	118.97	5505.80	ic
17	7355289.65	1654235.86	121.24	5505.63	ic
16	7355286.88	1654233.73	124.73	5505.83	ic
15	7355285.01	1654232.29	127.09	5508.10	ic
14	7355284.07	1654231.58	128.27	5509.46	rew
13	7355283.67	1654231.27	128.77	5509.67	veg
12	7355280.79	1654229.06	132.41	5509.92	veg
11	7355277.39	1654226.48	136.67	5510.58	veg
10	7355273.63	1654223.60	141.41	5510.17	veg
9	7355269.09	1654220.11	147.14	5510.38	veg
8	7355254.65	1654209.25	165.21	5510.46	veg
5	7355254.31	1654208.95	165.65	5510.55	nc-rep-2
3	7355254.31	1654208.95	165.66	5510.59	nc-rep-2

NEVER CHANNELIZED SITE CROSS SECTION 2 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7355385.86	1654309.63	0.00	5512.22	lep2
119	7355385.88	1654309.61	0.03	5512.29	lep2
161	7355385.87	1654309.60	0.03	5512.29	lep2 close
227	7355376.79	1654302.69	11.42	5511.64	veg
226	7355361.85	1654291.26	30.23	5511.99	veg
225	7355353.39	1654284.78	40.90	5511.53	tlb
224	7355352.64	1654284.25	41.81	5510.28	lb
223	7355351.29	1654283.22	43.50	5510.04	large gravel
222	7355349.26	1654281.67	46.06	5510.15	large gravel
221	7355346.81	1654279.70	49.20	5511.25	large gravel
220	7355338.44	1654273.29	59.75	5511.49	large gravel
219	7355335.89	1654271.33	62.96	5510.80	large gravel
218	7355333.83	1654269.75	65.55	5510.49	lew
217	7355331.38	1654267.87	68.65	5510.33	ic
216	7355323.06	1654261.50	79.13	5510.24	ic
215	7355315.47	1654255.69	88.68	5509.69	ic
214	7355309.21	1654250.88	96.58	5510.12	ic
213	7355305.60	1654248.11	101.13	5510.36	ws
212	7355300.39	1654244.12	107.69	5510.62	bar
211	7355294.08	1654239.29	115.64	5510.01	bar
210	7355292.98	1654238.44	117.03	5509.56	ws
209	7355291.89	1654237.61	118.40	5508.81	bw
208	7355289.61	1654235.87	121.26	5507.03	bw
207	7355287.79	1654234.47	123.57	5507.08	bw
206	7355283.36	1654231.25	129.03	5508.06	bw
205	7355280.09	1654228.81	133.11	5509.53	ws
204	7355278.06	1654227.26	135.67	5510.58	bar
203	7355268.16	1654219.37	148.32	5509.83	bar
202	7355265.59	1654217.53	151.48	5509.62	ws
201	7355263.81	1654216.19	153.71	5508.83	ic
200	7355260.22	1654212.96	158.53	5507.85	ic
199	7355256.94	1654210.94	162.36	5507.63	ic
198	7355253.97	1654208.67	166.10	5507.91	ic
197	7355252.67	1654207.68	167.73	5508.95	ic
196	7355251.03	1654206.45	169.78	5509.90	ws
195	7355249.68	1654205.68	171.33	5511.01	cobble
194	7355246.45	1654203.32	175.32	5510.99	cobble
193	7355243.07	1654200.50	179.71	5510.33	ip2
173	7355243.09	1654200.48	179.71	5510.32	ip 2
192	7355240.57	1654198.31	183.03	5510.12	veg
191	7355236.62	1654195.29	188.00	5510.07	ws
190	7355233.77	1654193.10	191.60	5509.77	wet veg
189	7355226.65	1654187.65	200.57	5509.20	wet veg
188	7355217.90	1654180.94	211.59	5509.59	wet veg
187	7355210.85	1654175.48	220.52	5508.83	wet veg
186	7355205.75	1654171.70	226.86	5508.66	wet veg
185	7355202.78	1654169.60	230.49	5509.25	wet veg
184	7355202.14	1654169.12	231.29	5509.82	rew
183	7355201.96	1654168.98	231.53	5510.52	rb
182	7355197.54	1654165.59	237.10	5511.00	veg
181	7355190.88	1654160.67	245.37	5510.98	veg
180	7355184.27	1654155.62	253.69	5510.38	veg
179	7355180.50	1654152.21	258.76	5509.77	veg
178	7355176.87	1654149.42	263.34	5509.89	veg
177	7355173.22	1654147.00	267.70	5510.33	rep2 2006

NEVER CHANNELIZED SITE CROSS SECTION 3 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
5	7355224.09	1654362.53	0.00	5510.37	nc-lep-3
2	7355224.06	1654362.42	0.12	5510.17	nc-lep-3
9	7355223.49	1654360.83	1.81	5510.57	veg
10	7355221.11	1654351.99	10.95	5510.28	tbank
11	7355220.94	1654351.42	11.55	5508.39	lew
12	7355220.84	1654351.04	11.94	5507.54	ic
13	7355220.19	1654348.74	14.34	5507.04	ic
14	7355219.22	1654345.25	17.96	5507.33	ic
15	7355218.63	1654343.14	20.15	5507.65	ic
16	7355216.72	1654335.99	27.55	5507.41	ic
17	7355214.76	1654329.20	34.61	5507.55	ic
18	7355213.13	1654323.41	40.63	5508.08	ic
19	7355211.03	1654315.92	48.41	5508.42	ic
20	7355209.82	1654311.60	52.89	5508.51	ic
21	7355209.46	1654310.32	54.23	5508.69	ws on bar
22	7355208.28	1654306.24	58.48	5508.33	ic on bar
23	7355207.01	1654301.62	63.26	5507.95	ic
24	7355206.10	1654298.39	66.62	5507.50	ic
25	7355205.88	1654297.61	67.43	5508.52	ws grass
26	7355205.66	1654296.80	68.27	5508.93	grass
27	7355205.16	1654294.95	70.18	5508.76	grass
28	7355204.85	1654293.84	71.34	5508.16	ws grass
29	7355204.57	1654292.83	72.39	5506.47	ic
30	7355203.97	1654290.71	74.59	5505.30	ic
31	7355202.73	1654286.09	79.38	5504.72	ic
32	7355201.33	1654281.28	84.38	5505.42	ic
33	7355200.27	1654277.59	88.22	5506.20	ic
34	7355200.17	1654277.19	88.63	5508.31	rew
35	7355200.04	1654276.71	89.13	5508.58	bank
36	7355199.41	1654274.49	91.44	5508.80	veg
37	7355197.87	1654269.01	97.13	5510.11	veg
38	7355196.44	1654263.89	102.45	5510.26	veg
3	7355195.38	1654260.12	106.36	5510.20	nc-rep-3

NEVER CHANNELIZED SITE CROSS SECTION 3 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
5	7355224.10	1654362.56	0.00	5510.35	lep3
4	7355224.10	1654362.56	0.00	5510.36	lep3
2	7355224.06	1654362.42	0.15	5510.17	lep3
7	7355223.51	1654360.41	2.23	5510.59	veg
8	7355221.60	1654354.33	8.61	5510.57	veg
9	7355221.09	1654351.94	11.04	5510.15	tlb
10	7355221.00	1654351.64	11.36	5508.10	lew
11	7355220.95	1654351.43	11.57	5507.75	ic
12	7355220.35	1654349.62	13.48	5507.49	ic
13	7355219.59	1654346.53	16.65	5507.90	ic
14	7355219.09	1654344.74	18.52	5508.10	ws
15	7355217.04	1654337.65	25.89	5508.95	bar
16	7355216.61	1654335.86	27.73	5508.26	ws
17	7355216.27	1654334.79	28.85	5507.67	ic
18	7355215.22	1654330.94	32.85	5507.20	ic
19	7355213.32	1654324.01	40.03	5508.00	ic
20	7355210.93	1654315.41	48.95	5508.19	ic
21	7355208.44	1654306.48	58.23	5508.13	ic
22	7355206.55	1654299.98	65.00	5507.77	ic
23	7355205.41	1654296.00	69.14	5508.31	ic
24	7355203.96	1654290.80	74.53	5508.88	ic
25	7355202.26	1654284.72	80.85	5509.28	ic
26	7355201.58	1654282.29	83.37	5509.24	ws
27	7355201.05	1654280.42	85.32	5509.30	bar
28	7355200.64	1654278.93	86.86	5508.72	ws
29	7355200.32	1654277.86	87.98	5508.43	ic
30	7355199.74	1654275.75	90.16	5508.47	ic
31	7355199.48	1654274.79	91.16	5508.68	rew
32	7355199.26	1654273.98	92.00	5509.05	rb
33	7355197.70	1654268.42	97.77	5510.23	veg
3	7355195.38	1654260.12	106.39	5510.20	rep3

NEVER CHANNELIZED SITE CROSS SECTION 4 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7355097.83	1654381.91	0.00	5511.16	nc-lep-4
2	7355097.82	1654381.85	0.06	5511.13	nc-lep-4
9	7355097.42	1654378.78	3.15	5511.03	veg
10	7355096.09	1654367.52	14.49	5509.80	veg
11	7355095.17	1654359.15	22.91	5509.60	veg
12	7355095.12	1654358.95	23.12	5509.60	veg
13	7355095.00	1654358.00	24.08	5509.16	tbank
14	7355095.04	1654357.66	24.41	5507.87	lew
15	7355094.80	1654355.72	26.36	5505.09	ic
16	7355094.23	1654351.66	30.46	5505.67	ic
17	7355093.80	1654348.05	34.09	5506.09	ic
18	7355093.30	1654343.94	38.23	5506.04	ic
19	7355092.29	1654335.66	46.57	5506.22	ic
20	7355091.37	1654328.16	54.13	5506.31	ic
21	7355090.47	1654321.66	60.69	5506.19	ic
22	7355089.91	1654316.98	65.40	5505.84	ic
23	7355089.14	1654310.53	71.90	5505.83	ic
24	7355088.66	1654306.32	76.14	5506.07	ic
25	7355088.03	1654301.14	81.36	5506.69	ic
26	7355087.95	1654300.28	82.23	5507.75	rew
27	7355087.87	1654299.58	82.93	5508.14	tbank
28	7355087.43	1654296.64	85.90	5507.79	ws backwater
29	7355086.89	1654292.19	90.38	5507.25	backwater
30	7355086.36	1654287.52	95.08	5506.88	backwater
31	7355085.95	1654284.16	98.46	5507.19	backwater
32	7355085.62	1654281.38	101.26	5507.79	ws backwater
33	7355085.15	1654277.57	105.10	5508.19	veg
34	7355083.06	1654260.03	122.77	5508.09	veg
35	7355082.16	1654252.84	130.01	5507.86	veg
36	7355081.48	1654247.26	135.64	5507.99	veg
37	7355080.85	1654242.01	140.93	5509.13	veg
38	7355080.10	1654235.87	147.11	5508.95	veg
3	7355079.58	1654231.56	151.45	5508.97	nc-rep-4

NEVER CHANNELIZED SITE CROSS SECTION 4 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7355097.82	1654381.85	0.00	5511.13	lep4
40	7355096.26	1654368.28	13.65	5509.78	veg
39	7355095.10	1654359.41	22.60	5509.61	lb
38	7355094.73	1654357.59	24.45	5507.41	lew
37	7355094.62	1654355.91	26.14	5505.35	ic
36	7355094.26	1654353.39	28.68	5505.54	ic
35	7355093.84	1654348.91	33.18	5505.27	ic
34	7355093.58	1654345.40	36.69	5505.22	ic
33	7355092.64	1654340.60	41.57	5506.03	ic
32	7355092.11	1654334.67	47.52	5506.58	ic
31	7355091.86	1654331.83	50.37	5506.63	ic
30	7355090.97	1654324.52	57.74	5505.88	ic
29	7355090.61	1654322.43	59.85	5506.03	ic
28	7355090.18	1654319.52	62.79	5506.93	ic
27	7355089.78	1654317.76	64.59	5507.40	ws
26	7355089.89	1654316.81	65.52	5507.74	is cob
25	7355088.54	1654305.47	76.94	5508.36	is cob
24	7355088.00	1654301.42	81.03	5507.62	is cob
23	7355088.14	1654299.71	82.70	5508.07	is grass
22	7355087.86	1654296.28	86.14	5507.73	is grass
21	7355087.78	1654295.59	86.84	5507.22	ws
20	7355086.94	1654291.38	91.12	5505.15	ic
19	7355086.39	1654288.78	93.76	5504.60	ic
18	7355086.52	1654284.98	97.53	5504.81	ic
17	7355085.58	1654281.41	101.18	5505.97	ic
16	7355085.98	1654280.46	102.08	5507.01	rew
15	7355085.44	1654279.18	103.41	5507.95	veg wet
14	7355084.53	1654271.63	111.02	5508.02	veg wet
13	7355083.82	1654266.47	116.22	5508.17	veg wet
12	7355083.03	1654255.81	126.90	5508.27	veg wet
11	7355081.85	1654250.38	132.44	5507.92	veg wet
10	7355081.39	1654246.25	136.59	5508.14	veg wet
9	7355081.24	1654244.25	138.59	5508.72	veg wet ws
8	7355080.61	1654241.72	141.18	5509.11	veg
7	7355079.69	1654232.15	150.79	5509.04	veg
3	7355079.58	1654231.56	151.39	5508.97	rep4
5	7355079.57	1654231.49	151.46	5508.97	nc rep4 open
4	7355079.57	1654231.47	151.49	5508.97	nc rep4 open

NEVER CHANNELIZED SITE CROSS SECTION 5 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
6	7355007.48	1654441.85	0.00	5510.53	nc-lep-5
2	7355007.48	1654441.82	0.03	5510.57	nc-lep-5
7	7355007.50	1654441.64	0.21	5510.47	veg
8	7355009.27	1654426.26	15.69	5510.63	veg
9	7355014.47	1654381.11	61.14	5510.65	veg
10	7355017.12	1654358.04	84.36	5510.01	topbnk
11	7355017.16	1654356.93	85.47	5507.62	lew
12	7355017.30	1654356.51	85.90	5507.08	ic
13	7355017.44	1654355.29	87.13	5506.27	ic
14	7355017.80	1654352.19	90.25	5506.57	ic
15	7355018.37	1654347.16	95.31	5506.84	ic
16	7355019.24	1654340.37	102.16	5506.65	ic
17	7355020.12	1654331.98	110.60	5506.46	ic
18	7355020.60	1654327.80	114.80	5506.04	ic
19	7355021.07	1654323.77	118.86	5505.96	ic
20	7355021.97	1654317.72	124.98	5505.68	ic
21	7355022.32	1654314.39	128.32	5505.38	ic
22	7355023.00	1654310.30	132.46	5505.41	ic
23	7355023.17	1654306.70	136.05	5505.95	ic
24	7355023.64	1654303.54	139.25	5506.05	ic
25	7355024.16	1654296.88	145.93	5506.34	ic
26	7355024.92	1654290.24	152.61	5506.41	ic
27	7355025.37	1654286.35	156.53	5506.11	ic
28	7355025.67	1654283.75	159.14	5506.58	ic
29	7355025.77	1654282.90	160.00	5507.38	rew
30	7355025.87	1654282.05	160.86	5507.70	bnk
31	7355026.07	1654280.30	162.61	5507.67	bnk
32	7355026.46	1654276.91	166.03	5508.47	veg
33	7355027.36	1654269.12	173.87	5508.55	veg
3	7355027.75	1654265.66	177.35	5508.55	nc-rep-5

NEVER CHANNELIZED SITE CROSS SECTION 5 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7355007.48	1654441.82	0.00	5510.57	lep5
29	7355012.07	1654401.95	40.13	5510.66	veg
28	7355015.29	1654374.64	67.63	5510.55	veg
27	7355017.17	1654357.54	84.83	5509.88	lb
26	7355017.14	1654356.91	85.46	5507.26	lew
25	7355017.52	1654354.67	87.72	5506.50	ic
24	7355017.96	1654350.14	92.28	5506.91	ic
23	7355018.34	1654346.35	96.08	5506.55	ic
22	7355018.85	1654341.60	100.86	5506.66	ic
21	7355019.90	1654333.15	109.38	5506.44	ic
20	7355020.97	1654326.18	116.42	5505.79	ic
19	7355021.47	1654319.97	122.65	5505.50	ic
18	7355022.28	1654314.04	128.63	5505.49	ic
17	7355022.71	1654310.31	132.39	5505.66	ic
16	7355023.58	1654303.50	139.25	5506.20	ic
15	7355024.08	1654297.76	145.01	5506.59	ic
14	7355024.60	1654293.25	149.55	5506.54	ic
13	7355025.09	1654289.03	153.80	5505.96	ic
12	7355025.43	1654286.09	156.75	5506.63	ic
11	7355025.74	1654283.95	158.92	5507.02	rew
10	7355025.88	1654282.51	160.36	5507.55	rb
9	7355026.36	1654280.19	162.73	5507.91	rb
8	7355026.46	1654278.32	164.60	5508.39	rb
7	7355027.07	1654273.08	169.87	5508.30	veg
6	7355027.48	1654267.55	175.41	5508.62	veg
3	7355027.75	1654265.66	177.32	5508.55	rep5
4	7355027.76	1654265.66	177.32	5508.60	rep5

NEVER CHANNELIZED SITE CROSS SECTION 6 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7354957.71	1654396.27	0.00	5509.65	nc-lep-6
3	7354957.72	1654396.24	0.03	5509.66	nc-lep-6
7	7354957.82	1654395.92	0.36	5509.49	veg
8	7354963.41	1654378.63	18.53	5509.57	veg
9	7354969.60	1654359.48	38.66	5509.63	topbnk
10	7354969.92	1654358.50	39.69	5507.07	lew
11	7354971.00	1654355.14	43.22	5505.98	ic
12	7354971.64	1654353.17	45.29	5506.86	icbar
13	7354973.21	1654348.30	50.41	5507.39	ws
14	7354976.32	1654338.69	60.51	5507.37	ws
15	7354978.12	1654333.10	66.39	5507.28	ws
16	7354978.52	1654332.00	67.55	5506.97	ic
17	7354980.61	1654325.39	74.49	5506.50	ic
18	7354982.48	1654319.61	80.56	5506.25	ic
19	7354984.04	1654314.78	85.63	5505.74	ic
20	7354985.60	1654309.96	90.70	5505.37	ic
21	7354986.72	1654306.03	94.79	5505.44	ic
22	7354989.11	1654299.58	101.65	5505.47	ic
23	7354991.13	1654293.39	108.17	5505.47	ic
24	7354993.16	1654286.90	114.97	5505.68	ic
25	7354994.50	1654282.42	119.64	5505.98	ic
26	7354996.30	1654276.83	125.52	5506.23	ic
27	7354997.39	1654273.34	129.17	5506.61	ic
28	7354997.56	1654272.94	129.60	5506.85	ic
29	7354997.86	1654272.01	130.58	5506.91	ic
30	7354997.94	1654271.78	130.82	5507.33	rew
31	7354998.08	1654271.32	131.30	5507.57	bnk
32	7354998.80	1654269.11	133.63	5508.20	topbnk
33	7354999.55	1654266.77	136.09	5508.34	veg
2	7355000.60	1654263.53	139.49	5508.57	nc-rep-6

NEVER CHANNELIZED SITE CROSS SECTION 6 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
3	7354957.72	1654396.24	0.00	5509.66	lep6
30	7354962.47	1654381.93	15.08	5509.57	veg
29	7354969.64	1654359.64	38.49	5509.69	lb
28	7354970.02	1654357.91	40.26	5506.93	lb
27	7354970.71	1654356.90	41.44	5505.98	bw
26	7354971.18	1654355.08	43.31	5506.10	bw
25	7354971.98	1654352.54	45.97	5506.89	bar
24	7354974.28	1654345.18	53.68	5507.57	bar
23	7354976.26	1654338.52	60.63	5507.33	bar
22	7354977.96	1654333.29	66.13	5507.12	bar
21	7354978.47	1654331.80	67.70	5506.89	lew
20	7354979.04	1654330.06	69.53	5506.56	ic
19	7354980.66	1654325.58	74.29	5506.35	ic
18	7354982.36	1654320.26	79.88	5505.69	ic
17	7354984.52	1654313.10	87.35	5505.39	ic
16	7354986.43	1654307.15	93.60	5505.52	ic
15	7354988.28	1654301.64	99.41	5505.79	ic
14	7354990.40	1654296.01	105.42	5505.93	ic
13	7354992.26	1654289.95	111.76	5506.23	ic
12	7354994.00	1654284.57	117.42	5506.27	ic
11	7354996.06	1654278.47	123.86	5506.72	ic
10	7354997.20	1654274.28	128.19	5506.60	ic
9	7354997.61	1654271.92	130.56	5506.91	rew
8	7354997.84	1654271.31	131.21	5507.63	rb
7	7354998.58	1654269.74	132.94	5508.10	veg
6	7355000.30	1654264.43	138.51	5508.57	veg
4	7355000.59	1654263.56	139.44	5508.59	nc rep6 open
2	7355000.60	1654263.53	139.46	5508.57	rep6

CHARLESTON SITE CROSS SECTION 1 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7347294.525	1652090.686	0	5449.2422	ca-lep-1
31	7347291.543	1652087.583	4.303877227	5449.421782	veg
30	7347286.783	1652082.631	11.17240115	5449.173443	veg
29	7347278.999	1652074.532	22.40579093	5448.248825	veg
28	7347273.324	1652068.628	30.59486763	5446.452621	bank veg
27	7347268.687	1652063.803	37.28690299	5444.717902	lew
26	7347264.904	1652059.893	42.72759253	5443.969004	ic
25	7347262.317	1652057.226	46.44327722	5443.066681	ic
24	7347259.106	1652053.916	51.05427103	5443.00488	ic
23	7347256.004	1652050.651	55.55792083	5442.305953	ic
22	7347253.951	1652048.36	58.63194204	5441.792822	ic
21	7347248.419	1652042.8	66.47451948	5442.092545	tw
20	7347244.069	1652038.282	72.74677944	5442.302262	ic
19	7347239.257	1652033.245	79.71174843	5442.401681	ic
18	7347236.337	1652030.116	83.99183676	5442.989689	ic
17	7347232.312	1652025.938	89.79341454	5444.098455	ic
16	7347229.89	1652023.402	93.29960004	5444.05584	ic
15	7347227.085	1652020.566	97.28832801	5444.34209	ic
14	7347226.013	1652019.451	98.83438577	5444.802608	rew
13	7347224.884	1652018.191	100.5254547	5445.819607	bank
12	7347222.738	1652016.122	103.5048336	5447.534199	tbank
11	7347213.711	1652006.586	116.6352271	5447.774314	veg
10	7347202.094	1651994.463	133.4250248	5447.557983	veg
9	7347188.706	1651980.715	152.6152924	5447.750788	veg
8	7347185.227	1651977.049	157.6685176	5448.565138	veg
7	7347176.676	1651968.261	169.9302212	5448.013218	veg
3	7347176.226	1651967.773	170.5941114	5447.9517	ca-rep-1
4	7347176.196	1651967.744	170.6352588	5447.979307	ca-rep-1

CHARLESTON SITE CROSS SECTION 1 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7347294.53	1652090.69	0.00	5449.24	lep1
32	7347289.61	1652085.54	7.12	5449.35	veg
31	7347281.17	1652076.71	19.33	5448.54	veg
30	7347275.15	1652070.65	27.87	5447.27	lb
29	7347268.48	1652063.62	37.56	5444.75	lb
28	7347264.66	1652060.04	42.79	5443.84	lew
27	7347262.94	1652057.42	45.87	5443.13	ic
26	7347259.29	1652053.91	50.93	5443.01	ic
25	7347257.16	1652051.50	54.15	5442.64	ic
24	7347254.61	1652049.22	57.56	5442.02	ic
23	7347251.51	1652045.18	62.62	5441.38	ic
22	7347249.08	1652043.52	65.49	5441.63	ic
21	7347245.05	1652039.38	71.27	5442.15	ic
20	7347241.42	1652035.84	76.34	5442.55	ic
19	7347239.08	1652033.08	79.95	5442.50	ic
18	7347237.21	1652031.14	82.65	5442.80	ic
17	7347234.86	1652028.89	85.89	5443.21	ic
16	7347233.69	1652027.72	87.55	5443.74	ic
15	7347230.95	1652024.55	91.74	5443.89	ic
14	7347227.31	1652021.16	96.70	5443.85	ic
13	7347225.77	1652019.48	98.99	5444.00	rew
12	7347221.49	1652015.24	105.01	5446.53	rb
11	7347220.78	1652014.22	106.23	5447.53	toprb
10	7347216.47	1652009.42	112.68	5447.59	veg
9	7347198.35	1651990.77	138.68	5447.38	veg
8	7347188.42	1651980.44	153.01	5447.74	veg
7	7347185.61	1651977.53	157.06	5448.38	veg
6	7347176.62	1651968.18	170.03	5447.95	veg
3	7347176.23	1651967.77	170.59	5447.95	rep1
4	7347176.20	1651967.75	170.63	5447.96	ca rep1open

CHARLESTON SITE CROSS SECTION 2 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7347149.96	1652238.21	0.00	5449.50	ca-lep-2
35	7347147.12	1652231.47	7.32	5447.93	veg
34	7347141.49	1652218.13	21.80	5447.58	veg
33	7347132.24	1652196.22	45.57	5447.75	veg
32	7347128.00	1652186.18	56.48	5446.56	veg
31	7347124.82	1652178.63	64.67	5446.53	veg
30	7347121.41	1652170.57	73.42	5446.85	veg
29	7347119.23	1652165.49	78.95	5446.70	tbank
28	7347118.13	1652162.89	81.77	5444.88	bank
27	7347117.17	1652160.62	84.24	5443.91	lew
26	7347116.08	1652157.96	87.11	5442.36	ic
25	7347114.57	1652154.50	90.89	5441.77	ic
24	7347112.73	1652150.15	95.61	5441.27	ic
23	7347109.76	1652143.12	103.24	5441.16	tw
22	7347107.83	1652138.54	108.21	5441.01	ic
21	7347105.89	1652133.74	113.39	5441.40	ic
20	7347103.26	1652127.40	120.26	5442.20	ic
19	7347100.57	1652121.18	127.03	5442.86	ic
18	7347097.43	1652113.91	134.94	5443.13	ic
17	7347097.00	1652112.88	136.06	5443.52	ic
16	7347095.88	1652110.23	138.94	5443.48	ic
15	7347095.50	1652109.34	139.91	5443.75	rew
14	7347094.51	1652107.40	142.08	5443.75	veg
13	7347092.35	1652102.31	147.61	5443.89	veg
12	7347087.53	1652090.94	159.96	5444.23	veg
11	7347081.65	1652077.15	174.95	5445.70	veg
10	7347076.32	1652064.04	189.10	5447.54	veg
9	7347073.22	1652056.71	197.06	5447.47	veg
8	7347065.26	1652037.88	217.51	5447.16	veg
7	7347058.00	1652020.72	236.13	5447.06	veg
3	7347057.43	1652019.44	237.54	5446.99	ca-rep-2
6	7347057.39	1652019.39	237.60	5447.03	ca-rep-2

CHARLESTON SITE CROSS SECTION 2 AUGUST (POST- RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7347149.96	1652238.21	0.00	5449.50	lep2
34	7347146.64	1652230.33	8.55	5447.88	veg
33	7347137.85	1652209.75	30.93	5447.60	veg
32	7347132.72	1652197.65	44.07	5447.68	veg
31	7347127.89	1652185.79	56.88	5446.50	veg
30	7347120.13	1652167.70	76.56	5446.83	top lb
29	7347118.13	1652163.12	81.56	5443.89	lb
28	7347117.03	1652160.42	84.47	5442.98	lew
27	7347116.43	1652159.03	85.99	5442.57	ic
26	7347114.66	1652154.65	90.71	5441.76	ic
25	7347112.99	1652149.72	95.91	5441.33	ic
24	7347111.16	1652145.67	100.35	5441.13	ic
23	7347109.44	1652141.77	104.61	5441.03	ic
22	7347107.90	1652138.58	108.15	5441.11	ic
21	7347106.26	1652135.46	111.66	5441.25	ic
20	7347104.90	1652131.64	115.71	5441.46	ic
19	7347103.56	1652128.33	119.28	5442.07	ic
18	7347100.62	1652120.77	127.39	5442.56	ic
17	7347098.73	1652116.40	132.15	5442.80	ic
16	7347098.47	1652115.52	133.06	5442.92	rew
15	7347097.43	1652112.87	135.90	5443.26	rb
14	7347096.38	1652110.99	138.04	5443.54	rb
13	7347095.40	1652109.18	140.09	5444.11	rb
12	7347090.83	1652098.38	151.82	5444.02	veg
11	7347086.32	1652086.99	164.07	5444.65	veg
10	7347081.87	1652077.90	174.18	5445.55	veg
9	7347076.30	1652065.15	188.09	5447.20	veg
8	7347066.45	1652040.73	214.41	5447.32	veg
7	7347057.56	1652019.71	237.24	5447.04	veg
3	7347057.43	1652019.44	237.54	5446.99	rep2
4	7347057.40	1652019.36	237.62	5447.00	ca rep2open
5	7347057.40	1652019.35	237.63	5447.00	ca rep2open

CHARLESTON SITE CROSS SECTION 3 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7346931.72	1652242.21	0.00	5447.42	ca-lep-3
37	7346932.84	1652236.95	5.38	5447.40	veg
36	7346935.19	1652226.26	16.32	5447.29	veg
35	7346940.97	1652199.74	43.47	5446.96	veg
34	7346946.25	1652175.44	68.34	5446.86	tbank
33	7346946.43	1652174.44	69.35	5444.38	bank slump
32	7346946.65	1652173.39	70.42	5444.10	bank slump
31	7346947.00	1652172.14	71.72	5443.22	lew
30	7346947.18	1652170.99	72.88	5441.68	ic
29	7346948.10	1652167.01	76.97	5441.70	ic
28	7346949.07	1652162.54	81.54	5441.02	ic
27	7346950.45	1652157.46	86.79	5440.57	ic
26	7346952.55	1652146.18	98.27	5440.22	ic
25	7346954.41	1652138.94	105.73	5441.24	ic
24	7346955.18	1652135.10	109.65	5442.08	ic
23	7346956.54	1652128.88	116.02	5442.69	ic
22	7346957.56	1652123.84	121.16	5442.84	ic
21	7346960.05	1652112.43	132.84	5442.97	ic
20	7346960.87	1652108.73	136.63	5443.12	rew
19	7346961.06	1652107.82	137.56	5443.30	bar cobgrav
18	7346962.51	1652101.05	144.48	5443.26	bar cobgrav
17	7346963.93	1652094.55	151.14	5442.56	bar cobgrav
16	7346964.78	1652090.46	155.31	5443.23	bar cobgrav
15	7346965.75	1652085.50	160.36	5443.20	bar cobgrav
14	7346966.34	1652083.14	162.79	5442.89	bar cobgrav
13	7346970.27	1652065.10	181.26	5443.27	veg cottsmall
12	7346974.47	1652046.18	200.64	5443.65	veg cottsmall
11	7346976.72	1652035.89	211.17	5444.57	veg
10	7346979.30	1652024.06	223.28	5446.46	veg
9	7346981.13	1652015.66	231.88	5446.36	veg
8	7346986.85	1651989.42	258.73	5446.53	veg
3	7346987.16	1651988.06	260.13	5446.65	ca-rep-3
5	7346987.16	1651987.97	260.22	5446.60	ca-rep-3

CHARLESTON SITE CROSS SECTION 3 AUGUST (POST- RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7346931.72	1652242.21	0.00	5447.42	lep3
32	7346933.29	1652234.93	7.45	5447.46	veg
31	7346939.72	1652205.55	37.53	5447.05	veg
30	7346945.62	1652179.44	64.29	5446.56	top lb
29	7346945.64	1652178.44	65.28	5442.55	lb
28	7346946.12	1652177.25	66.54	5442.23	lew
27	7346946.54	1652174.34	69.47	5442.19	ws
26	7346947.14	1652172.18	71.71	5442.39	grass clump
24	7346947.66	1652170.19	73.76	5441.84	ic
25	7346947.62	1652170.08	73.86	5442.20	ws
23	7346948.09	1652168.58	75.43	5441.50	ic
22	7346948.69	1652164.08	79.96	5440.77	ic
21	7346949.49	1652156.54	87.49	5439.17	ic
20	7346951.97	1652150.74	93.69	5439.38	ic
19	7346952.48	1652147.06	97.39	5440.13	ic
18	7346953.92	1652141.97	102.67	5441.32	ic
17	7346954.69	1652138.33	106.39	5441.72	rew
16	7346956.59	1652129.30	115.62	5442.66	cob veg
15	7346961.66	1652105.70	139.76	5443.37	cob veg
14	7346963.37	1652098.74	146.92	5443.07	eveg st cob
13	7346965.52	1652088.73	157.16	5443.51	veg
12	7346968.28	1652075.60	170.58	5443.48	veg
11	7346971.83	1652056.99	189.51	5443.77	veg
10	7346976.64	1652034.69	212.33	5444.69	veg
9	7346978.58	1652027.44	219.83	5445.62	veg
8	7346979.45	1652024.22	223.16	5446.51	veg
7	7346981.56	1652014.54	233.06	5446.41	veg
6	7346987.13	1651988.40	259.79	5446.60	veg
3	7346987.16	1651988.06	260.13	5446.65	rep3
4	7346987.17	1651987.99	260.19	5446.64	ca rep3 open

CHARLESTON SITE CROSS SECTION 4 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7346795.35	1652049.10	0.00	5446.13	ca-lep-4
34	7346799.21	1652045.55	5.24	5446.07	veg
33	7346808.21	1652037.30	17.44	5445.97	veg
32	7346817.73	1652028.56	30.38	5446.22	veg
31	7346824.72	1652022.18	39.84	5445.83	tbank
30	7346825.48	1652021.49	40.86	5445.13	slump
29	7346826.94	1652020.15	42.84	5445.02	slump
28	7346828.00	1652019.15	44.30	5443.44	bank
27	7346829.86	1652017.39	46.86	5442.03	lew
26	7346831.70	1652015.70	49.36	5440.66	ic
25	7346832.87	1652014.59	50.97	5440.26	ic
24	7346836.42	1652011.43	55.73	5440.10	ic
23	7346841.34	1652006.86	62.44	5440.23	ic
22	7346845.66	1652002.94	68.28	5440.10	ic
21	7346848.31	1652000.51	71.86	5439.67	ic
20	7346852.68	1651996.50	77.79	5439.52	ic
19	7346857.18	1651992.35	83.92	5439.92	ic
18	7346860.88	1651989.03	88.89	5440.80	ic
17	7346866.09	1651984.16	96.03	5441.55	ic
16	7346868.90	1651981.58	99.84	5441.85	ws
15	7346870.02	1651980.67	101.28	5442.01	veg
14	7346873.26	1651977.78	105.62	5441.89	veg
13	7346874.86	1651976.13	107.91	5441.73	ic backwater
12	7346876.03	1651975.05	109.51	5441.87	rew
11	7346877.52	1651973.71	111.51	5442.24	veg
10	7346880.99	1651970.60	116.17	5442.53	veg
9	7346889.96	1651962.39	128.33	5444.41	veg
8	7346898.93	1651953.92	140.66	5446.28	veg
7	7346924.39	1651930.53	175.23	5446.50	veg
3	7346926.86	1651928.27	178.59	5446.47	ca-rep-4
6	7346926.89	1651928.23	178.63	5446.51	ca-rep-4

CHARLESTON SITE CROSS SECTION 4 AUGUST (POST- RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
2	7346795.35	1652049.10	0.00	5446.13	lep4
26	7346803.46	1652041.58	11.05	5445.99	veg
25	7346817.11	1652029.03	29.60	5446.20	veg
24	7346825.20	1652021.95	40.35	5445.85	top lb
23	7346828.56	1652018.46	45.18	5441.34	lew
22	7346831.09	1652015.90	48.78	5440.08	ic
21	7346836.07	1652012.07	55.04	5439.81	ic
20	7346841.04	1652007.37	61.87	5439.72	ic
19	7346845.62	1652002.77	68.36	5439.80	ic
18	7346851.02	1651997.93	75.61	5439.48	ic
17	7346855.87	1651993.49	82.18	5439.74	ic
16	7346859.73	1651989.94	87.43	5440.16	ic
15	7346861.85	1651987.68	90.51	5440.89	ic
14	7346863.70	1651986.12	92.94	5441.18	rew
13	7346866.11	1651984.47	95.83	5441.50	rb
12	7346868.94	1651981.53	99.90	5442.00	rb
11	7346874.09	1651976.75	106.93	5441.92	veg
10	7346882.22	1651969.29	117.96	5442.78	veg
9	7346886.84	1651964.77	124.42	5443.85	veg
8	7346894.06	1651958.40	134.05	5445.53	veg
7	7346910.91	1651942.92	156.93	5446.30	veg
6	7346926.49	1651928.61	178.08	5446.45	veg
3	7346926.86	1651928.27	178.59	5446.47	rep4
4	7346926.87	1651928.25	178.61	5446.50	ca rep4 open

CHARLESTON SITE CROSS SECTION 5 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7346732.73	1651974.52	0.00	5445.72	ca-lep-5-2005
2	7346732.81	1651974.42	0.13	5445.51	ca-lep-5
41	7346736.31	1651968.81	6.74	5445.35	veg
40	7346748.89	1651948.69	30.47	5445.03	veg
39	7346750.05	1651946.84	32.65	5444.75	veg
38	7346754.95	1651939.01	41.88	5444.51	veg
37	7346767.33	1651919.21	65.24	5444.90	veg
36	7346768.20	1651917.91	66.80	5444.25	veg
35	7346769.91	1651915.19	70.01	5443.92	tbank
34	7346770.58	1651914.11	71.29	5441.86	bank
33	7346770.98	1651913.48	72.03	5441.66	ic
32	7346771.17	1651913.05	72.50	5441.02	ic
31	7346772.25	1651911.32	74.54	5440.40	ic
30	7346774.19	1651908.22	78.19	5439.71	ic
29	7346777.08	1651903.74	83.52	5439.04	ic
28	7346780.36	1651898.50	89.71	5438.42	ic
27	7346785.20	1651890.79	98.81	5438.55	ic
26	7346786.67	1651888.38	101.63	5439.09	ic
25	7346787.60	1651886.72	103.53	5439.54	ic
24	7346788.73	1651885.03	105.56	5439.89	ic
23	7346792.36	1651879.23	112.41	5439.92	ic
22	7346792.65	1651878.76	112.97	5441.13	boulder ic
21	7346793.13	1651878.00	113.86	5440.04	ic
20	7346795.23	1651874.64	117.83	5440.62	ic
19	7346799.43	1651868.11	125.59	5441.00	ic
18	7346799.72	1651867.65	126.13	5442.26	boulder ic
17	7346800.40	1651866.57	127.41	5441.12	ic
16	7346801.44	1651864.73	129.52	5440.98	ic
14	7346801.75	1651864.23	130.10	5441.96	tboulder
15	7346801.77	1651864.20	130.14	5441.64	rew
13	7346803.02	1651862.21	132.49	5442.70	tboulder
12	7346803.33	1651861.65	133.13	5442.57	veg
11	7346804.51	1651860.10	135.07	5442.32	veg
10	7346805.43	1651858.54	136.88	5443.71	veg
9	7346807.18	1651855.62	140.28	5444.94	veg
8	7346818.58	1651837.27	161.89	5445.03	veg
3	7346821.18	1651833.11	166.79	5445.13	ca-rep-5
7	7346821.19	1651833.10	166.81	5445.13	ca-rep-5

CHARLESTON SITE CROSS SECTION 5 AUGUST (POST- RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7346732.73	1651974.52	0.00	5445.72	lep5 05
33	7346738.84	1651964.77	11.50	5445.29	veg
32	7346752.81	1651942.75	37.59	5444.77	veg
31	7346767.06	1651919.63	64.74	5444.94	veg
30	7346768.13	1651917.83	66.83	5444.22	veg
29	7346769.75	1651915.26	69.87	5443.97	top lb
28	7346770.24	1651914.16	71.07	5441.79	lb
27	7346770.75	1651913.51	71.88	5441.00	lew
26	7346771.15	1651912.53	72.93	5440.52	ic
25	7346773.93	1651908.03	78.22	5440.08	ic
24	7346777.51	1651902.37	84.92	5439.51	ic
23	7346781.43	1651896.04	92.36	5438.88	ic
22	7346785.51	1651889.78	99.83	5438.23	ic
21	7346787.62	1651886.43	103.79	5438.46	ic
20	7346790.15	1651883.34	107.76	5438.72	ic
19	7346791.87	1651879.99	111.50	5439.20	ic
18	7346793.19	1651878.31	113.63	5439.67	ic
17	7346794.83	1651876.06	116.41	5440.35	ic
16	7346796.48	1651872.85	120.00	5440.51	ic
15	7346797.82	1651870.32	122.85	5440.77	ic
14	7346799.17	1651868.15	125.41	5440.91	ic
13	7346800.79	1651865.71	128.34	5440.96	cob
12	7346801.09	1651864.63	129.42	5440.95	rew
11	7346801.66	1651863.63	130.57	5442.03	bldr
10	7346803.94	1651860.18	134.70	5442.31	rb
9	7346805.95	1651856.67	138.74	5444.80	top rb
8	7346812.80	1651846.17	151.28	5445.12	veg
7	7346820.93	1651833.47	166.35	5444.96	veg
3	7346821.18	1651833.11	166.79	5445.13	rep5
5	7346821.19	1651833.08	166.82	5445.13	ca rep5 open

CHARLESTON SITE CROSS SECTION 6 APRIL DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7346638.87	1651918.18	0.00	5445.85	ca-lep-6-2005
47	7346641.67	1651914.79	4.40	5445.44	veg
46	7346646.72	1651908.69	12.32	5445.14	veg
45	7346652.33	1651901.90	21.12	5444.46	veg
44	7346655.38	1651898.22	25.90	5443.01	bank
43	7346656.05	1651897.46	26.91	5441.47	bank
42	7346656.86	1651896.41	28.24	5441.29	ws sc
41	7346660.02	1651892.66	33.14	5440.32	sc
40	7346663.34	1651888.64	38.36	5440.54	sc
39	7346668.06	1651882.95	45.76	5440.96	sc
38	7346669.77	1651880.92	48.41	5441.18	ws sc
37	7346670.86	1651879.59	50.13	5441.41	sand cob
36	7346672.24	1651877.84	52.35	5442.18	is veg
35	7346677.25	1651871.79	60.21	5443.45	is veg
34	7346682.31	1651865.60	68.20	5444.40	is veg
33	7346686.37	1651860.69	74.57	5443.85	top is
32	7346688.34	1651858.31	77.66	5442.24	bank is
31	7346689.82	1651856.51	79.99	5441.09	lew
30	7346690.62	1651855.54	81.25	5440.33	ic
29	7346694.22	1651851.19	86.89	5440.33	ic
28	7346696.83	1651848.13	90.92	5440.65	ic
27	7346699.57	1651844.94	95.12	5440.81	ic
26	7346703.52	1651840.13	101.34	5440.03	ic
25	7346708.33	1651834.32	108.89	5439.26	ic
24	7346712.93	1651828.59	116.24	5438.99	ic
23	7346715.44	1651825.75	120.03	5438.60	ic
22	7346719.88	1651820.37	127.00	5438.60	ic
21	7346722.49	1651816.91	131.32	5439.01	ic
20	7346723.45	1651816.13	132.54	5440.46	ic boulder botto
19	7346723.87	1651815.58	133.23	5439.10	ic
18	7346725.52	1651813.33	136.02	5439.24	ic
17	7346726.08	1651812.65	136.90	5440.22	ic boulder
16	7346726.71	1651812.08	137.75	5438.93	ic
15	7346727.71	1651810.60	139.52	5438.39	ic
14	7346729.96	1651808.09	142.88	5437.68	ic
13	7346732.57	1651804.93	146.99	5438.67	ic
12	7346734.56	1651802.67	150.00	5440.40	ic
11	7346735.31	1651801.76	151.17	5441.02	rew
10	7346735.82	1651801.34	151.83	5443.81	tbank
9	7346740.93	1651795.02	159.95	5444.10	veg
8	7346750.62	1651783.17	175.26	5444.20	veg
5	7346753.00	1651780.31	178.98	5444.32	ca-rep-6
2	7346753.01	1651780.30	178.99	5444.32	ca-rep-6

CHARLESTON SITE CROSS SECTION 6 AUGUST (POST-RUNOFF) DATA
STATE PLANE 1983

POINT	NORTHING	EASTING	DISTANCE FROM LEP (FT)	ELEVATION (NAVD 1988 FT)	DESCRIPTION
4	7346638.87	1651918.18	0.00	5445.85	lep6
43	7346642.34	1651914.08	5.37	5445.38	veg
42	7346650.96	1651903.56	18.96	5444.44	veg
41	7346654.83	1651898.71	25.17	5443.28	sch lb
40	7346655.95	1651897.56	26.77	5441.51	sch lew
39	7346657.24	1651896.28	28.58	5441.21	sch ic
38	7346659.69	1651893.29	32.44	5440.34	sch ic
37	7346662.58	1651889.47	37.23	5440.32	sch ic
36	7346665.82	1651885.54	42.33	5440.79	sch ic
35	7346668.95	1651881.83	47.18	5440.97	sch ic
34	7346670.71	1651879.82	49.85	5441.41	sch rew
33	7346675.50	1651874.02	57.37	5443.02	veg
32	7346683.65	1651863.88	70.38	5444.14	veg
31	7346688.04	1651858.48	77.34	5442.30	lb
30	7346690.36	1651856.36	80.45	5440.72	lew
29	7346692.44	1651853.30	84.13	5440.25	ic
28	7346696.52	1651849.00	90.05	5440.56	ic
27	7346699.34	1651845.80	94.31	5440.76	ws cob
26	7346700.41	1651844.23	96.20	5440.52	ic
25	7346702.42	1651841.68	99.45	5440.52	ic
24	7346703.05	1651840.64	100.65	5440.07	ic
23	7346707.42	1651835.67	107.27	5439.72	ic
22	7346713.60	1651828.54	116.71	5439.27	ic
21	7346716.99	1651824.38	122.07	5438.83	ic
20	7346719.78	1651819.92	127.28	5438.45	ic
19	7346722.21	1651817.10	131.00	5439.22	ic
18	7346725.30	1651813.89	135.45	5438.87	ic
17	7346727.08	1651811.82	138.18	5438.82	ic
16	7346729.33	1651808.64	142.06	5438.10	ic
15	7346731.85	1651805.36	146.20	5438.73	ic
14	7346734.64	1651802.87	149.89	5439.22	ic
13	7346734.85	1651802.79	150.09	5440.62	rew
12	7346735.44	1651802.12	150.98	5441.78	grass clump
11	7346736.08	1651801.10	152.18	5441.34	grass clump
10	7346737.08	1651799.80	153.82	5441.33	rb
9	7346737.45	1651799.35	154.39	5444.09	veg
8	7346741.77	1651793.86	161.38	5444.10	veg
7	7346752.54	1651780.90	178.23	5444.23	veg
2	7346753.01	1651780.30	178.99	5444.32	rep6
5	7346753.01	1651780.29	179.00	5444.30	ca rep6 open

APPENDIX 2.3 LONGITUDINAL PROFILE DATA

2006 dist Name	BJ2006 Northing	Easting	ID	Dist 2006	All adj to 04 06Elevation	Description	
28	7381823.58	1658880.92	0	-2.07	5819.51	tw	
29	7381823.85	1658894.82	1	14.59	5820.92	tw	
30	7381824.18	1658911.95	2	29.82	5820.64	tw	
31	7381821.67	1658929.81	3	48.64	5820.87	tw	
32	7381822.60	1658944.59	4	63.18	5821.02	tw	
33	7381817.81	1658969.98	5	89.02	5821.27	tw	
34	7381819.22	1658992.68	6	109.96	5821.19	tw	
35	7381819.18	1659009.60	7	127.00	5821.22	tw	
36	7381819.30	1659018.19	8	135.53	5821.41	tw	
37	7381819.24	1659030.79	9	147.54	5821.04	tw	
38	7381818.70	1659043.65	10	160.38	5821.03	tw	
39	7381818.80	1659050.21	11	167.24	5820.40	tw	
40	7381821.04	1659057.64	12	174.44	5819.71	tw	
41	7381821.11	1659068.69	13	186.05	5819.10	tw	
42	7381819.33	1659083.56	14	202.04	5818.40	tw	
43	7381819.06	1659087.39	15	205.61	5818.06	tw	
44	7381820.52	1659091.45	16	209.95	5817.18	tw	
				233.86	5816.41	deep hole-inserted fr 04 dat	
				263.63	5814.95	deep hole-inserted fr 04 dat	
				279.96	5815.04	deep hole-inserted fr 04 dat	
				317.28	5816.81	deep hole-inserted fr 04 dat	
45	7381729.32	1659173.15	17	352.99	5816.42	tw	5821.093
46	7381721.32	1659178.09	18	362.40	5816.29	tw	
48	7381714.82	1659179.89	20	371.79	5817.40	tw	
49	7381709.03	1659182.89	21	378.30	5817.29	tw	
50	7381696.99	1659188.85	22	390.86	5818.51	tw	
51	7381684.49	1659193.95	23	402.25	5819.65	tw	
52	7381670.47	1659201.91	24	419.32	5819.81	tw	
53	7381652.80	1659209.04	25	438.10	5819.59	tw	
54	7381639.01	1659218.12	26	454.61	5818.72	tw	
55	7381625.52	1659231.71	27	473.57	5818.09	tw	
56	7381613.33	1659245.48	28	491.61	5817.26	tw	
57	7381599.81	1659253.77	29	508.35	5817.24	tw	5821.912
58	7381593.45	1659258.62	30	515.86	5817.15	tw	

2006 spring

Name	Northing	Easting	dist	cumu dist	adj to xs 1 =0	Elevation	Description
9	7372935.98	1658490.33	0.00	0.00	3.15	5712.94	tw
10	7372908.91	1658505.58	31.07	31.07	34.22	5712.62	tw
11	7372881.34	1658524.17	33.25	64.32	67.47	5712.51	tw
12	7372868.41	1658534.95	16.84	81.16	84.31	5711.78	tw
13	7372853.88	1658557.98	27.23	108.39	111.54	5712.67	tw
14	7372845.83	1658573.48	17.46	125.86	129.01	5713.00	tw
15	7372835.30	1658600.61	29.10	154.95	158.10	5713.78	tw split
16	7372826.65	1658643.55	43.80	198.75	201.90	5714.33	tw main
17	7372830.42	1658677.70	34.36	233.11	236.26	5714.08	tw main
18	7372832.84	1658708.77	31.17	264.28	267.43	5714.35	tw main
19	7372841.50	1658733.79	26.48	290.76	293.91	5714.17	tw main
20	7372846.81	1658760.39	27.12	317.88	321.03	5714.09	tw main
21	7372842.85	1658788.95	28.83	346.71	349.86	5713.64	tw main
22	7372828.77	1658816.91	31.31	378.02	381.17	5713.49	tw main
23	7372821.57	1658830.38	15.27	393.29	396.44	5713.46	tw main
24	7372817.35	1658841.17	11.59	404.88	408.03	5714.22	tw main
25	7372810.83	1658852.52	13.09	417.97	421.12	5714.27	tw main
26	7372806.67	1658858.83	7.56	425.52	428.67	5713.85	tw main
27	7372800.60	1658864.03	8.00	433.52	436.67	5713.24	tw main
28	7372790.64	1658869.03	11.14	444.66	447.81	5713.38	tw main
29	7372780.55	1658876.33	12.45	457.12	460.27	5712.79	tw main
30	7372765.85	1658881.99	15.75	472.87	476.02	5712.24	tw main
31	7372756.04	1658885.20	10.33	483.20	486.35	5712.15	tw main
32	7372744.44	1658887.54	11.83	495.03	498.18	5711.64	tw main
33	7372736.86	1658889.11	7.74	502.77	505.92	5711.15	tw main
34	7372723.26	1658891.34	13.78	516.55	519.70	5711.20	tw main
35	7372716.43	1658892.10	6.88	523.43	526.58	5711.03	tw main
36	7372708.74	1658891.81	7.69	531.12	534.27	5710.62	tw main
37	7372697.25	1658900.46	14.39	545.50	548.65	5710.79	tw main
38	7372670.73	1658897.06	26.74	572.24	575.39	5710.56	tw main
39	7372647.03	1658892.27	24.18	596.41	599.56	5710.69	tw main
40	7372627.16	1658886.35	20.74	617.15	620.30	5710.71	tw main
41	7372604.82	1658874.44	25.32	642.47	645.62	5711.01	tw main
42	7372599.49	1658851.34	23.70	666.17	669.32	5711.60	tw
43	7372596.94	1658841.14	10.52	676.68	679.83	5709.03	tw conflu
44	7372583.55	1658834.79	14.82	691.50	694.65	5709.31	tw
45	7372577.85	1658831.09	6.79	698.29	701.44	5709.28	tw
46	7372568.20	1658824.11	11.92	710.21	713.36	5709.23	tw
			29.10	154.95			
48	7372806.71	1658616.32	32.62	187.58	190.73	5714.41	tw sc
49	7372786.89	1658623.83	21.19	208.77	211.92	5714.65	tw sc
50	7372778.12	1658632.52	12.35	221.12	224.27	5714.98	tw sc
51	7372773.70	1658639.86	8.56	229.69	232.84	5714.72	tw sc
52	7372767.99	1658645.11	7.76	237.45	240.60	5713.90	tw sc
53	7372765.33	1658647.37	3.49	240.94	244.09	5713.68	tw sc
54	7372761.08	1658651.93	6.23	247.17	250.32	5712.75	tw sc
55	7372752.72	1658656.78	9.66	256.83	259.98	5712.38	tw sc
56	7372741.68	1658662.96	12.65	269.49	272.64	5713.42	tw sc
57	7372730.28	1658658.39	12.28	281.76	284.91	5713.47	tw sc
58	7372725.34	1658657.67	5.00	286.76	289.91	5713.32	tw sc
59	7372722.10	1658657.09	3.29	290.05	293.20	5712.67	tw sc
60	7372711.41	1658663.37	12.40	302.45	305.60	5712.89	tw sc
61	7372704.14	1658672.26	11.48	313.93	317.08	5712.53	tw sc
62	7372693.05	1658688.81	19.92	333.85	337.00	5712.06	tw sc
63	7372679.29	1658703.98	20.48	354.33	357.48	5712.44	tw sc
64	7372668.39	1658723.48	22.34	376.67	379.82	5712.47	tw sc
65	7372665.30	1658744.65	21.39	398.06	401.21	5712.70	tw sc
66	7372665.48	1658759.95	15.31	413.37	416.52	5712.63	tw sc
67	7372662.92	1658771.96	12.28	425.65	428.80	5712.17	tw sc
68	7372661.42	1658779.51	7.70	433.35	436.50	5711.98	tw sc
69	7372660.00	1658783.37	4.11	437.46	440.61	5711.74	tw sc
70	7372651.82	1658794.17	13.55	451.01	454.16	5711.41	tw sc
71	7372639.80	1658808.80	18.94	469.95	473.10	5711.33	tw sc
72	7372628.61	1658820.31	16.04	485.99	489.14	5711.12	tw sc
73	7372624.41	1658824.51	5.94	491.93	495.08	5710.71	tw sc
74	7372618.10	1658829.20	7.87	499.80	502.95	5708.04	tw sc
75	7372612.84	1658836.30	8.83	508.63	511.78	5707.83	tw sc

Name	Northing	Easting	distance	cum dis	Elevation	Description	file
9	7372935.98	1658490.33	0.00	0.00	5712.94	tw	spring TW survey data
10	7372908.91	1658505.58	31.07	31.07	5712.62	tw	spring TW survey data
11	7372881.34	1658524.17	33.25	64.32	5712.51	tw	spring TW survey data
12	7372868.41	1658534.95	16.84	81.16	5711.78	tw	spring TW survey data
13	7372853.88	1658557.98	27.23	108.39	5712.67	tw	spring TW survey data
14	7372845.83	1658573.48	17.46	125.86	5713.00	tw	spring TW survey data
15	7372835.30	1658600.61	29.10	154.95	5713.78	tw split	spring TW survey data
194	7372851.27	1658608.29	17.72	172.68	5713.55	tw	
195	7372839.80	1658640.92	34.58	207.26	5714.37	tw	
196	7372835.62	1658689.09	48.35	255.61	5714.57	tw	
197	7372834.40	1658730.74	41.67	297.28	5714.50	tw	
198	7372848.46	1658764.91	36.95	334.23	5713.99	tw	
199	7372836.94	1658800.32	37.24	371.47	5713.60	tw	
200	7372823.26	1658826.22	29.29	400.76	5713.28	tw	
201	7372816.38	1658840.17	15.55	416.32	5714.21	tw	
202	7372810.60	1658850.23	11.60	427.91	5714.15	tw	
203	7372802.49	1658861.89	14.21	442.12	5712.84	tw	
204	7372793.80	1658868.08	10.67	452.78	5713.47	tw	
205	7372786.96	1658870.75	7.35	460.13	5713.18	tw	
206	7372771.94	1658876.02	15.92	476.05	5712.62	tw	
207	7372756.56	1658889.83	20.67	496.72	5712.29	tw	
208	7372741.66	1658890.82	14.94	511.65	5711.34	tw	
209	7372721.68	1658893.94	20.22	531.88	5711.40	tw	
210	7372702.99	1658891.36	18.86	550.74	5710.64	tw	
211	7372679.18	1658895.27	24.14	574.87	5710.64	tw	
212	7372649.88	1658898.05	29.43	604.30	5711.52	tw	
213	7372619.39	1658885.19	33.09	637.39	5710.34	tw	
214	7372596.32	1658872.20	26.47	663.87	5711.11	tw	
215	7372584.84	1658860.29	16.55	680.41	5711.18	tw	
216	7372579.69	1658850.17	11.35	691.76	5710.63	tw	
217	7372565.07	1658827.89	26.65	718.41	5709.17	tw	
218	7372544.05	1658812.97	25.79	744.19	5709.78	tw	
176	7372800.74	1658616.16	0.00	0.00	5714.56	tw sc	
177	7372779.24	1658631.68	26.51	26.51	5715.11	tw sc	
178	7372769.44	1658643.32	15.22	41.73	5713.62	tw sc	
179	7372756.51	1658652.52	15.87	57.60	5713.24	tw sc	
180	7372738.04	1658662.12	20.81	78.41	5713.08	tw sc	
181	7372721.21	1658665.47	17.17	95.58	5713.65	tw sc	
182	7372700.56	1658674.32	22.46	118.04	5712.38	tw sc	
183	7372685.71	1658694.04	24.69	142.72	5712.42	tw sc	
184	7372668.36	1658715.56	27.64	170.37	5712.52	tw sc	
185	7372656.44	1658750.64	37.06	207.42	5712.03	tw sc	
186	7372646.95	1658779.51	30.39	237.81	5711.57	tw sc	
187	7372642.09	1658801.65	22.67	260.48	5711.32	tw sc	
188	7372634.84	1658814.70	14.93	275.41	5711.35	tw sc	
189	7372628.85	1658825.08	11.98	287.39	5708.97	tw sc	
190	7372627.19	1658832.81	7.90	295.29	5708.45	tw sc	
192	7372613.04	1658845.35	18.92	314.21	5709.38	tw sc	

2006

Name	Northing	Easting	distance	cumu dista	Elevation	Description
8	7355391.41	1654216.09	0.00	0.00	5507.25	tw1
9	7355351.62	1654253.70	54.75	54.75	5508.11	tw1
10	7355331.81	1654271.49	26.63	81.37	5507.97	tw1
11	7355317.80	1654281.03	16.96	98.33	5507.56	tw1
12	7355299.45	1654290.86	20.82	119.15	5507.33	tw1
13	7355278.01	1654303.02	24.65	143.79	5507.91	tw1
14	7355251.76	1654316.54	29.53	173.32	5508.14	tw1
15	7355230.46	1654329.36	24.86	198.18	5508.16	tw1
16	7355212.24	1654340.06	21.12	219.31	5507.51	tw1
17	7355193.21	1654346.58	20.12	239.43	5506.48	tw1
18	7355187.81	1654347.86	5.55	244.98	5505.02	tw1
19	7355183.22	1654349.07	4.75	249.72	5504.31	tw1
20	7355173.97	1654353.24	10.15	259.87	5503.74	tw1
21	7355162.98	1654355.52	11.23	271.10	5504.29	tw1
22	7355150.76	1654355.07	12.22	283.32	5505.34	tw1
23	7355136.36	1654354.80	14.41	297.73	5504.65	tw1
24	7355119.67	1654353.77	16.72	314.45	5505.28	tw1
25	7355098.42	1654353.88	21.25	335.70	5505.25	tw1
26	7355073.98	1654349.76	24.79	360.49	5506.19	tw1
27	7355046.69	1654343.02	28.10	388.59	5506.35	tw1
28	7355023.53	1654328.44	27.37	415.96	5506.13	tw1
29	7355004.81	1654313.01	24.26	440.22	5505.61	tw1
30	7354997.30	1654303.80	11.88	452.10	5505.49	twcon
31	7354988.01	1654301.70	9.53	461.63	5505.44	tw
35	7355319.48	1654176.23	0.00	0.00	5508.62	tw3
36	7355304.89	1654201.28	28.99	28.99	5507.80	tw3
37	7355300.97	1654210.82	10.31	39.30	5507.76	tw3
38	7355297.83	1654219.87	9.59	48.89	5507.36	tw3
39	7355295.56	1654225.57	6.13	55.02	5507.14	tw3
40	7355291.80	1654231.61	7.12	62.14	5506.48	tw3
41	7355288.83	1654234.67	4.26	66.40	5505.47	tw3
42	7355277.05	1654244.84	15.57	81.97	5505.27	tw3
43	7355258.75	1654256.94	21.94	103.91	5505.99	tw3
44	7355235.18	1654266.50	25.43	129.34	5506.97	tw3
45	7355222.33	1654271.16	13.66	143.00	5506.49	tw3
46	7355213.79	1654274.83	9.31	152.31	5506.02	tw3
47	7355190.17	1654285.97	26.11	178.42	5505.24	tw3
48	7355160.12	1654299.69	33.03	211.45	5504.45	tw3
49	7355141.80	1654307.26	19.82	231.27	5505.61	tw3
50	7355117.99	1654312.18	24.31	255.59	5505.57	tw3
51	7355090.14	1654313.40	27.88	283.47	5505.64	tw3
52	7355068.16	1654316.01	22.13	305.60	5506.11	tw3
53	7355036.81	1654311.46	31.68	337.28	5505.95	tw3
54	7355018.40	1654307.56	18.82	356.10	5505.59	tw3

2006 post-runoff

Name	Northing	Easting	distance	ulative dista	Elevation	Description
111	7355281.48	1654153.79	0.00	0.00	5509.38	tw
112	7355273.24	1654170.06	18.24	18.24	5509.15	tw
113	7355272.40	1654185.92	15.88	34.12	5507.76	tw
114	7355263.27	1654201.77	18.29	52.41	5507.30	tw
115	7355255.60	1654222.39	22.00	74.41	5507.53	tw
116	7355256.91	1654237.43	15.10	89.51	5506.14	tw
117	7355253.75	1654251.86	14.77	104.28	5507.33	tw
114	7355245.00	1654270.65	20.73	125.01	5507.43	tw
115	7355240.32	1654283.86	14.02	139.02	5507.35	tw
116	7355224.08	1654305.57	27.11	166.13	5508.37	tw
117	7355215.40	1654325.54	21.78	187.91	5507.53	tw
118	7355205.63	1654341.18	18.44	206.35	5506.71	tw
119	7355202.04	1654347.47	7.24	213.58	5506.30	tw
120	7355196.21	1654351.90	7.32	220.91	5505.46	tw
121	7355170.71	1654357.28	26.07	246.98	5503.83	tw
122	7355149.63	1654362.96	21.83	268.81	5504.63	tw
123	7355126.43	1654354.56	24.67	293.48	5504.73	tw
124	7355104.25	1654352.28	22.30	315.78	5505.20	tw
43	7355101.82	1654350.90	2.80	318.57	5505.23	tw
44	7355089.71	1654347.97	12.46	331.03	5505.59	tw
45	7355073.13	1654343.71	17.11	348.15	5506.26	tw
46	7355055.66	1654337.35	18.60	366.74	5506.44	tw
47	7355033.39	1654328.95	23.80	390.55	5506.06	tw
48	7355015.07	1654320.25	20.27	410.82	5505.50	tw
49	7354995.75	1654311.97	21.03	431.84	5505.49	tw
50	7354980.58	1654307.05	15.95	447.79	5505.66	tw

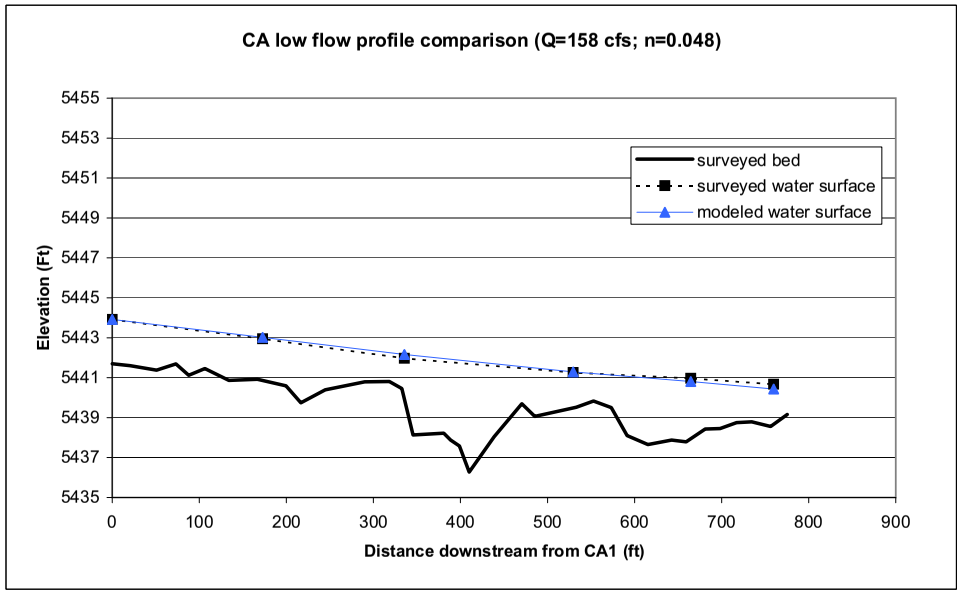
2006

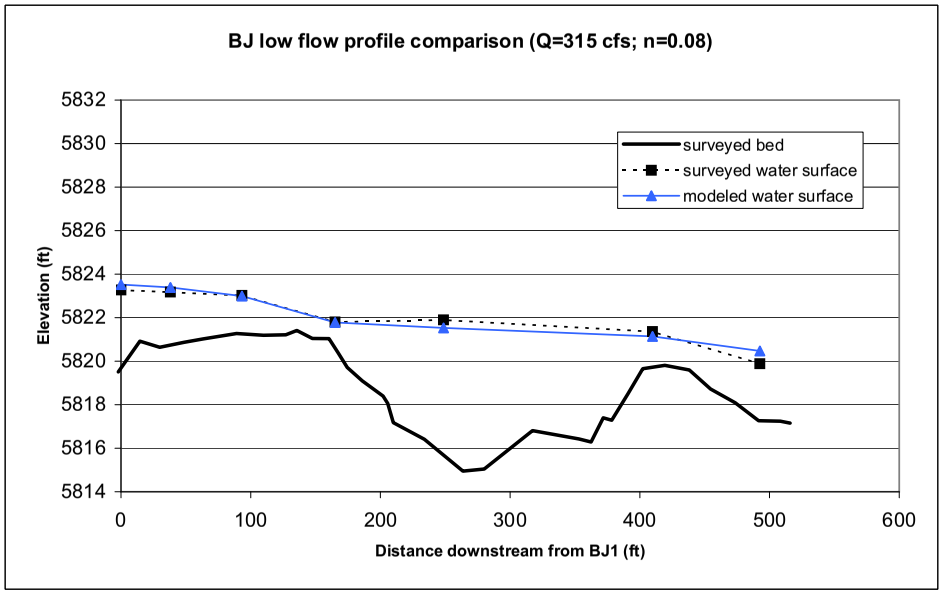
Name	Northing	Easting	Distance	cumu dis	adj to xs 1=(	Elevation	Description
8	7347250.48	1652042.74	0.00	0.00	-1.50	5441.69	tw
9	7347229.57	1652059.63	26.88	26.88	26.88	5441.87	tw
10	7347211.37	1652073.30	22.76	49.64	49.64	5441.73	tw
11	7347187.28	1652083.82	26.29	75.93	75.93	5441.33	tw
12	7347151.62	1652118.25	49.56	125.49	125.49	5441.07	tw
13	7347108.71	1652140.57	48.37	173.86	173.86	5441.04	tw
14	7347077.03	1652155.91	35.20	209.06	209.06	5440.67	tw
15	7347037.82	1652163.17	39.88	248.94	248.94	5440.28	tw
16	7346999.66	1652171.73	39.11	288.05	288.05	5440.88	tw
17	7346968.70	1652167.35	31.26	319.31	319.31	5440.98	tw
18	7346955.12	1652152.41	20.19	339.50	339.50	5440.43	tw
19	7346920.73	1652128.86	41.69	381.19	381.19	5439.63	tw
20	7346900.21	1652117.58	23.41	404.59	404.59	5439.85	tw
21	7346886.78	1652099.72	22.35	426.94	426.94	5437.53	tw
22	7346872.47	1652090.87	16.83	443.77	443.77	5439.53	tw
23	7346860.63	1652075.99	19.02	462.79	462.79	5439.79	tw
24	7346850.62	1652036.99	40.26	503.05	503.05	5438.77	tw
25	7346843.60	1652011.48	26.46	529.51	529.51	5440.09	tw
26	7346841.95	1651977.08	34.44	563.95	563.95	5439.44	tw
27	7346831.57	1651951.48	27.62	591.57	591.57	5438.58	tw
28	7346807.22	1651916.34	42.75	634.33	634.33	5437.86	tw
29	7346790.35	1651895.05	27.16	661.49	661.49	5438.60	tw
30	7346774.86	1651876.71	24.01	685.50	685.50	5438.54	tw
31	7346756.95	1651855.14	28.03	713.53	713.53	5438.59	tw
32	7346736.81	1651839.76	25.35	738.88	738.88	5438.28	tw
33	7346720.99	1651822.99	23.05	761.93	761.93	5438.53	tw

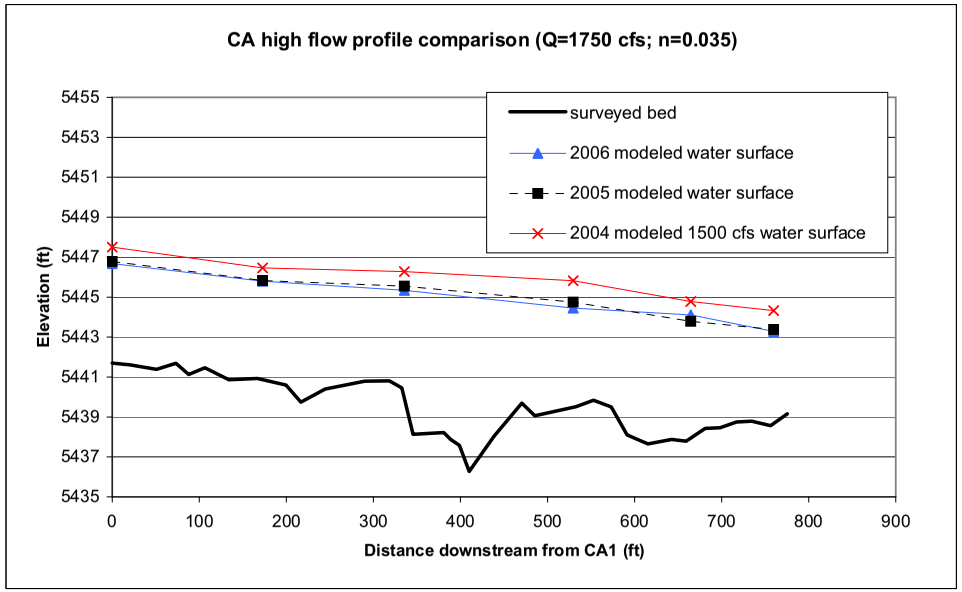
2006 post runoff

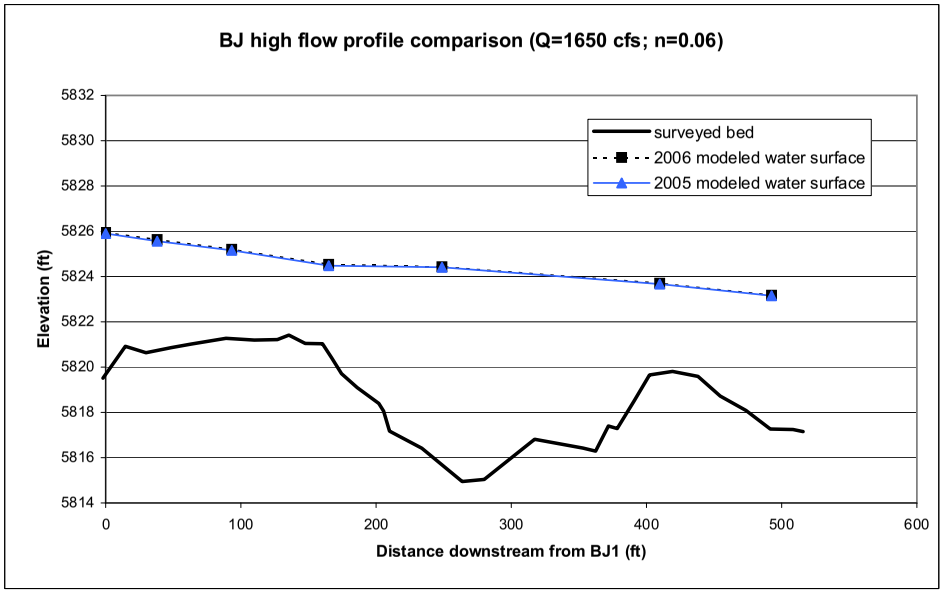
Name	Northing	Easting	distance ft	cuml dist	adj distance xs 1=0	Elevation	Description
125	7347249.99	1652041.97	0.00	0.00	-1.50	5441.70	tw
126	7347233.28	1652054.10	20.66	20.66	20.66	5441.60	tw
127	7347208.14	1652071.03	30.31	50.96	50.96	5441.38	tw
128	7347190.15	1652084.11	22.24	73.20	73.20	5441.69	tw
129	7347177.80	1652092.02	14.67	87.87	87.87	5441.12	tw
130	7347163.41	1652103.72	18.54	106.41	106.41	5441.46	tw
131	7347142.64	1652121.97	27.65	134.06	134.06	5440.87	tw
132	7347114.07	1652137.53	32.54	166.60	166.60	5440.92	tw
133	7347083.90	1652150.76	32.94	199.54	199.54	5440.60	tw
134	7347067.49	1652155.81	17.16	216.71	216.71	5439.75	tw
135	7347039.63	1652156.84	27.89	244.59	244.59	5440.40	tw
136	7346994.65	1652163.21	45.42	290.01	290.01	5440.79	tw
137	7346966.36	1652163.19	28.29	318.31	318.31	5440.81	tw
138	7346952.46	1652159.89	14.29	332.59	332.59	5440.45	tw
139	7346943.75	1652150.38	12.89	345.49	345.49	5438.13	tw
140	7346912.16	1652134.63	35.30	380.79	380.79	5438.22	tw
141	7346906.06	1652129.56	7.93	388.72	388.72	5437.88	tw
142	7346896.61	1652126.00	10.10	398.82	398.82	5437.58	tw
143	7346887.74	1652119.15	11.21	410.03	410.03	5436.27	tw
144	7346871.29	1652095.74	28.60	438.63	438.63	5438.05	tw
145	7346853.99	1652068.95	31.89	470.53	470.53	5439.70	tw
146	7346850.40	1652054.61	14.79	485.31	485.31	5439.06	tw
65	7346840.84	1652007.91	47.66	532.98	532.98	5439.52	tw
66	7346837.73	1651988.36	19.80	552.77	552.77	5439.83	tw
67	7346833.17	1651968.42	20.46	573.23	573.23	5439.50	tw
68	7346830.16	1651950.40	18.26	591.50	591.50	5438.10	tw
69	7346821.60	1651928.18	23.82	615.31	615.31	5437.65	tw
70	7346805.12	1651906.53	27.21	642.52	642.52	5437.88	tw
71	7346793.01	1651895.08	16.67	659.19	659.19	5437.79	tw
72	7346777.82	1651879.16	22.00	681.19	681.19	5438.43	tw
73	7346767.90	1651865.38	16.98	698.17	698.17	5438.46	tw
74	7346753.37	1651853.28	18.91	717.08	717.08	5438.75	tw
75	7346739.91	1651842.10	17.50	734.58	734.58	5438.79	tw
76	7346724.09	1651827.14	21.77	756.35	756.35	5438.56	tw
77	7346710.69	1651813.65	19.01	775.36	775.36	5439.16	tw

APPENDIX 2.4 MODELED (HEC-RAS) AND SURVEYED WATER SURFACE PROFILES

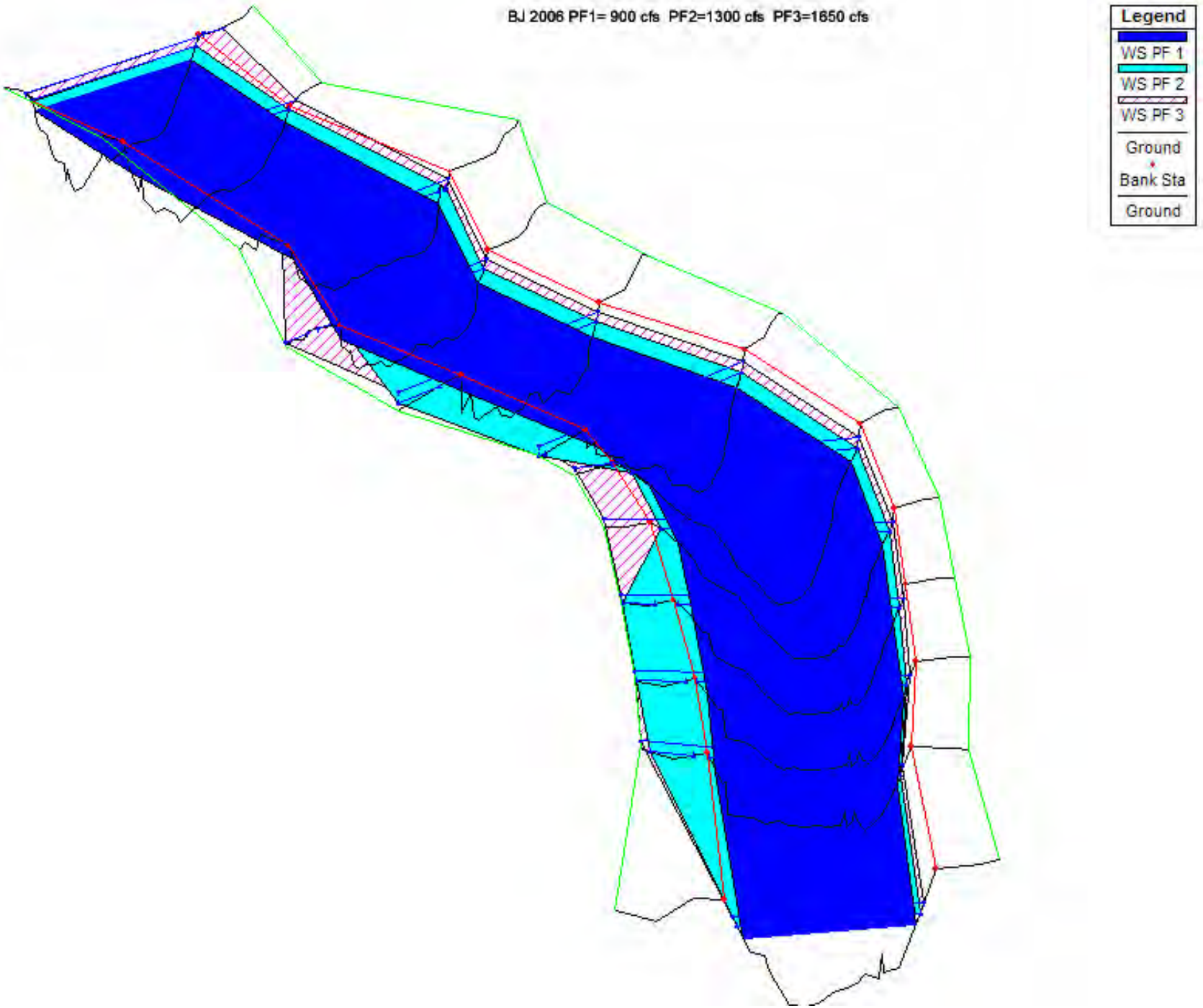

CA low flow profile comparison (Q=158 cfs; n=0.048)
Elevation (Ft)
Distance downstream from CA1 (ft)
surveyed bed
surveyed water surface
modeled water surface

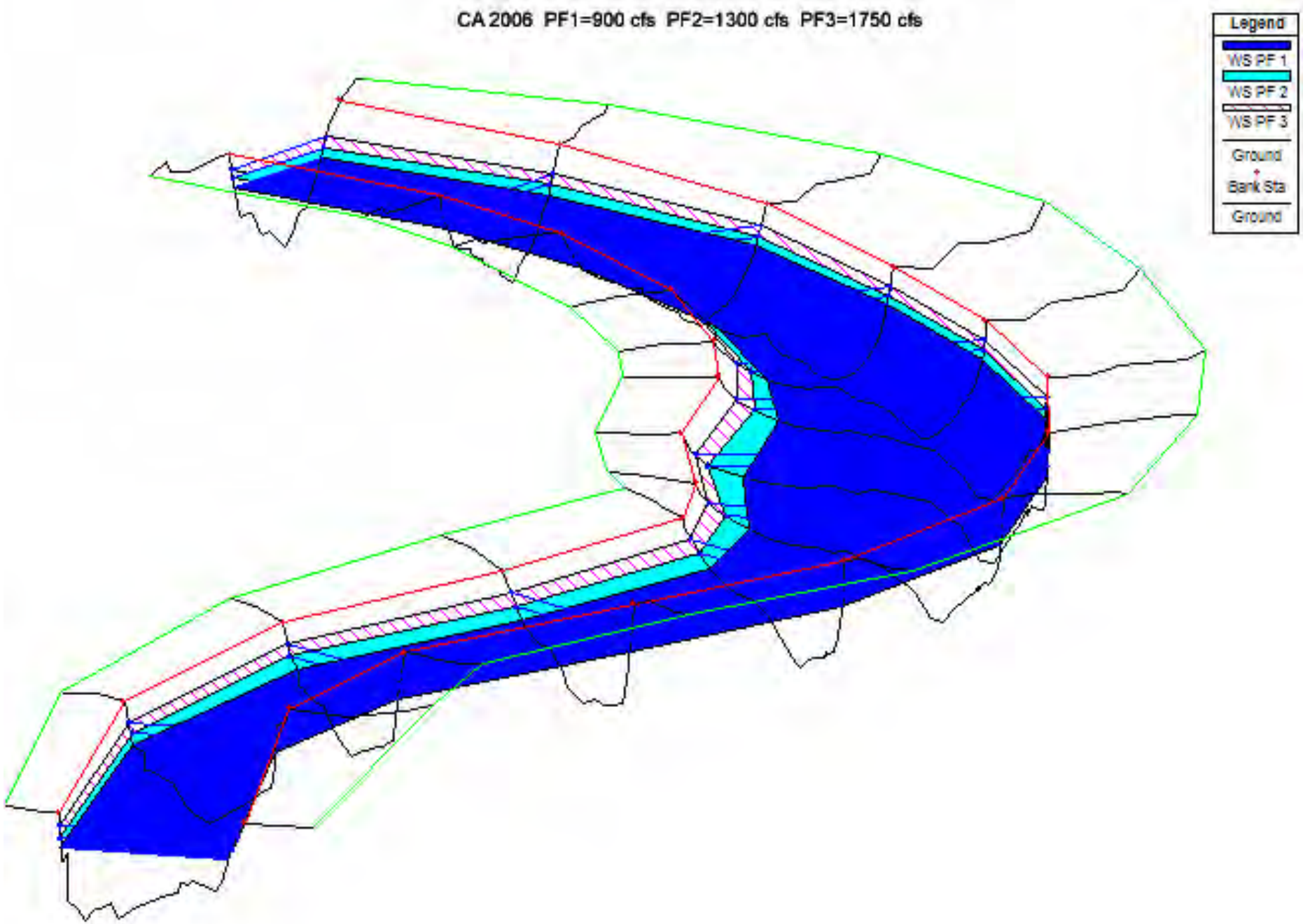

BJ low flow profile comparison (Q=315 cfs; n=0.08)
Elevation (ft)
Distance downstream from BJ1 (ft)
surveyed bed
surveyed water surface
modeled water surface


CA high flow profile comparison (Q=1750 cfs; n=0.035)
Elevation (ft)
Distance downstream from CA1 (ft)
surveyed bed
2006 modeled water surface
2005 modeled water surface
2004 modeled 1500 cfs water surface

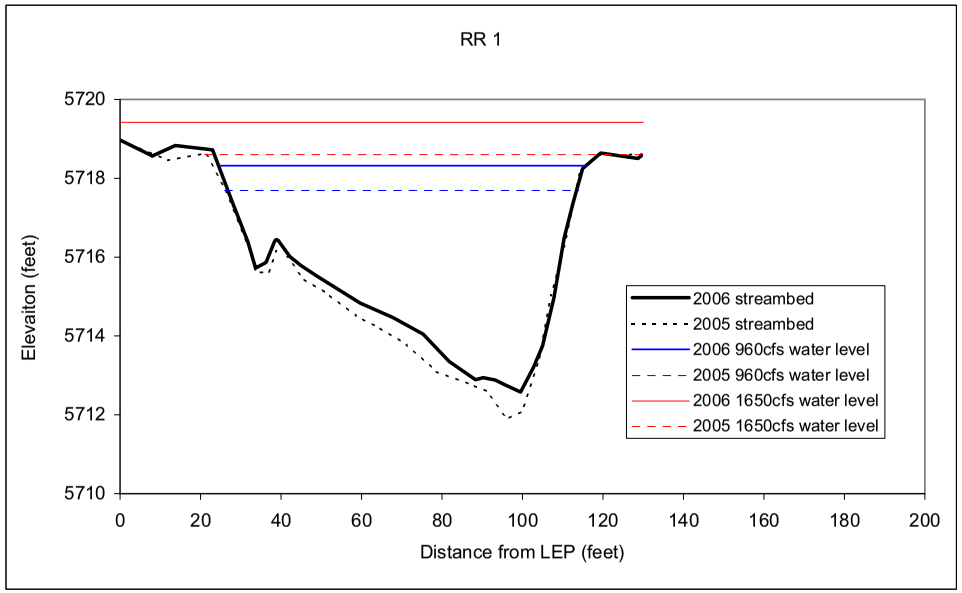

BJ high flow profile comparison (Q=1650 cfs; n=0.06)
Elevation (ft)
Distance downstream from BJ1 (ft)
surveyed bed
2006 modeled water surface
2005 modeled water surface

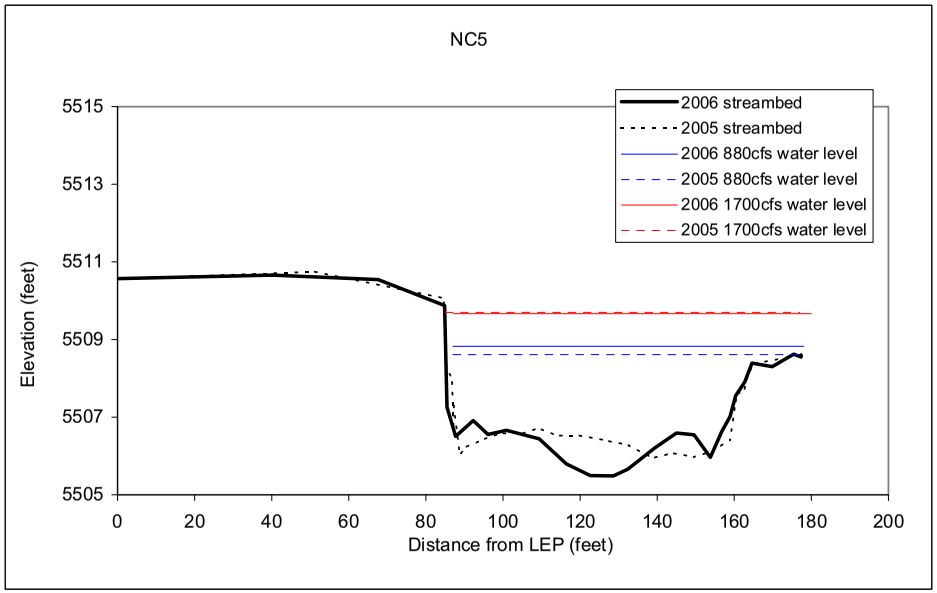
APPENDIX 2.5 THREE- DIMENSIONAL PLOTS OF MODELED (HEC-RAS) WATER SURFACE PROFILES

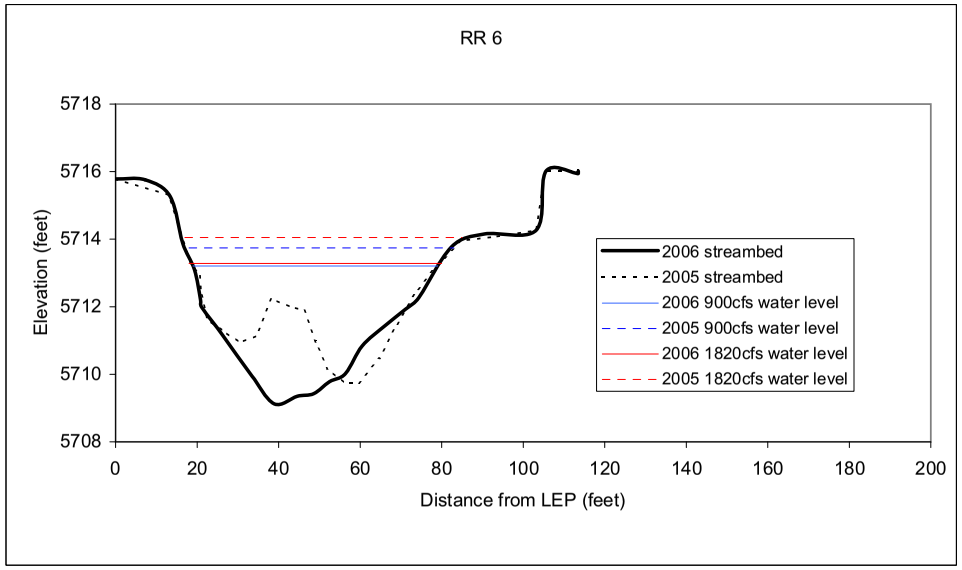

BJ 2006 PF1= 900 cfs PF2=1300 cfs PF3=1650 cfs
Legend
WS PF 1
WS PF 2
WS PF 3
Ground
Bank Sta
Ground

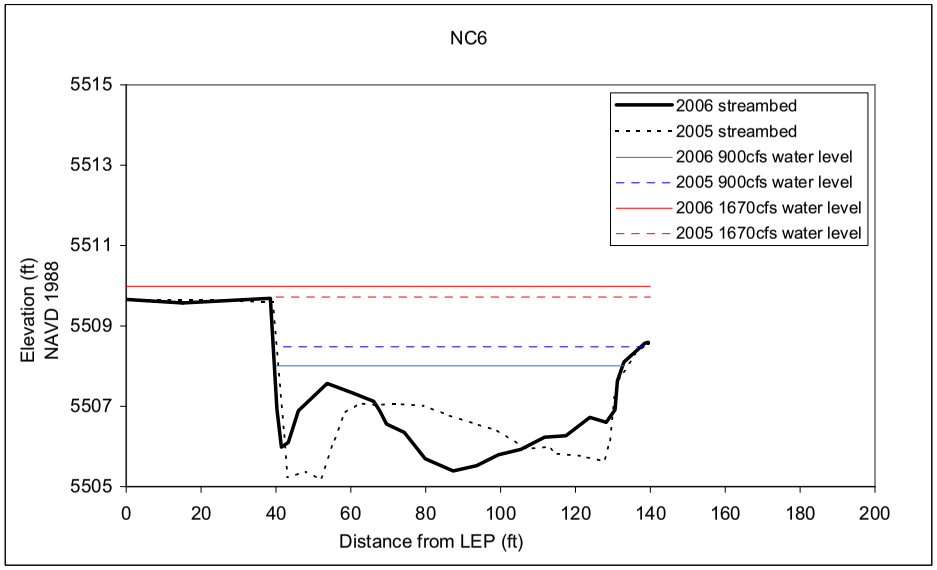

CA 2006 PF1=900 cfs PF2=1300 cfs PF3=1750 cfs
Legend
WS PF 1
WS PF 2
WS PF 3
Ground
Bank Sta
Ground

APPENDIX 2.6 PLOTS OF MODELED (WINXSPRO) NC AND RR WATER SURFACE ELEVATIONS IN 2005 VS. 2006



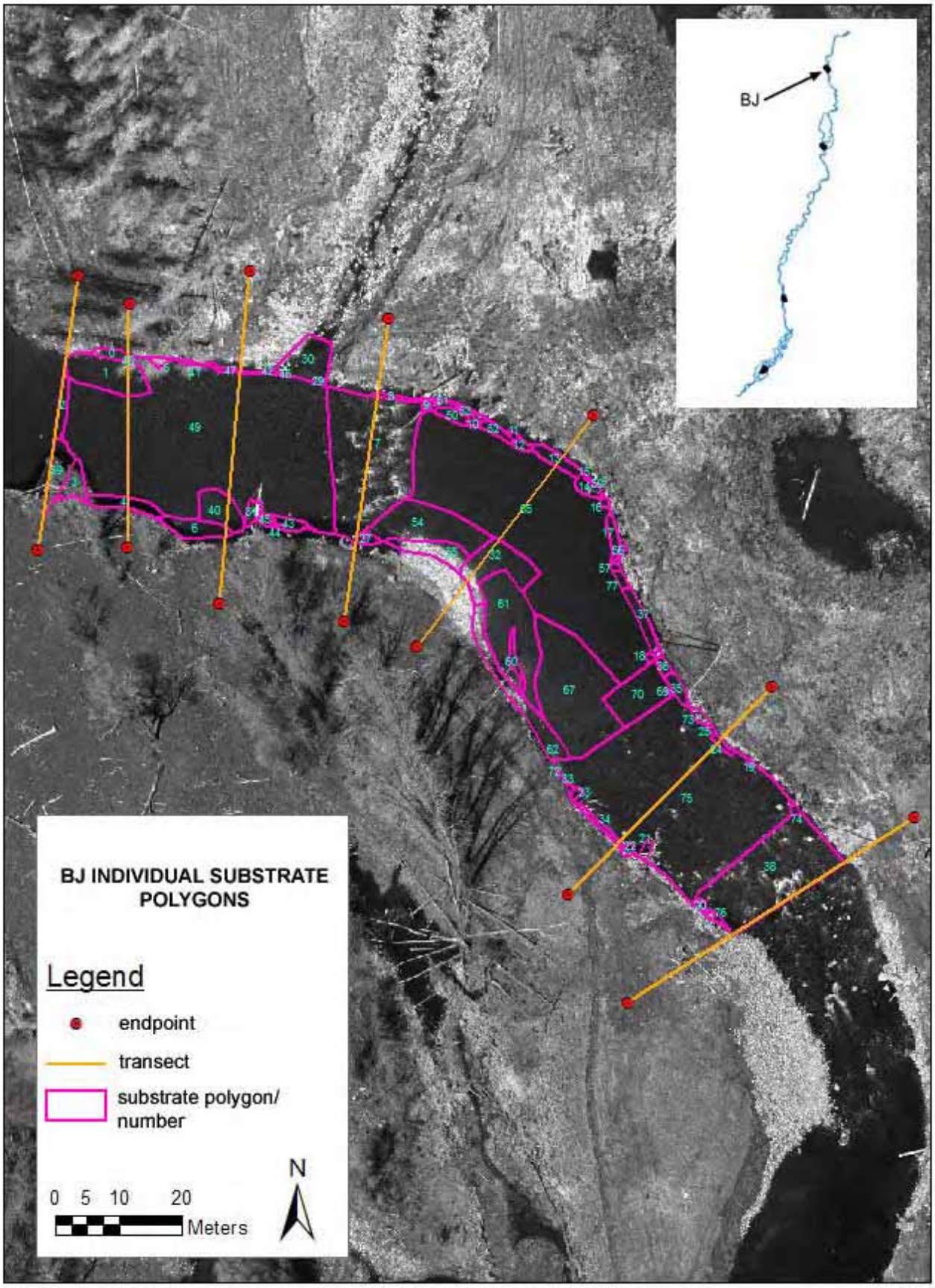


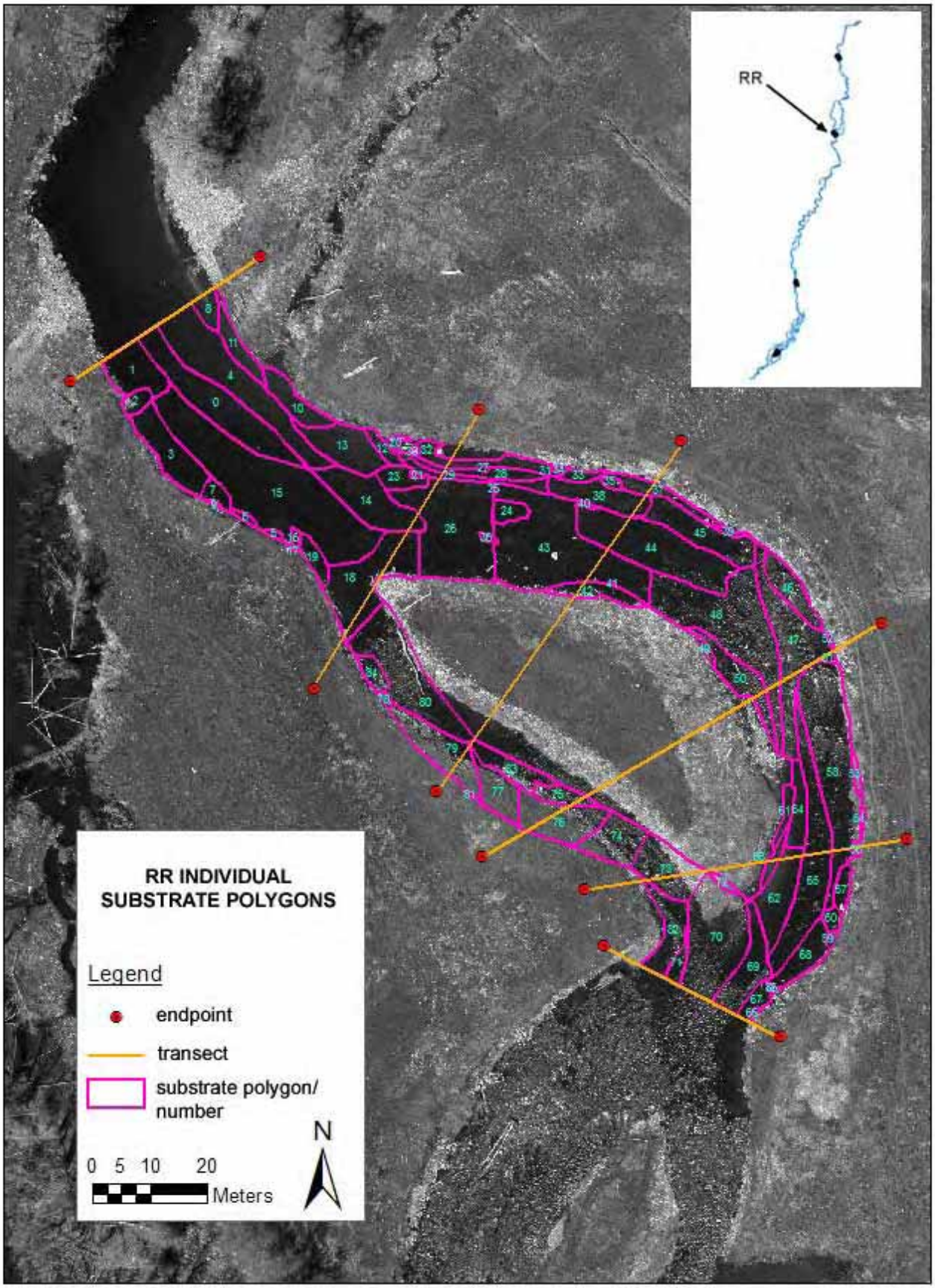


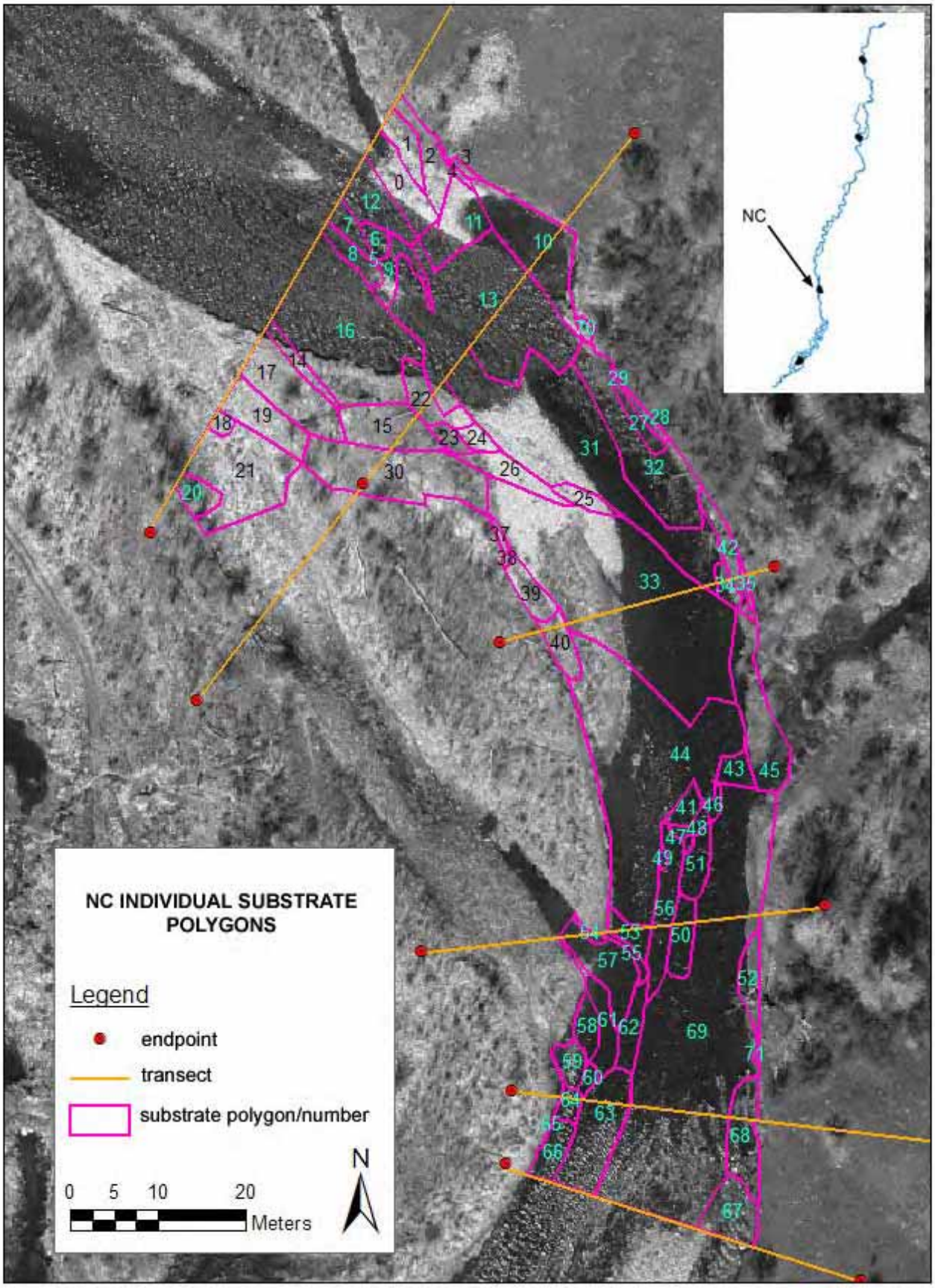


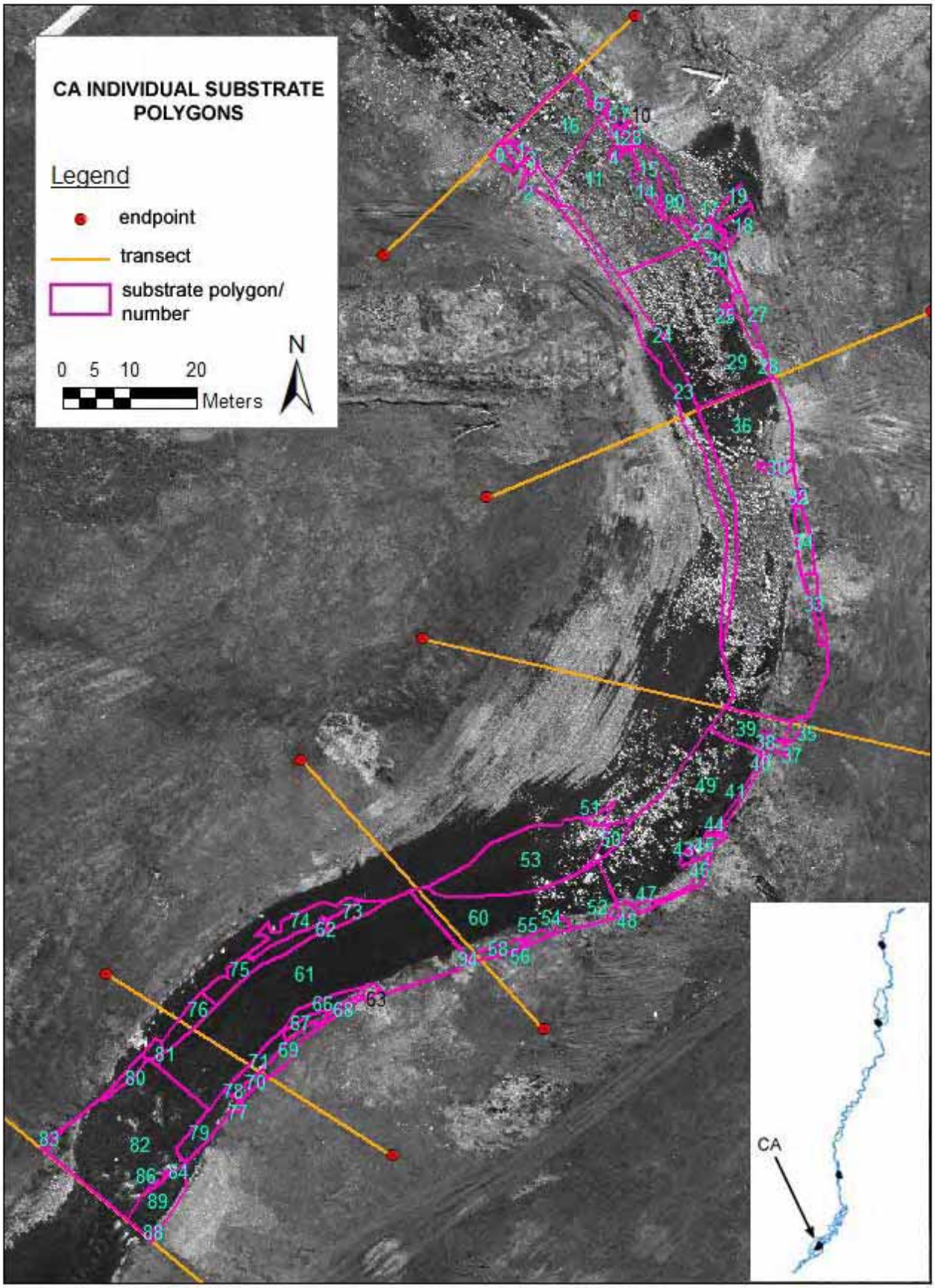
Appendix 2.6. Modeled water surface elevations at the RR and NC sites.

APPENDIX 3.1A MAPS OF INDIVIDUAL SUBSTRATE POLYGONS


BJ
BJ INDIVIDUAL SUBSTRATE POLYGONS
Legend
endpoint
transect
substrate polygon/ number
0 5 10 20
Meters
N


RR
RR INDIVIDUAL
SUBSTRATE POLYGONS
Legend
endpoint
transect
substrate polygon/
number
0 5 10 20
Meters
N


NC
NC INDIVIDUAL SUBSTRATE POLYGONS
Legend
endpoint
transect
substrate polygon/number
0 5 10 20
Meters
N


CA INDIVIDUAL SUBSTRATE POLYGONS
Legend
endpoint
transect
substrate polygon/ number
0 5 10 20
Meters
N
CA

APPENDIX 3.1B SUBSTRATE POLYGON ATTRIBUTE TABLES

BJ Fall 2006

POLYGON NUMBER	AREA m2	SUBSTYPE	NOTES	MAJORITY	PERCENTAGES %B	%C	%LG	%MG	%FG	%SA	%SI	%GRASS	%UNKNOV
0	8.531	5C5SI	sticks	cobble-sand/silt		50					50		
1	60.969	3C2.5LG2M	PC2 in this	gravel	15	30	25	20	10				
2	12.346	3C3LG3MC	some mino	gravel	10	30	30	30					
3	17.571	7B3C		boulder	70	30							
4	20.435	4C4LG1.5M	algae-coate	gravel		40	40	15			5		
5	3.558	10B		boulder	100								
6	25.500	3C 3LG 4S	macrophyte	sand/silt		30	30				40		
7	261.653	4C3.5B2.5LG		cobble	35	40	25						
8	4.170	3C3LG3MG	1B	gravel	10	30	30	30					
9	2.737	10B	log betwee	boulder	100								
10	2.712	10B	log betwee	boulder	100								
11	1.484	10B		boulder	100								
12	3.899	3C3LG2B2SI		cobble-gra	20	30	30				20		
13	13.895	6C 2LG 1MG	1SI	cobble		60	20	10			10		
14	9.268	7C 2LG 1S	submerged	cobble		70	20				10		
15	0.362	10B		boulder	100								
16	1.905	10B		boulder	100								
17	9.221	6C 2LG 2M	algae coate	cobble		60	20	20					
18	2.624	10B		boulder	100								
19	0.565	5C 5SI		cobble-sand/silt		50					50		
20	2.863	10B		boulder	100								
21	3.110	10B	log on top (	boulder	100								
22	2.541	10B		boulder	100								
23	2.404	10B	log on dst.	boulder	100								
24	3.935	5C2.5LG2.5MG		cobble-gravel		50	25	25					
25	0.882	10SI		sand/silt							100		
26	0.172	10B		boulder	100								
27	5.150	4LG4MG1.5C0.5SI		gravel		15	40	40			5		
28	0.405	10B		boulder	100								
29	1.389	3.75C 3.75LG 2.5MG		gravel		37.5	37.5	25					
30	42.072	9SI 1C		sand/silt		10					90		
31	7.675	10B		boulder	100								
32	59.121	3C 2LG 2MG 3S		gravel		30	20	20			30		
33	1.221	10SI		sand/silt							100		
34	5.873	5C 2.5LG 2	algae coate	cobble-gravel		50	25	25					
35	9.311	2C 5LG 2MG 0.5FG 0.		gravel		20	50	20	5	5			
36	5.047	8C 2SI		cobble		80					20		
37	15.088	4C 4LG 2S	algae coate	cobble-gravel		40	40				20		
38	208.342	4C 3.5B 2.5LG		cobble	35	40	25						
39	26.549	5B5C		boulder-col	50	50							
40	33.165	3.75C 3.75LG 2.5MG		gravel		37.5	37.5	25					
41	1.487	10SI		sand/silt							100		
42	6.953	2.67B 2.67C 2.66LG 2		boulder-col	26.7	26.7	26.6				20		
43	8.381	6C 2LG 2S	algae and r	cobble		60	20				20		
44	1.039	10SI		sand/silt							100		
45	2.992	2.5C 2.5LG 2.5MG 2.5		gravel		25	25	25			25		
46	0.089	2.67B 2.67C 2.66LG 2		boulder-col	26.7	26.7	26.6				20		
47	0.095	2.67B 2.67C 2.66LG 2		boulder-col	26.7	26.7	26.6				20		
48	0.021	2B 5.5C 2.5LG		cobble	20	55	25						
49	852.274	2B 5.5C 2.5LG		cobble	20	55	25						
50	8.357	6C 1LG 3SI		cobble		60	10				30		
51	3.405	3.3C 3.3LG	algae coate	gravel		33	33	33					
52	7.694	7C 2LG 1SI		cobble		70	20				10		
53	6.014	10SI		sand/silt							100		
54	90.954	7C 3LG		cobble		70	30						
55	29.339	6C 2.5LG 1.5SI		cobble		60	25				15		
56	1.042	10SI	w grass clu	sand/silt							100		
57	1.734	10B		boulder	100								
58	0.968	10SI		sand/silt							100		
59	0.885	10SI		sand/silt							100		
60	8.316	5S 5grass	dry sand w	sand/silt						25	25	50	
61	120.435	2FG 8S		sand/silt					20	40	40		
62	53.601	3C 2LG 5S	sticks on b	sand/silt		30	20				50		
63	0.149	grass	grass clum	grass								100	
64	0.006	10B		boulder	100								
65	667.014	unknown	deep pool \	unknown									100
66	0.150	10B		boulder	100								
67	195.685	3C3LG3MC	PC5 in sha	gravel		30	30	30	10				
68	0.332	10B		boulder	100								
69	0.644	3.3LG 3.3M	deposit bet	gravel			33	33	33				
70	57.955	4C 4LG 2MG		gravel		40	40	20					
71	0.007	10B		boulder	100								
72	0.559	10SI		sand/silt							100		
73	4.538	10B		boulder	100								
74	1.895	10B		boulder	100								
75	621.114	2.5B 5.5C 2LG		cobble	25	55	20						
76	3.557	3.5B 3.5C 3S		boulder-col	35	35				15	15		
77	4.279	8C 2LG	algae coate	cobble		80	20						

RR FALL 2006

POLYGON NUMBER	Area m2	SUBSTYPE	NOTES	MAJORTYPE	PERCENTAGES %B	%C	%LG	%MG	%FG	%SA	%SI
0	160.19	5C 5LG		cobble-gravel		50	50				
1	70.17	1B 9C	algae coated	cobble	10	90					
2	16.41	5B 5C		boulder-cobble	50	50					
3	85.96	1B 6C 1.5LG 1.5SI	algae - makes difficult to map	cobble	10	60	15				15
4	192.93	3.3C 3.3LG 3.3MG		gravel		33	33	33			
5	3.86	2C 8SI		sand/silt		20					80
6	5.30	6C 4SI		cobble		60					40
7	17.02	5B 5C		boulder-cobble	50	50					
8	22.34	1C 4.5LG 4.5MG		gravel		10	45	45			
9	1.04	4C 6SI		sand/silt		40					60
10	48.10	1C 9SI		sand/silt		10					90
11	36.11	10SI	sticks	sand/silt							100
12	16.24	5C 5S		cobble-sand/silt		50				25	25
13	81.78	2MG 2FG 6S		sand/silt				20	20	30	30
14	108.00	3.3C 3.3LG 3.3MG		gravel		33	33	33			
15	391.81	7C 1.5LG 1.5SI	macrophytes in silt	cobble		70	15				15
16	4.23	10B		boulder	100						
17	1.24	2.5C 2.5LG 2.5MG 2.5S		gravel		25	25	25		12.5	12.5
18	153.56	7C 3LG		cobble		70	30				
19	22.47	1.5B 5C 3.5LG		cobble	15	50	35				
20	5.85	10B		boulder	100						
21	1.16	1C 4.5FG 4.5SA	behind boulder	gravel-sand/silt		10			45	45	
22	0.70	10B		boulder	100						
23	27.45	3C 3.5LG 3.5MG		gravel		30	35	35			
24	19.89	4C 3LG 3MG		gravel		40	30	30			
25	0.68	10B		boulder	100						
26	231.37	7C 3LG		cobble		70	30				
27	1.28	10B		boulder	100						
28	30.75	2.5MG 2.5FG 5S	macrophytes	gravel-sand/silt				25	25	25	25
29	33.26	2B 4C 1.5LG 1.5MG 1S		cobble	20	40	15	15		5	5
30	1.54	10B		boulder	100						
31	2.19	10B		boulder	100						
32	49.33	5SA 5SI		sand/silt						50	50
33	12.42	3.4B 3.4C 3.2S	macrophytes	boulder-cobble	34	34				16	16
34	2.66	10SI		sand/silt							100
35	5.47	10B		boulder	100						
36	3.06	4C 4LG 2MG	deposit btw bldrs	gravel		40	40	20			
37	35.30	1.5B 4C 1.5LG 3SI		cobble	15	40	15				30
38	68.01	2C 3.75 LG 3.75MG 0.5FG	MG present throughout run	gravel		20	37.5	37.5	5		
39	4.69	3C 3LG 3MG 1FG	around grass clump	gravel		30	30	30	10		
40	2.41	1LG 2MG 6FG 1SA		gravel			10	20	60	10	
41	0.17	10B		boulder	100						
42	37.23	2B 6C 1LG 1SI		cobble	20	60	10				10
43	298.34	7C 3LG		cobble		70	30				
44	193.64	6C 3LG 1MG		cobble		60	30	10			
45	89.60	2B 3C 3LG 2MG		gravel	20	30	30	20			
46	50.82	4.5B 4.5C 1LG		boulder-cobble	45	45	10				
47	149.06	2B 7C 1LG	fast run	cobble	20	70	10				
48	251.01	7C 3LG		cobble		70	30				
49	6.38	2.83C 2.83LG 2.82MG 1.5SI		gravel		28.3	28.3	28.2			15
50	65.08	1B 4.5C 3.5LG 1MG		cobble-gravel	10	45	35	10			
51	3.06	2.83B 2.83C 2.82LG 1.5MG		gravel	28.3	28.3	28.2	15			
52	2.05	5B 5SI	around grass clumps	boulder-sand/silt	50						50
53	6.68	2C 5LG 3MG		gravel		20	50	30			
54	2.91	10SI		sand/silt							100
55	0.82	10B		boulder	100						
56	1.93	1B 6C 1LG 2SI		cobble	10	60	10				20
57	18.27	1B 6C 1LG 2SI		cobble	10	60	10				20
58	235.64	5B 5C	chute pool	boulder-cobble	50	50					
59	3.18	3C 3LG 4SI		sand/silt		30	30				40
60	10.53	5B 3C 2LG		boulder	50	30	20				
61	13.95	3C 2LG 2MG 3SI		gravel		30	20	20			30
62	80.45	3.3C 3.3LG 3.3MG		gravel		33	33	33			
63	14.39	2C 3.5LG 3.5MG1SI		gravel		20	35	35			10
64	40.01	4C 4LG 2MG		gravel		40	40	20			
65	170.04	7C 3LG		cobble		70	30				
66	1.96	4B 4C 2SI		boulder-cobble	40	40					20
67	19.21	4B 4C 2LG		boulder-cobble	40	40	20				
68	50.64	5B 5C		boulder-cobble	50	50					
69	74.56	2B 6.5C 1.5LG		cobble	20	65	15				
70	182.22	8C 2LG	algae	cobble		80	20				
71	16.02	2C 5.5LG 2MG 0.5S	algae	gravel		20	55	20		2.5	2.5
72	6.50	2.5C 2.5LG 2.5MG 2.5SI		gravel		25	25	25			25
73	84.70	2B 6.5C 1.5LG		cobble	20	65	15				
74	67.46	1B 6C 3LG		cobble	10	60	30				
75	28.17	4C 4LG 1MG 1SI	algae; many 35mmG here but not <32	gravel		40	40	10			10
76	90.56	5C 4LG 1MG		cobble-gravel		50	40	10			
77	54.42	6C 4LG	riffle	cobble		60	40				
78	3.87	1B 4C 3.5LG 1.5SI		cobble	10	40	35				15
79	89.61	1B 6C 3LG	some minor SI around grass clumps	cobble	10	60	30				
80	171.24	1.5B 6C 2.5LG	riffle	cobble	15	60	25				
81	0.58	10SI		sand/silt							100
82	62.64	2.5C 3LG 3MG 1FG 0.5S	dry bar est subs fr PC data est e bar from XS	gravel		25	30	30	10		5
83	47.49	3.3C 3.3LG 3.3MG	dry bar	gravel		33	33	33			
84	20.43	7C 3LG	dry bar est substype fr memory matched channel	cobble		70	30				
85	2.34	10B	dry	boulder	100						

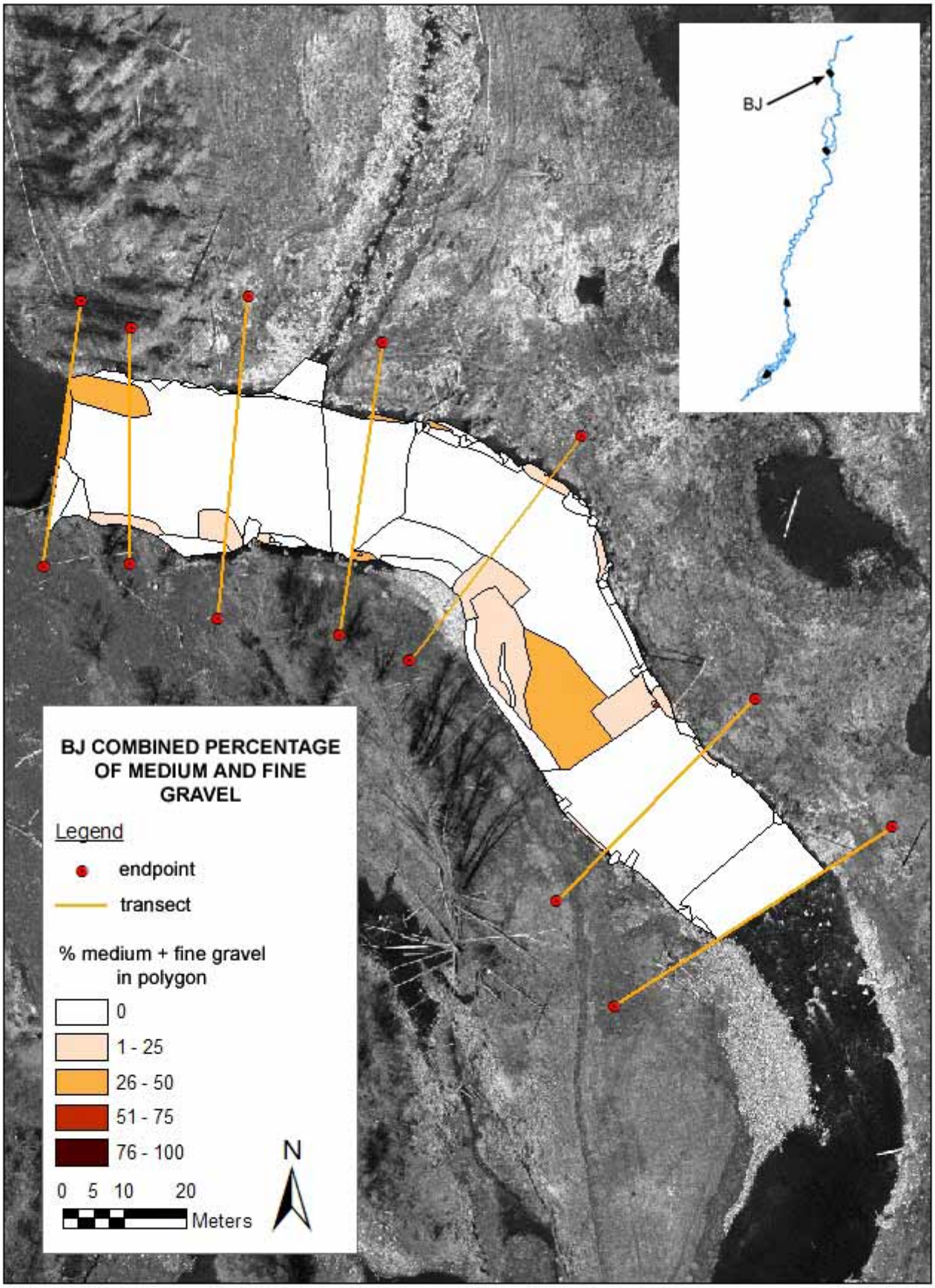
NC FALL 2006

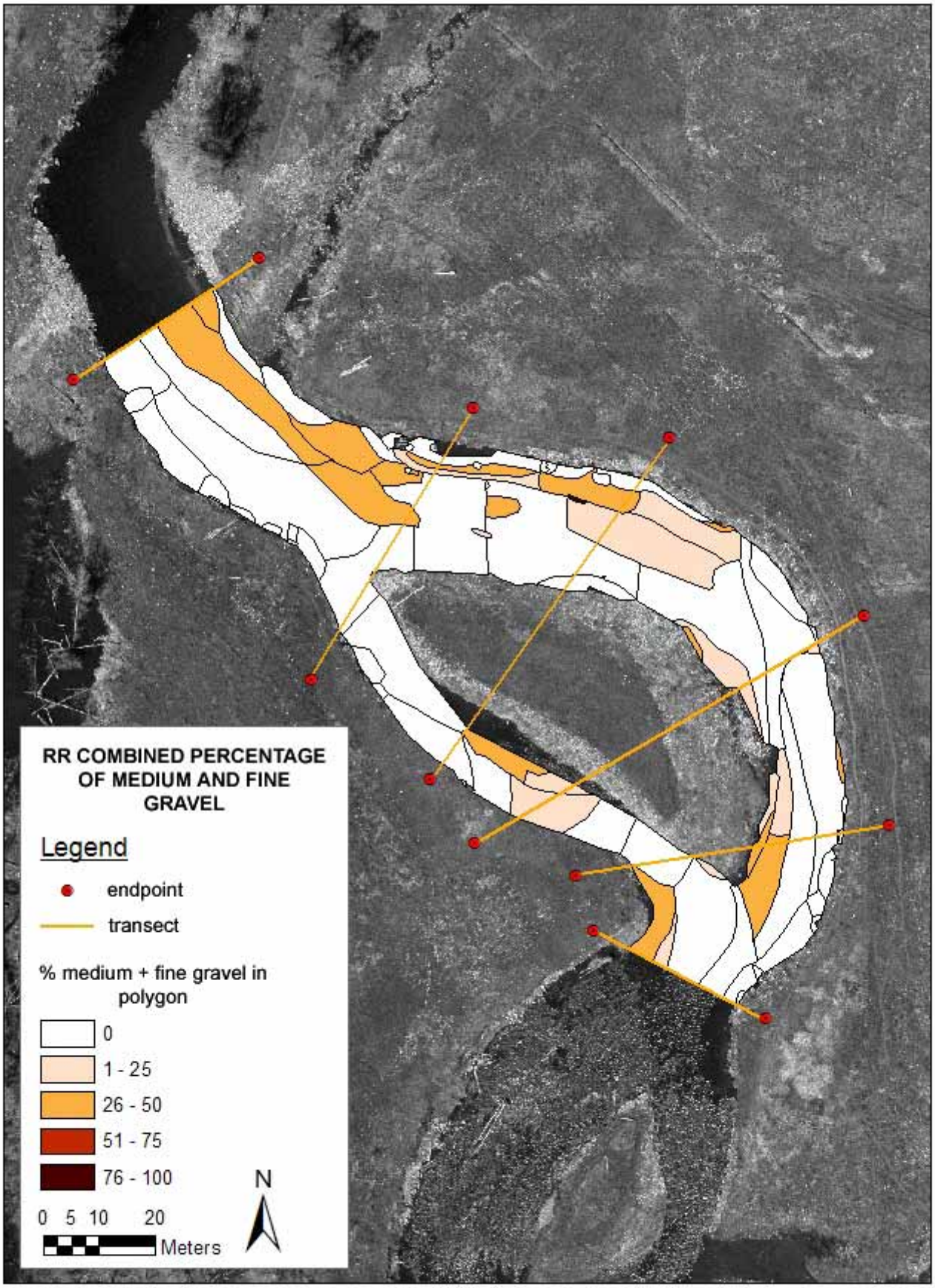
POLYGON NUMBER	Area m2	Substype	Notes	majortype	PERCENTAGES %B	%C	%LG	%MG	%FG	%SA/SI	%flooded willow	%GRASS	%UNKNOWN
0	37.41	3.3C 3.3LG 3.3S		cobble-gravel-sand/silt		33	33			33			
1	19.90	2.5C 2.5LG 2.5MG 2.5S		gravel		25	25	25		25			
2	28.79	1.66C 1.66LG 1.67MG 5S		sand/silt		16.6	16.6	16.7		50			
3	3.31	10S		sand/silt						100			
4	3.09	4LG 4MG 2FG		gravel			40	40	20				
5	0.00	5C 5LG	algae	cobble-gravel		50	50						
6	9.42	5C 5LG	algae	cobble-gravel		50	50						
7	12.43	2C 3LG 5MG	dry bar	gravel		20	30	50					
8	16.46	2.5C 2.5LG 2.5MG 2.5S		gravel		25	25	25		25			
9	21.10	2.5C 2.5LG 5S		sand/silt		25	25			50			
10	80.23	1.5C 1.5LG 4.5MG 2.5grass	dry bar w/grass	gravel		15	15	45				25	
11	44.31	2.5C 2.5LG 2.5MG 2.5S		gravel		25	25	25		25			
12	37.73	4C 4LG 2MG	dry bar	gravel		40	40	20					
13	234.94	3.3C 3.3LG 3.3MG		gravel		33	33	33					
14	12.93	2.3 C 2.3LG 2.4MG 3S	dry bar	gravel		23	23	24		30			
15	47.90	2C 2LG 6MG		gravel		20	20	60					
16	188.11	3.38C 3.37LG 0.75MG 2.5grass	dry bar w grass	gravel		33.8	33.7	7.5				25	
17	63.34	3.3C 3.3LG 3.3MG	half on dry bar	gravel		33	33	33					
18	5.55	3.3C 3.3LG 3.3MG		gravel		33	33	33					
19	40.58	5C 5LG	S edge is old bk line roots w finer G	cobble-gravel		50	50						
20	15.99	2C 2LG 6S	slackwater behind beaver downed sticks	sand/silt		20	20			60			
21	94.57	2.5C 2.5LG 5willows	flooded willows	flooded willows		25	25				50		
22	26.17	6SI 4grass	silt and grass	sand/silt						60		40	
23	9.01	2C 2LG 6MG		gravel		20	20	60					
24	9.57	2.33C 2.34LG 2.33MG 3SI		gravel		23.3	23.4	23.3		30			
25	11.77	3C 1LG 6S	eddy	sand/silt		30	10			60			
26	26.30	3.3C 3.3LG 3.3MG		gravel		33	33	33					
27	11.48	1C 2.5LG 2.5MG 1.5FG 2.5SI		gravel		10	25	25	15	25			
28	5.95	1C 1LG 8S		sand/silt		10	10			80			
29	1.35	3.3LG 3.3MG 3.3S		gravel			33	33		33			
30	107.42	unknown	guess 5C 5LG	unknown									100
31	246.72	4.5C 4LG 1.5MG	dry bar	gravel		45	40	15					
32	97.02	3.3C 3.3LG 3.3MG	alders falling in along LB	gravel		33	33	33					
33	364.84	5C 5LG		cobble-gravel		50	50						
34	8.37	2.5C 2.5LG 5MG		gravel		25	25	50					
35	2.69	10SI	willow in channel	sand/silt						100			
36	0.02	3.3MG 3.3FG 3.3S		gravel				33	33	33			
37	3.05	10SI		sand/silt						100			
38	1.61	3.3MG 3.3FG 3.3S		gravel				33	33	33			
39	19.78	4LG 6MG		gravel			40	60					
40	19.34	2C 4LG 4MG		gravel		20	40	40					
41	11.75	5C 5SA		cobble-sand/silt		50				50			
42	20.88	4C 4LG 2MG		gravel		40	40	20					
43	12.77	5C 5LG		cobble-gravel		50	50						
44	300.00	4.5C 4LG 1.5MG	bar w flow on west; % MG varies over bar	gravel		45	40	15					
45	69.45	unknown	feels like C and G; not very wadable	unknown									100
46	4.72	3.5C 3.5LG 2MG 1S		gravel		35	35	20		10			
47	1.78	3.3MG 3.3FG 3.3SA		gravel				33	33	33			
48	7.22	10 SA		sand/silt						100			
49	1.82	10S		sand/silt						100			
50	22.70	4C 4LG 2MG		gravel		40	40	20					
51	20.68	3C 5LG 2MG		gravel		30	50	20					
52	19.44	3.5C 3.5LG 1.5MG 1.5S		gravel		35	35	15		15			
53	14.58	2C 3LG 3MG 2FG		gravel		20	30	30	20				
54	3.34	10SI		sand/silt						100			
55	5.20	1C 5LG 3MG 1S		gravel		10	50	30		10			
56	40.70	3C 3LG 3MG 1S		gravel		30	30	30		10			
57	44.27	4C 6LG	flowing side channel enters	gravel		40	60						
58	15.62	1C 4.5LG 4.5MG	dry bar	gravel		10	45	45					
59	14.03	5C 5SI	smaller side channel enters	cobble-sand/silt		50				50			
60	5.33	2.5C 2.5LG 2.5MG 2.5FG		gravel		25	25	25	25				
61	25.80	2.83 C 2.83LG 2.83MG 1.5SI		gravel		28.3	28.3	28.3		15			
62	20.33	3C 3LG 3MG 1S	deeper area	gravel		30	30	30		10			
63	68.12	3.3C 3.3LG 3.3MG	shallower	gravel		33	33	33					
64	10.07	3.5C 3.5LG 2MG 1S		gravel		35	35	20		10			
65	0.19	10SI		sand/silt						100			
66	20.08	2C 3LG 3MG 2S		gravel		20	30	30		20			
67	35.29	3.75C 3.75LG 2.5MG	dry bar	gravel		37.5	37.5	25					
68	39.81	3C 3LG 1.5MG 2.5S	some macrophytes	gravel		30	30	15		25			
69	479.61	5C 5LG		cobble-gravel		50	50						
70	3.99	10S		sand/silt						100			
71	1.12	2.5C 2.5LG 5SI	below grass clump	sand/silt		25	25			50			

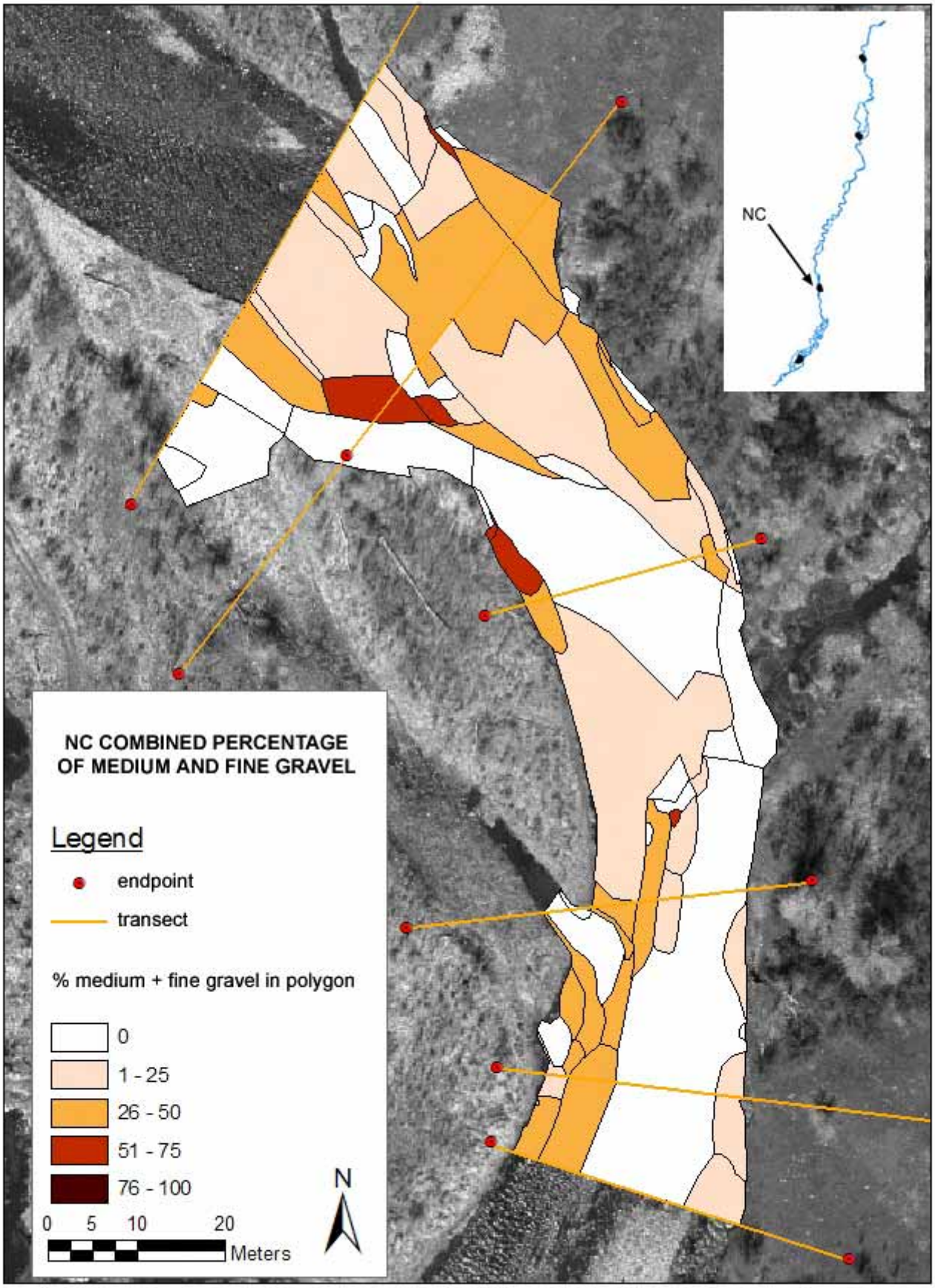
CA FALL 2006

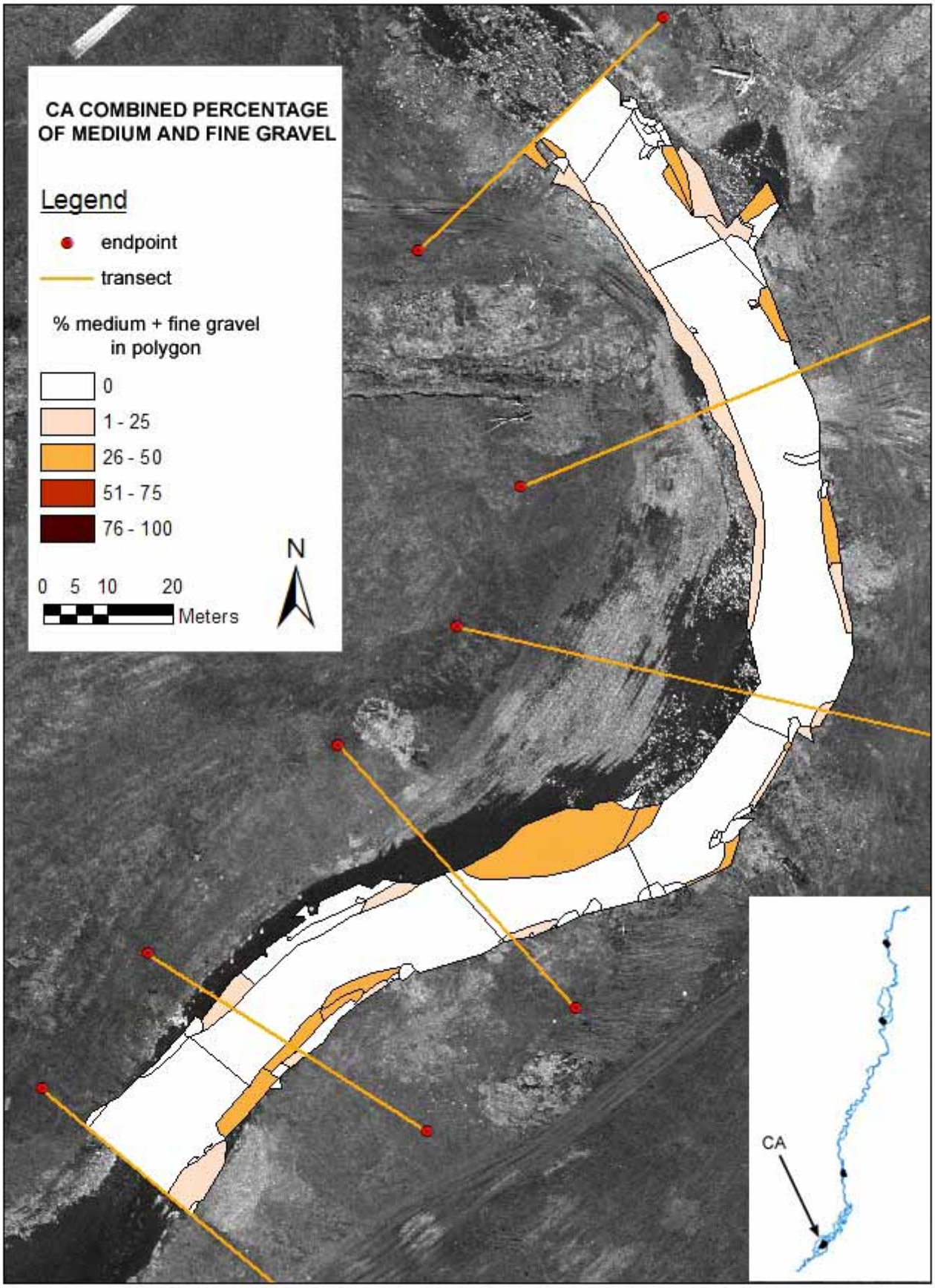
POLYGON NUMBER	Area m2	Substype	Notes	majortype	PERCENTAGES %B	%C	%LG	%MG	%FG	%SA/SI	%GRASS	%UNKNOWN
0	7.75	3C 3LG 1.3MG 1.3FG 1.4SI	grass clump at upst end	gravel		30	30	13	13	14		
1	4.02	3C 3LG 2MG 2FG		gravel		30	30	20	20			
2	13.67	2C 1LG 1FG 6SI		sand/silt		20	10		10	60		
3	3.41	10B		boulder	100							
4	2.60	10B		boulder	100							
5	4.17	6C 4SI	macrophytes	cobble		60				40		
6	3.05	10B		boulder	100							
7	1.27	10B		boulder	100							
8	2.93	10SI	macrophytes	sand/silt						100		
9	0.88	10B		boulder	100							
10	1.46	10B		boulder	100							
11	222.08	2B 5C 3LG	boulder RIF	cobble	20	50	30					
12	9.64	2B 5C 3LG		cobble	20	50	30					
13	0.96	10S		sand/silt						100		
14	8.76	3C 3LG 3MG 1FG		gravel		30	30	30	10			
15	15.59	4C 2LG 2MG 1FG 1S	lots of algae-macrophytes	gravel		40	20	20	10	10		
16	109.37	2B 5C 3LG	boulder RIF	cobble	20	50	30					
17	1.41	10B		boulder	100							
18	11.05	10SI		sand/silt						100		
19	15.89	3.3LG 3.3MG 3.3S		gravel			33	33		33		
20	17.98	10SI	macrophytes	sand/silt						100		
21	2.15	10B		boulder	100							
22	15.04	2.5C 2.5LG 2.5MG 2.5SI	macrophytes	gravel		25	25	25		25		
23	129.95	4C 4LG 2MG	lots of algae tough to det exact %s	gravel		40	40	20				
24	0.65	10B		boulder	100							
25	0.80	10B		boulder	100							
26	0.75	3.3MG 3.3FG 3.3SA		gravel				33	33	33		
27	14.59	2.5C 2.5LG 2.5MG1FG 1.5SI	lots of algae/macrophytes	gravel		25	25	25	10	15		
28	0.19	grass		grass							100	
29	280.65	5C 5LG		cobble-gravel		50	50					
30	7.02	10B		boulder	100							
31	0.52	10SI		sand/silt						100		
32	1.92	10B		boulder	100							
33	14.11	4C 4LG 2MG	algae	gravel		40	40	20				
34	20.49	2.5C 2.5LG 2.5MG 1FG 1.5SI	lots of alage/mac	gravel		25	25	25	10	15		
35	6.37	4C 4LG 2MG	bordered by grass clumps	gravel		40	40	20				
36	567.58	5C 5LG	algae	cobble-gravel		50	50					
37	3.32	4C 4LG 2MG		gravel		40	40	20				
38	4.37	10B		boulder	100							
39	44.98	5C 5LG	algae	cobble-gravel		50	50					
40	1.11	2B 2.5C 2.5LG 3MG		gravel	20	25	25	30				
41	8.34	3.5C 3.5LG 2MG 1SI		gravel		35	35	20		10		
42	0.69	10B		boulder	100							
43	2.81	2.5B 2.5C 5S		sand/silt	25	25				50		
44	2.78	10B		boulder	100							
45	9.13	10B	log on top of bldr	boulder	100							
46	9.92	3C 3LG 1.3MG 1.3FG 1.4SA	grass clump in middle of polygon	gravel		30	30	13	13	14		
47	3.70	2.5C 2.5LG 5S		sand/silt		25	25			50		
48	4.40	10B		boulder	100							
49	284.13	unknown	too deep - guess C LG?	unknown								100
50	15.80	3.3C 3.3LG 3.3MG		gravel		33	33	33				
51	5.31	2C 2LG 6SI		sand/silt		20	20			60		
52	2.68	6C 4SI		cobble		60				40		
53	178.97	3C 3LG 2MG 2FG	lots of algae	gravel		30	30	20	20			
54	3.73	10B		boulder	100							
55	4.08	10SI		sand/silt						100		
56	0.43	grass		grass							100	
57	0.31	grass		grass							100	
58	10.23	2.5C 5LG 2.5MG	algae	gravel		25	50	25				
60	201.91	5C 5LG	algae	cobble-gravel		50	50					
61	484.62	5C 5LG	algae	cobble-gravel		50	50					
62	0.88	10B		boulder	100							
63	4.14	10B		boulder	100							
64	0.84	2.5B 2.5C 5SI		sand/silt	25	25				50		
65	0.52	10SI		sand/silt						100		
66	20.12	1LG 1MG 4FG 4S	deep pool	gravel			10	10	40	40		
67	9.13	1C 3LG 3MG1FG 2S		gravel		10	30	30	10	20		
68	4.67	3.5C 3.5LG 2MG 1SI		gravel		35	35	20		10		
69	18.50	10SI	with grass slumps	sand/silt						100		
70	4.19	1LG 1MG 8SI	log across top part	sand/silt			10	10		80		
71	22.35	2.5C 2.5LG 2MG 2FG 1S		gravel		25	25	20	20	10		
72	0.17	10B		boulder	100							
73	15.25	5C 3LG 2MG	lots of algae	cobble-gravel		50	30	20				
74	36.93	10SI	macrophytes	sand/silt						100		
75	43.41	5C 5SI	macrophytes	cobble-sand/silt		50				50		
76	25.09	5C 3LG 2MG	lots of algae	cobble-gravel		50	30	20				
77	1.76	2C 1LG 7SI		sand/silt		20	10			70		
78	3.25	3.3C 3.3LG 3.3SI		cobble-gravel-sand/silt		33	33			33		
79	32.74	1B 3C 3LG 1MG 2FG	lots of algae - prob helps hold fines	gravel	10	30	30	10	20			
80	8.91	4C 4LG 2SI	lots of algae	cobble-gravel		40	40			20		
81	5.88	1B 1C 8SI	lots of macrophytes	sand/silt	10	10				80		
82	293.42	1.5B 4.5C 4LG	lots of algae	cobble	15	45	40					
83	3.60	2.5C 2.5LG 5SI		sand/silt		25	25			50		
84	0.71	10SI		sand/silt						100		
85	0.14	10B		boulder	100							
86	0.83	10SI		sand/silt						100		
87	0.18	10B		boulder	100							
88	1.67	2C 8SI	macrophytes	sand/silt		20				80		
89	45.00	0.5B 3.5C 3.5LG 2MG 0.5FG	shallow w algae	gravel	5	35	35	20	5			
90	32.20	1.5C 2LG 1MG 0.5S 5grass	dry bar w grass; est % fr PC	grass		15	20	10		5	50	
94	0.30	grass		grass							100	

APPENDIX 3.2 MAPS OF PERCENT MEDIUM AND FINE GRAVEL IN SUBSTRATE POLYGONS

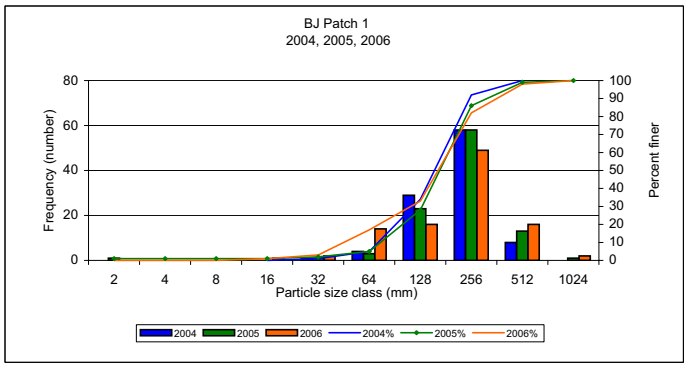

BJ
BJ COMBINED PERCENTAGE OF MEDIUM AND FINE GRAVEL
Legend
endpoint
transect
% medium + fine gravel in polygon
0
1 - 25
26 - 50
51 - 75
76 - 100
0 5 10 20
Meters
N

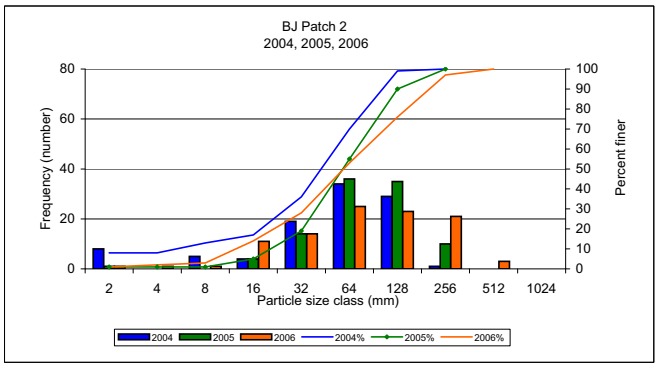

RR COMBINED PERCENTAGE OF MEDIUM AND FINE GRAVEL
Legend
endpoint
transect
% medium + fine gravel in polygon
0
1 - 25
26 - 50
51 - 75
76 - 100
N
0 5 10 20
Meters

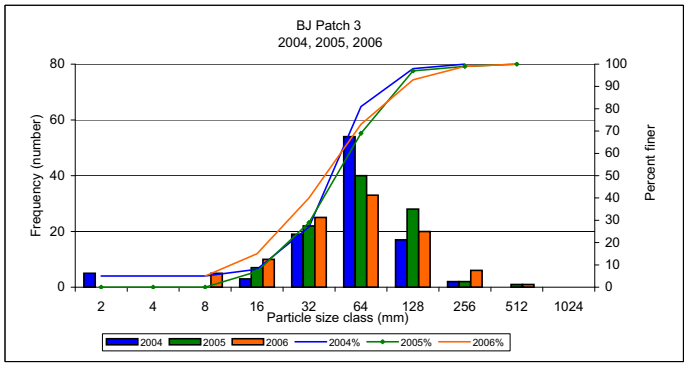

NC
NC COMBINED PERCENTAGE
OF MEDIUM AND FINE GRAVEL
Legend
endpoint
transect
% medium + fine gravel in polygon
0
1 - 25
26 - 50
51 - 75
76 - 100
0 5 10 20
Meters
N

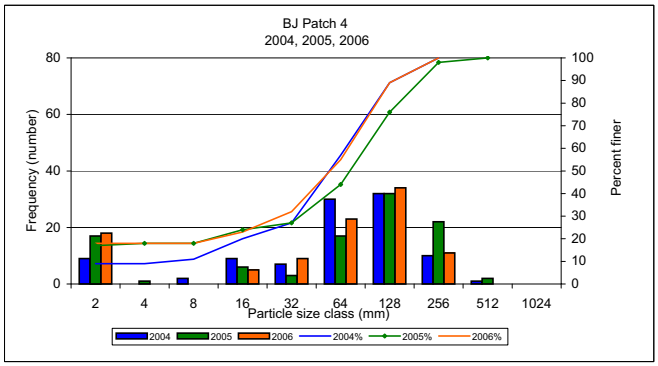

CA COMBINED PERCENTAGE OF MEDIUM AND FINE GRAVEL
Legend
endpoint
transect
% medium + fine gravel in polygon
0
1 - 25
26 - 50
51 - 75
76 - 100
N
0 5 10 20
Meters
CA

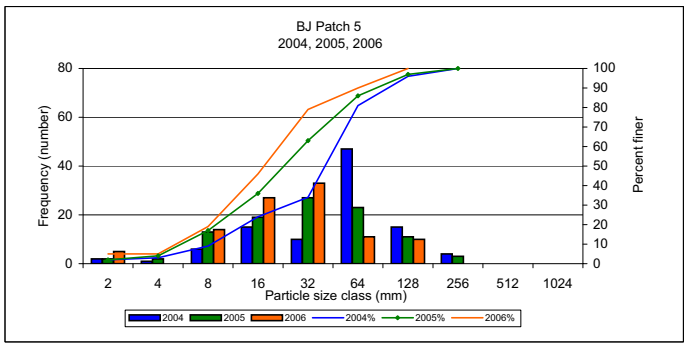
APPENDIX 3.3 PEBBLE COUNT PLOTS FOR 2004–2006

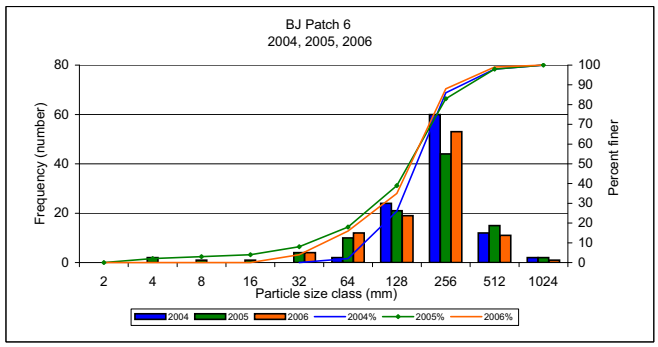

BJ Patch 1
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

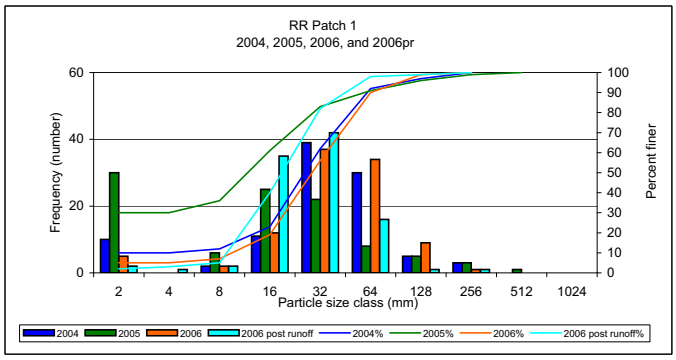

BJ Patch 2
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

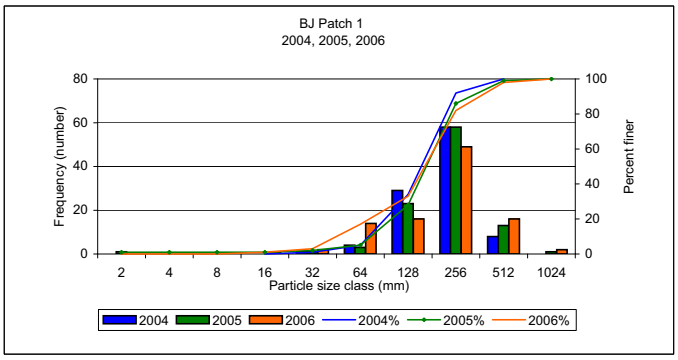

BJ Patch 3
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

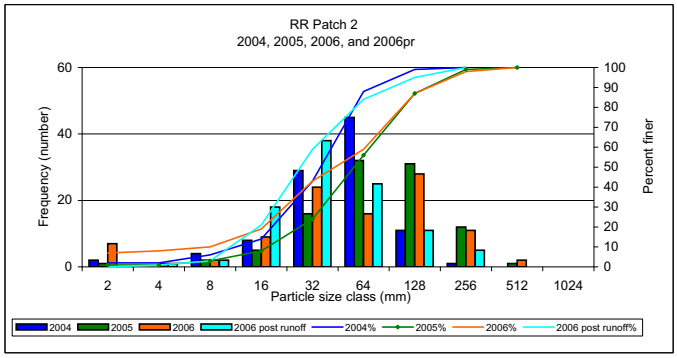

BJ Patch 4
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

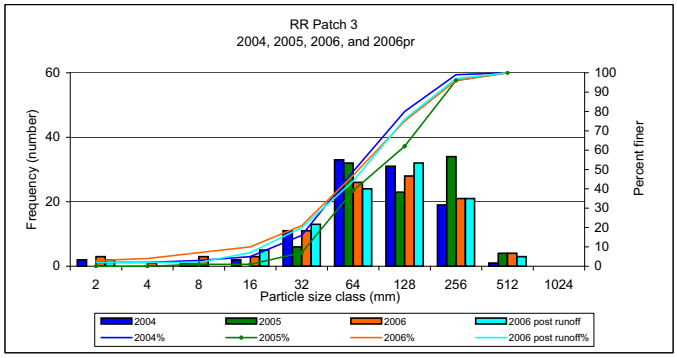

BJ Patch 5
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

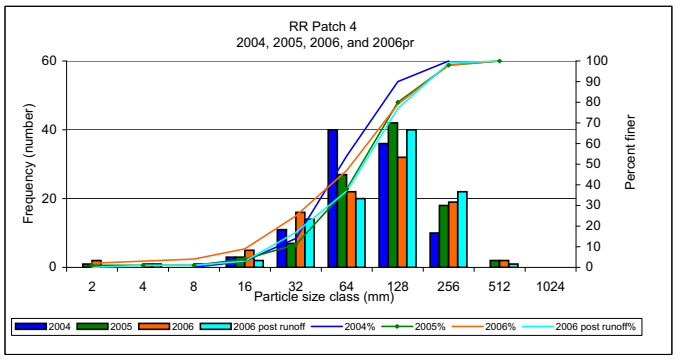

BJ Patch 6
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2004% 2005% 2006%

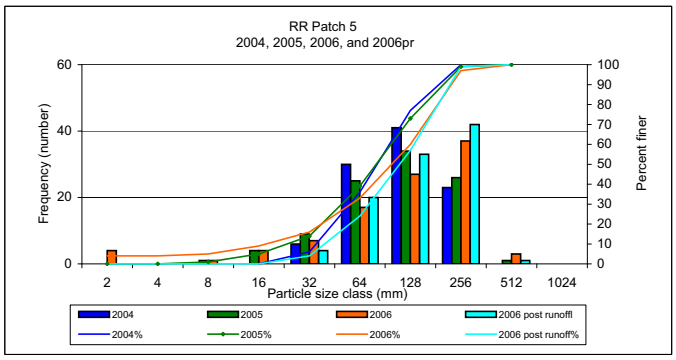

RR Patch 1
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoff
2004%
2005%
2006%
2006 post runoff%

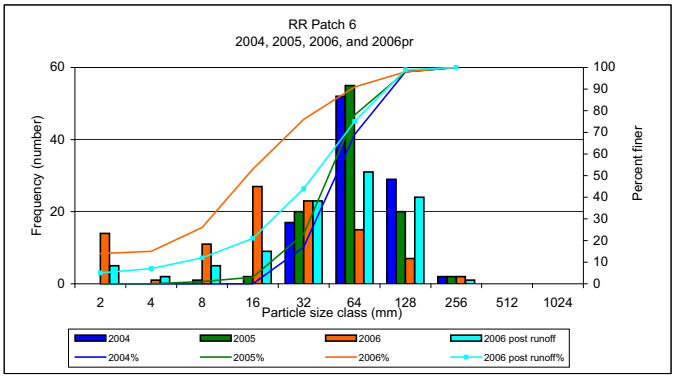

BJ Patch 1
2004, 2005, 2006
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2004%
2005%
2006%

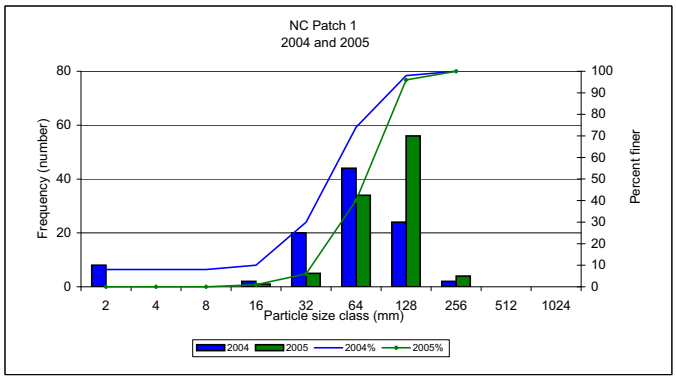

RR Patch 2
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoff
2004%
2005%
2006%
2006 post runoff%

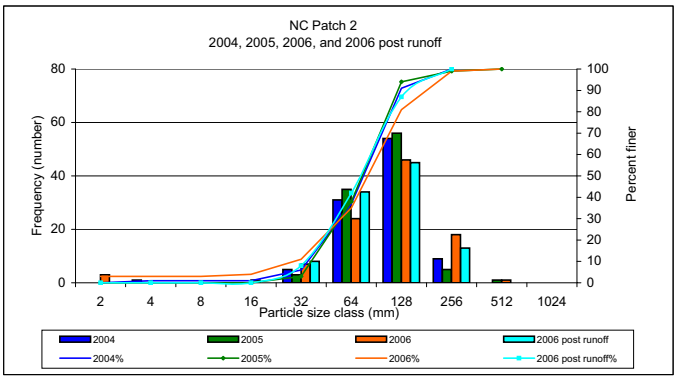

RR Patch 3
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoff
2004%
2005%
2006%
2006 post runoff%

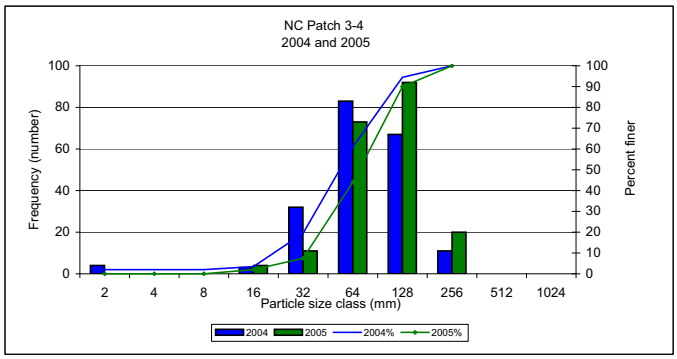

RR Patch 4
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoff
2004%
2005%
2006%
2006 post runoff%

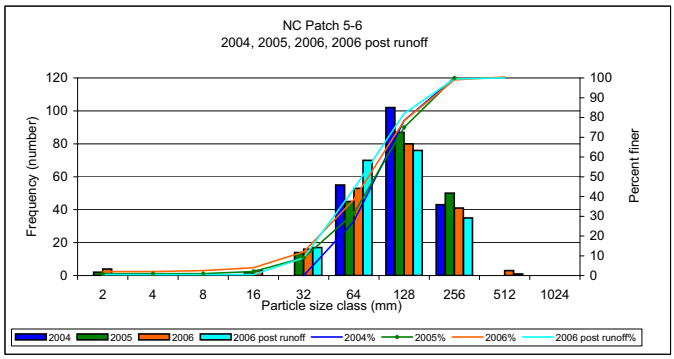

RR Patch 5
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoffl
2004%
2005%
2006%
2006 post runoff%

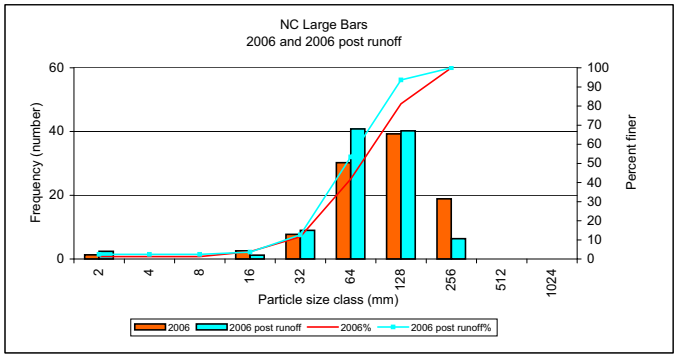

RR Patch 6
2004, 2005, 2006, and 2006pr
Frequency (number)
Percent finer
Particle size class (mm)
2004
2005
2006
2006 post runoff
2004%
2005%
2006%
2006 post runoff%

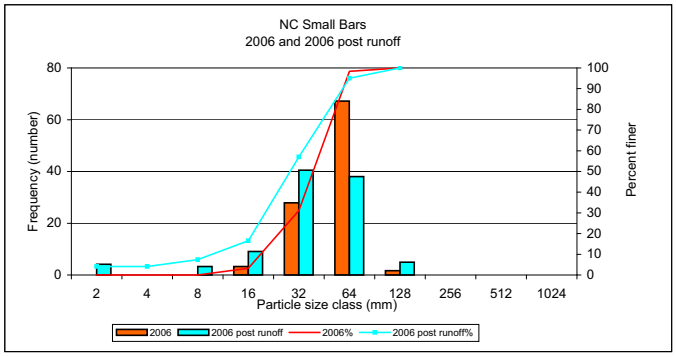

NC Patch 1
2004 and 2005
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2004% 2005%

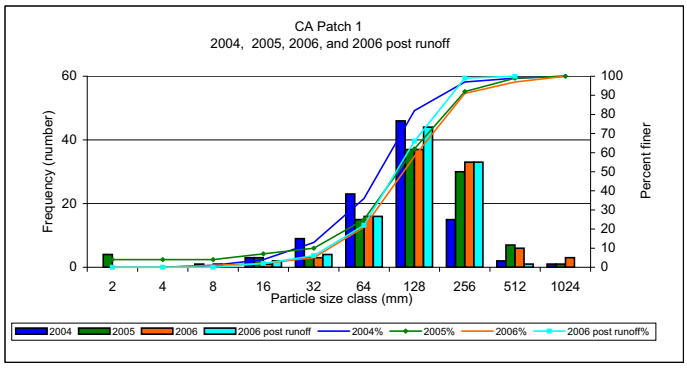

NC Patch 2
2004, 2005, 2006, and 2006 post runoff
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2006 post runoff
2004% 2005% 2006% 2006 post runoff%

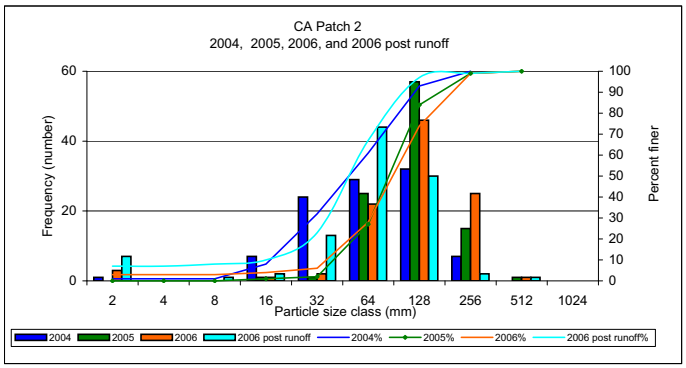

NC Patch 3-4
2004 and 2005
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2004% 2005%

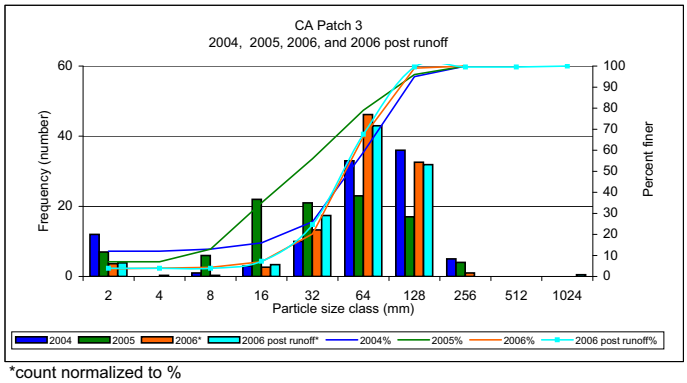

NC Patch 5-6
2004, 2005, 2006, 2006 post runoff
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2004 2005 2006 2006 post runoff 2004% 2005% 2006% 2006 post runoff%

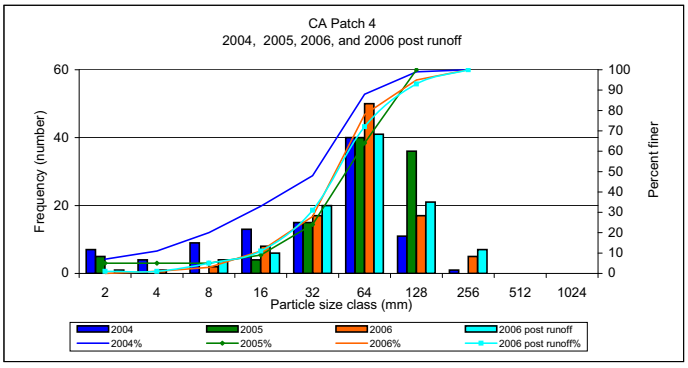

NC Large Bars
2006 and 2006 post runoff
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2006 2006 post runoff 2006% 2006 post runoff%


NC Small Bars
2006 and 2006 post runoff
Frequency (number)
Percent finer
Particle size class (mm)
2 4 8 16 32 64 128 256 512 1024
2006 2006 post runoff 2006% 2006 post runoff%

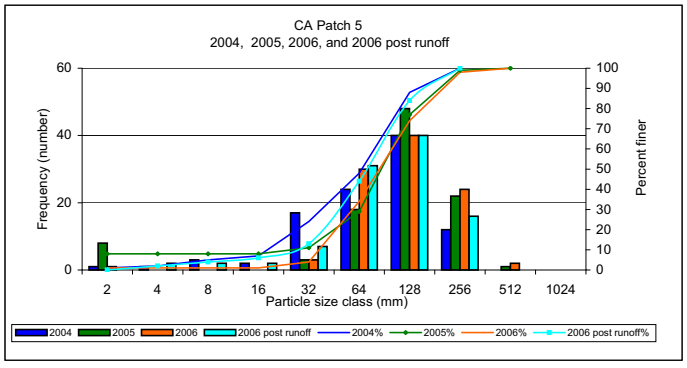


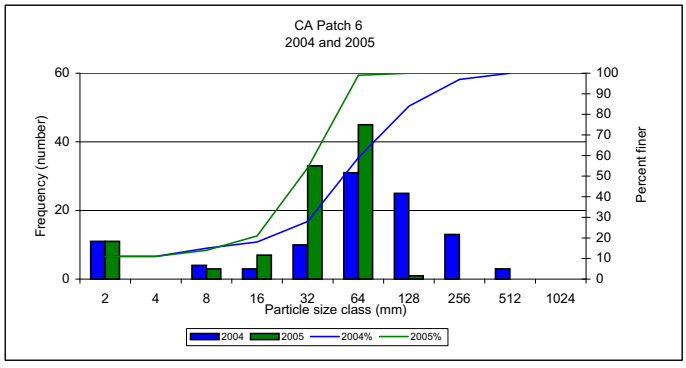


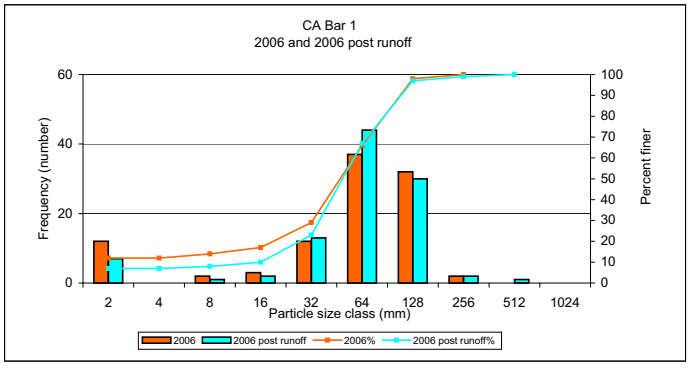




*count normalized to %







APPENDIX 5.1 MACROINVERTEBRATE SAMPLING RESULTS BY TAXA

Provo R. Benthos 06 #1
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

	Stream	Provo River, Summit Co. UT	Provo River, Summit Co. UT	Provo River, Summit Co. UT	Provo River, Summit Co. UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Middle Provo River, Wasatch Co., UT	Provo River, Summit Co., UT	Provo River, Summit Co., UT	Provo River, Summit Co., UT	Provo River, Summit Co., UT
	Site	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**	**NC Site (NC)**	**NC Site (NC)**	**NC Site (NC)**	**NC Site (NC)**	**River Road (RR)**	**River Road (RR)**	**River Road (RR)**	**River Road (RR)**
	Rep	**BJ1**	**BJ2**	**BJ3**	**BJ4**	**CA01**	**CA02**	**CA03**	**CA04**	**NC01**	**NC02**	**NC03**	**NC04**	**RR01**	**RR02**	**RR03**	**RR04**
	Date	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**
	Percent Subsampled	**25.00**	**10.42**	**18.76**	**2.38**	**31.25**	**21.88**	**14.58**	**7.14**	**12.50**	**19.76**	**12.50**	**2.68**	**8.33**	**4.17**	**8.86**	**16.67**
	Device	**Hess**	**Hess**	**Hess**	**D-Net**	**Hess**	**Hess**	**Hess**	**D-Frame**	**Hess**	**Hess**	**Hess**	**D-Frame**	**Hess**	**Hess**	**Hess**	**D-Net**
	Habitat	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**
	EcoAnalysts Sample ID	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Ephemeroptera	Baetis tricaudatus	69	60	36	59	87	41	46	76	27	64	39	28	26	38	41	80
	Diphetor hageni	1	3	0	0	11	1	1	0	7	12	5	7	79	14	12	4
	Drunella grandis	3	1	0	0	0	1	0	3	1	2	2	1	0	1	2	3
	Epeorus sp.	0	3	0	0	8	13	0	0	2	2	2	3	11	5	6	3
	Ephemerella inermis/infrequens	20	31	8	28	13	25	34	50	16	13	16	7	7	3	11	12
	Heptagenia sp.	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	Heptageniidae	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Leptophlebiidae	0	0	0	1	0	5	1	3	0	0	0	0	0	0	0	4
	Paraleptophlebia sp.	5	2	0	0	22	0	0	0	14	23	16	5	17	5	6	0
	Rhithrogena sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Plecoptera	Claassenia sabulosa	0	0	0	0	0	1	0	0	2	0	0	1	0	0	0	0
	Hesperoperla pacifica	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Isoperla sp.	0	0	0	0	44	23	36	53	43	63	58	40	3	1	1	1
	Malenka sp.	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Nemouridae	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Perlidae	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0
	Zapada cinctipes	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
Coleoptera	Haliplus sp.	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Optioservus sp.	0	0	0	0	42	47	47	37	35	9	8	18	1	0	3	1
Diptera-Chironomidae	Chironomidae	389	453	461	394	253	272	247	141	316	219	293	198	307	294	465	326
Diptera	Antocha sp.	1	1	0	1	0	1	3	5	1	1	0	0	0	4	4	0
	Atherix sp.	0	0	0	0	1	0	1	2	0	0	2	0	0	0	0	0
	Bezzia/Palpomyia sp.	0	0	0	10	0	1	0	4	0	2	0	1	0	0	0	3
	Ceratopogoninae	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0
	Chelifera/Metachela sp.	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Dicranota sp.	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	0
	Hemerodromia sp.	0	0	0	0	0	1	0	0	2	1	2	1	0	0	0	0
	Hexatoma sp.	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	Limnophila sp.	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Neoplasta sp.	2	2	0	1	0	0	0	0	1	2	0	0	0	0	0	2
	Simulium sp.	26	1	1	2	6	7	0	1	1	11	12	12	2	0	1	5
	Tipula sp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Trichoptera	Arctopsyche grandis	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
	Brachycentrus americanus	34	2	1	2	0	4	0	1	6	2	3	2	1	2	17	11
	Brachycentrus echo	0	0	0	0	7	3	3	5	3	1	5	1	0	4	57	0
	Brachycentrus occidentalis	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Cheumatopsyche sp.	0	0	0	0	0	1	2	0	0	2	1	1	0	0	0	0
	Culoptila sp.	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	0
	Glossosoma sp.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Helicopsyche sp.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Hesperophylax sp.	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
	Hydropsyche sp.	2	0	1	0	12	24	96	29	69	72	130	21	5	1	9	3
	Lepidostoma sp.	0	0	0	0	4	2	3	2	5	4	4	4	0	0	0	4
	Oecetis disjuncta	0	0	0	0	1	0	4	2	0	0	0	0	0	0	0	0
	Rhyacophila brunnea gr.	2	2	0	2	0	0	0	0	0	0	0	0	0	0	0	1
	Rhyacophila coloradensis gr.	4	0	4	1	3	0	0	1	0	1	2	0	0	0	5	4
	Trichoptera	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Gastropoda	Fossaria sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Gastropoda	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Gyraulus sp.	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	4
	Hydrobiidae	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Lymnaeidae	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
	Physa (Physella) sp.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
	Physa sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
	Planorbidae	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
	Stagnicola sp.	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Bivalvia	Musculium sp.	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0
	Pisidium sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17
	Sphaeriidae	0	0	0	0	2	0	8	0	0	0	0	3	1	1	0	0
Annelida	Erpobdellidae	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0
	Oligochaeta	4	8	14	29	21	37	32	37	34	11	4	165	25	153	84	13
Acari	Atractides sp.	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
	Forelia sp.	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0
	Lebertia sp.	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	1
	Oribatei	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	Sperchon sp.	0	1	0	3	1	0	3	6	0	0	2	3	3	1	2	8
	Testudacarus sp.	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
Crustacea	Caecidotea sp.	0	0	0	6	19	2	0	61	1	1	0	10	0	0	0	0
	Gammarus sp.	0	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0
	Ostracoda	1	8	3	3	6	4	3	4	1	1	0	9	6	3	1	16
Other Organisms	Nematoda	4	5	3	0	2	14	5	5	2	1	0	9	2	3	3	4
	Turbellaria	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
		570	**591**	**532**	**548**	**576**	**532**	**580**	**555**	**596**	**525**	**611**	**554**	**503**	**534**	**732**	**536**

Provo R. Benthos 06 #1
EcoAnalysts, Inc.
Data are adjusted for subsampling

Stream	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**
Site	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Below Jordanelle (BJ)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**	**Casperville Rd. (CA)**
Rep	**BJ1**	**BJ2**	**BJ3**	**BJ4**	**CA01**	**CA02**	**CA03**	**CA04**
Date	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**
Percent Subsampled	**25.00**	**10.42**	**18.76**	**2.38**	**31.25**	**21.88**	**14.58**	**7.14**
Device	**Hess**	**Hess**	**Hess**	**D-Net**	**Hess**	**Hess**	**Hess**	**D-Frame**
Habitat	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4492589N,463392E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**	**12T,4481963N,461251E**
EcoAnalysts Sample ID	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Abundance Measures								
Corrected Abundance	2280.00	5673.60	2835.56	23016.00	1843.20	2431.24	3978.80	7770.00
EPT Abundance	572.00	1036.80	266.50	3990.00	694.40	662.65	1564.08	3192.00
Dominance Measures								
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae
Dominant Abundance	1556.00	4348.80	2457.13	16548.00	809.60	1243.04	1694.42	1974.00
2nd Dominant Taxon	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Optioservus sp.	Hydropsyche sp.	Baetis tricaudatus
2nd Dominant Abundance	276.00	576.00	191.88	2478.00	278.40	214.79	658.56	1064.00
3rd Dominant Taxon	Brachycentrus americanus	Ephemerella inermis/infrequens	Oligochaeta	Oligochaeta	Isoperla sp.	Baetis tricaudatus	Optioservus sp.	Caecidotea sp.
3rd Dominant Abundance	136.00	297.60	74.62	1218.00	140.80	187.37	322.42	854.00
% Dominant Taxon	68.25	76.65	86.65	71.90	43.92	51.13	42.59	25.41
% 2 Dominant Taxa	80.35	86.80	93.42	82.66	59.03	59.96	59.14	39.10
% 3 Dominant Taxa	86.32	92.05	96.05	87.96	66.67	67.67	67.24	50.09
Richness Measures								
Species Richness	18.00	20.00	10.00	21.00	27.00	25.00	24.00	30.00
EPT Richness	11.00	9.00	5.00	8.00	14.00	14.00	12.00	13.00
Ephemeroptera Richness	5.00	6.00	2.00	3.00	7.00	6.00	4.00	5.00
Plecoptera Richness	2.00	1.00	0.00	1.00	1.00	2.00	1.00	1.00
Trichoptera Richness	4.00	2.00	3.00	4.00	6.00	6.00	7.00	7.00
Chironomidae Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	16.00	18.00	8.00	19.00	25.00	23.00	22.00	28.00
Rhyacophila Richness	2.00	1.00	1.00	2.00	1.00	0.00	0.00	1.00
Community Composition								
% Ephemeroptera	17.19	16.92	8.27	16.06	25.00	16.17	14.14	24.14
% Plecoptera	0.53	0.68	0.00	0.18	7.64	4.51	6.21	9.55
% Trichoptera	7.37	0.68	1.13	1.09	5.03	6.58	18.97	7.39
% EPT	25.09	18.27	9.40	17.34	37.67	27.26	39.31	41.08
% Coleoptera	0.00	0.00	0.00	0.18	7.29	8.83	8.10	6.67
% Diptera	73.33	78.00	86.84	74.64	45.14	53.01	43.28	27.57
% Oligochaeta	0.70	1.35	2.63	5.29	3.65	6.95	5.52	6.67
% Baetidae	12.28	10.66	6.77	10.77	17.01	7.89	8.10	13.69
% Brachycentridae	5.96	0.34	0.19	0.36	1.22	1.32	0.52	1.26
% Chironomidae	68.25	76.65	86.65	71.90	43.92	51.13	42.59	25.41
% Ephemerellidae	4.04	5.41	1.50	5.11	2.26	4.89	5.86	9.55
% Hydropsychidae	0.35	0.00	0.19	0.00	2.08	4.89	17.07	5.23
% Odonata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Perlidae	0.18	0.00	0.00	0.00	0.00	0.19	0.00	0.00
% Pteronarcyidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Simuliidae	4.56	0.17	0.19	0.36	1.04	1.32	0.00	0.18
Functional Group Composition								
% Filterers	10.88	0.51	0.56	0.73	3.47	6.95	18.45	7.03
% Gatherers	82.46	90.52	96.62	90.15	72.92	68.23	57.41	61.08
% Predators	2.28	1.86	1.32	3.47	9.72	7.52	7.93	12.97
% Scrapers	0.53	0.68	0.00	0.18	9.20	11.65	8.45	8.29
% Shredders	3.86	6.09	1.50	5.29	3.30	5.08	6.38	9.37
% Piercer-Herbivores	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Unclassified	0.00	0.34	0.00	0.18	1.39	0.56	1.38	1.26
Filterer Richness	3.00	2.00	3.00	2.00	3.00	5.00	4.00	5.00
Gatherer Richness	7.00	7.00	4.00	8.00	8.00	8.00	7.00	8.00
Predator Richness	5.00	5.00	2.00	7.00	7.00	5.00	5.00	7.00
Scraper Richness	1.00	2.00	0.00	1.00	4.00	4.00	3.00	6.00
Shredder Richness	2.00	3.00	1.00	2.00	3.00	2.00	2.00	2.00
Piercer-Herbivore Richness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unclassified	0.00	1.00	0.00	1.00	2.00	1.00	3.00	2.00
Diversity/Evenness Measures								
Shannon-Weaver H' (log 10)	0.54	0.43	0.26	0.50	0.90	0.82	0.84	1.06
Shannon-Weaver H' (log 2)	1.79	1.44	0.86	1.65	3.01	2.74	2.80	3.52
Shannon-Weaver H' (log e)	1.24	1.00	0.60	1.14	2.08	1.90	1.94	2.44
Margalef's Richness	2.20	2.20	1.13	1.99	3.46	3.08	2.77	3.24
Pielou's J'	0.43	0.33	0.26	0.37	0.63	0.59	0.61	0.72
Simpson's Heterogeneity	0.51	0.40	0.24	0.47	0.77	0.71	0.77	0.87
Biotic Indices								
% Indiv. w/ HBI Value	99.65	99.15	100.00	97.08	97.57	99.25	97.93	96.94
Hilsenhoff Biotic Index	5.10	5.45	5.80	5.59	5.00	5.20	5.09	4.95
% Indiv. w/ MTI Value	29.30	19.46	10.15	18.80	44.79	39.47	49.14	61.62
Metals Tolerance Index	4.30	3.92	4.39	4.28	4.06	4.10	4.36	4.15
% Indiv. w/ FSBI Value	29.47	18.95	9.59	17.34	43.75	35.71	46.03	46.67
Fine Sediment Biotic Index	59.00	56.00	28.00	34.00	52.00	67.00	45.00	58.00
FSBI - average	3.28	2.80	2.80	1.62	1.93	2.68	1.88	1.93
FSBI - weighted average	4.91	4.56	4.76	4.71	3.74	4.06	4.12	3.96
% Indiv. w/ TPM Value	97.19	94.42	96.24	89.42	75.17	80.26	82.93	63.24
Temp. Pref. Metric - average	3.83	2.55	3.60	2.57	1.89	2.16	1.71	2.07
TPM - weighted average	5.06	5.05	5.03	5.08	4.72	4.65	4.24	4.65
Karr BIBI Metrics								
Long-Lived Taxa Richness	1.00	1.00	0.00	0.00	3.00	3.00	4.00	3.00
Clinger Richness	11.00	9.00	5.00	9.00	11.00	13.00	11.00	14.00
% Clingers	25.44	13.03	8.08	12.77	37.67	31.02	41.03	38.56
Intolerant Taxa Richness	8.00	7.00	3.00	6.00	7.00	8.00	5.00	8.00
% Tolerant Individuals	0.22	0.28	0.60	0.17	2.56	1.82	0.92	1.38
% Tolerant Taxa	11.11	10.00	20.00	19.05	11.11	16.00	12.50	16.67
Coleoptera Richness	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00
UIN	**777-1**	**777-2**	**777-3**	**777-4**	**777-5**	**777-6**	**777-7**	**777-8**

Stream	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**	**Middle Provo River, Wasatch Co., UT**	**Provo River, Summit Co., UT**	**Provo River, Summit Co., UT**	**Provo River, Summit Co., UT**	**Provo River, Summit Co., UT**
Site	**NC Site (NC)**	**NC Site (NC)**	**NC Site (NC)**	**NC Site (NC)**	**River Road (RR)**	**River Road (RR)**	**River Road (RR)**	**River Road (RR)**
Rep	**NC01**	**NC02**	**NC03**	**NC04**	**RR01**	**RR02**	**RR03**	**RR04**
Date	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-19-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**	**04-18-2006**
Percent Subsampled	**12.50**	**19.76**	**12.50**	**2.68**	**8.33**	**4.17**	**8.86**	**16.67**
Device	**Hess**	**Hess**	**Hess**	**D-Frame**	**Hess**	**Hess**	**Hess**	**D-Net**
Habitat	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4484485N,461947E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**	**12T,4489825N,436353E**
EcoAnalysts Sample ID	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Abundance Measures								
Corrected Abundance	4768.00	2656.50	4888.00	20680.82	6036.00	12816.00	8264.28	3216.00
EPT Abundance	1584.00	1335.84	2280.00	4516.93	1836.00	1776.00	1885.43	792.00
Dominance Measures								
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae
Dominant Abundance	2528.00	1108.14	2344.00	7391.34	3684.00	7056.00	5249.85	1956.00
2nd Dominant Taxon	Hydropsyche sp.	Hydropsyche sp.	Hydropsyche sp.	Oligochaeta	Diphetor hageni	Oligochaeta	Oligochaeta	Baetis tricaudatus
2nd Dominant Abundance	552.00	364.32	1040.00	6159.45	948.00	3672.00	948.36	480.00
3rd Dominant Taxon	Isoperla sp.	Baetis tricaudatus	Isoperla sp.	Isoperla sp.	Baetis tricaudatus	Baetis tricaudatus	Brachycentrus echo	Pisidium sp.
3rd Dominant Abundance	344.00	323.84	464.00	1493.20	312.00	912.00	643.53	102.00
% Dominant Taxon	53.02	41.71	47.95	35.74	61.03	55.06	63.52	60.82
% 2 Dominant Taxa	64.60	55.43	69.23	65.52	76.74	83.71	75.00	75.75
% 3 Dominant Taxa	71.81	67.62	78.72	72.74	81.91	90.82	82.79	78.92
Richness Measures								
Species Richness	27.00	28.00	24.00	28.00	20.00	18.00	21.00	28.00
EPT Richness	13.00	15.00	15.00	13.00	10.00	10.00	11.00	14.00
Ephemeroptera Richness	6.00	6.00	6.00	6.00	5.00	6.00	6.00	7.00
Plecoptera Richness	2.00	2.00	2.00	2.00	3.00	1.00	1.00	1.00
Trichoptera Richness	5.00	7.00	7.00	5.00	2.00	3.00	4.00	6.00
Chironomidae Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	25.00	26.00	22.00	26.00	18.00	16.00	19.00	26.00
Rhyacophila Richness	0.00	1.00	1.00	0.00	0.00	0.00	1.00	2.00
Community Composition								
% Ephemeroptera	11.24	22.10	13.09	9.21	27.83	12.36	10.66	19.96
% Plecoptera	7.55	12.38	9.66	7.40	1.39	0.19	0.14	0.19
% Trichoptera	14.43	15.81	23.90	5.23	1.19	1.31	12.02	4.48
% EPT	33.22	50.29	46.64	21.84	30.42	13.86	22.81	24.63
% Coleoptera	5.87	1.71	1.31	3.25	0.20	0.00	0.41	0.19
% Diptera	54.03	45.14	50.90	38.63	61.43	55.81	64.21	62.69
% Oligochaeta	5.70	2.10	0.65	29.78	4.97	28.65	11.48	2.43
% Baetidae	5.70	14.48	7.20	6.32	20.87	9.74	7.24	15.67
% Brachycentridae	1.51	0.57	1.31	0.54	0.20	1.12	10.11	2.05
% Chironomidae	53.02	41.71	47.95	35.74	61.03	55.06	63.52	60.82
% Ephemerellidae	2.85	2.86	2.95	1.44	1.39	0.75	1.78	2.80
% Hydropsychidae	11.58	14.10	21.44	3.97	0.99	0.19	1.23	0.75
% Odonata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Perlidae	0.34	0.38	0.16	0.18	0.20	0.00	0.00	0.00
% Pteronarcyidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Simuliidae	0.17	2.10	1.96	2.17	0.40	0.00	0.14	0.93
Functional Group Composition								
% Filterers	12.75	16.57	23.90	7.04	1.79	0.75	3.69	6.90
% Gatherers	67.28	63.24	58.43	76.17	91.45	95.69	83.74	82.65
% Predators	9.06	14.10	11.46	10.65	2.19	0.94	1.78	4.48
% Scrapers	6.88	2.67	2.13	3.97	2.58	1.31	1.50	2.99
% Shredders	3.52	3.24	3.27	1.99	1.99	0.56	1.50	2.99
% Piercer-Herbivores	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Unclassified	0.50	0.19	0.82	0.18	0.00	0.75	7.79	0.00
Filterer Richness	3.00	4.00	4.00	5.00	4.00	3.00	3.00	5.00
Gatherer Richness	8.00	8.00	5.00	7.00	6.00	7.00	7.00	6.00
Predator Richness	9.00	9.00	8.00	10.00	5.00	3.00	6.00	8.00
Scraper Richness	4.00	4.00	4.00	3.00	3.00	3.00	3.00	7.00
Shredder Richness	2.00	2.00	2.00	2.00	2.00	1.00	1.00	2.00
Piercer-Herbivore Richness	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Unclassified	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Diversity/Evenness Measures								
Shannon-Weaver H' (log 10)	0.78	0.87	0.76	0.87	0.64	0.57	0.62	0.71
Shannon-Weaver H' (log 2)	2.61	2.89	2.52	2.89	2.12	1.89	2.07	2.35
Shannon-Weaver H' (log e)	1.81	2.00	1.75	2.00	1.47	1.31	1.43	1.63
Margalef's Richness	3.07	3.42	2.71	2.72	2.18	1.80	2.22	3.34
Pielou's J'	0.55	0.60	0.55	0.60	0.49	0.45	0.47	0.49
Simpson's Heterogeneity	0.69	0.77	0.71	0.77	0.60	0.61	0.57	0.60
Biotic Indices								
% Indiv. w/ HBI Value	99.16	99.05	98.69	98.92	99.01	99.06	91.67	97.39
Hilsenhoff Biotic Index	5.16	4.68	4.87	5.95	5.48	6.25	5.74	5.39
% Indiv. w/ MTI Value	37.92	50.10	47.30	30.87	28.43	13.86	15.71	26.68
Metals Tolerance Index	4.09	4.06	4.22	3.98	2.17	3.61	3.69	4.08
% Indiv. w/ FSBI Value	37.58	53.14	49.26	26.71	31.01	13.86	16.12	24.25
Fine Sediment Biotic Index	59.00	67.00	73.00	60.00	51.00	48.00	58.00	69.00
FSBI - average	2.19	2.39	3.04	2.14	2.55	2.67	2.76	2.46
FSBI - weighted average	3.89	3.85	4.07	3.59	4.08	4.73	4.92	5.00
% Indiv. w/ TPM Value	81.21	79.05	84.94	54.15	85.88	66.85	77.87	85.07
Temp. Pref. Metric - average	1.78	2.54	2.83	1.79	2.15	1.94	2.43	2.57
TPM - weighted average	4.43	4.41	4.23	4.63	4.60	4.91	4.94	5.02
Karr BIBI Metrics								
Long-Lived Taxa Richness	2.00	1.00	2.00	3.00	3.00	1.00	1.00	3.00
Clinger Richness	12.00	14.00	13.00	11.00	11.00	9.00	11.00	16.00
% Clingers	33.05	46.48	43.21	24.19	26.44	12.55	13.80	23.51
Intolerant Taxa Richness	8.00	10.00	10.00	8.00	7.00	6.00	7.00	11.00
% Tolerant Individuals	0.78	0.53	0.08	0.90	0.52	1.23	1.12	1.15
% Tolerant Taxa	14.81	14.29	4.17	10.71	10.00	11.11	9.52	14.29
Coleoptera Richness	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
UIN	**777-9**	**777-10**	**777-11**	**777-12**	**777-13**	**777-14**	**777-15**	**777-16**

Provo R. Benthos 06 #1
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

	Stream	Provo River, Summit Co. UT	Provo River, Summit Co. UT	Provo River, Summit Co. UT	Provo River, Summit Co. UT
	Site	Below Jordanelle (BJ)	Casperville Rd. (CA)	NC Site (NC)	River Road (RR)
	Rep	Pooled	Pooled	Pooled	Pooled
	Percent Subsampled	100.00	100.00	100.00	100.00
	EcoAnalysts Sample ID	17	18	19	20
Ephemeroptera	Baetis tricaudatus	224	250	158	185
	Diphetor hageni	4	13	31	109
	Drunella grandis	4	4	6	6
	Epeorus sp.	3	21	9	25
	Ephemerella inermis/infrequens	87	122	52	33
	Heptagenia sp.	0	2	0	0
	Heptageniidae	0	2	0	0
	Leptophlebiidae	1	9	0	4
	Paraleptophlebia sp.	7	22	58	28
	Rhithrogena sp.	0	1	0	1
Plecoptera	Claassenia sabulosa	0	1	3	0
	Hesperoperla pacifica	1	0	0	1
	Isoperla sp.	0	156	204	6
	Malenka sp.	4	0	0	0
	Nemouridae	3	0	0	0
	Perlidae	0	0	3	0
	Zapada cinctipes	0	0	0	3
Coleoptera	Haliplus sp.	1	0	0	0
	Optioservus sp.	0	173	70	5
Diptera-Chironomidae	Chironomidae	1,697	913	1,026	1,392
Diptera	Antocha sp.	3	9	2	8
	Atherix sp.	0	4	2	0
	Bezzia/Palpomyia sp.	10	5	3	3
	Ceratopogoninae	1	0	1	0
	Chelifera/Metachela sp.	2	0	0	0
	Dicranota sp.	1	0	3	0
	Hemerodromia sp.	0	1	6	0
	Hexatoma sp.	0	0	1	0
	Limnophila sp.	0	0	1	0
	Neoplasta sp.	5	0	3	2
	Simulium sp.	30	14	36	8
	Tipula sp.	1	0	0	0
Trichoptera	Arctopsyche grandis	0	2	0	1
	Brachycentrus americanus	39	5	13	31
	Brachycentrus echo	0	18	10	61
	Brachycentrus occidentalis	0	1	0	0
	Cheumatopsyche sp.	0	3	4	0
	Culoptila sp.	0	0	4	0
	Glossosoma sp.	0	0	1	0
	Helicopsyche sp.	0	1	0	0
	Hesperophylax sp.	0	2	0	0
	Hydropsyche sp.	3	161	292	18
	Lepidostoma sp.	0	11	17	4
	Oecetis disjuncta	0	7	0	0
	Rhyacophila brunnea gr.	6	0	0	1
	Rhyacophila coloradensis gr.	9	4	3	9
	Trichoptera	1	0	0	0
Gastropoda	Fossaria sp.	0	0	0	1
	Gastropoda	0	1	0	0
	Gyraulus sp.	0	1	0	4
	Hydrobiidae	0	2	0	0
	Lymnaeidae	1	0	0	1
	Physa (Physella) sp.	0	2	0	0
	Physa sp.	0	0	0	3
	Planorbidae	0	1	0	1
	Stagnicola sp.	0	1	0	0
Bivalvia	Musculium sp.	0	7	0	0
	Pisidium sp.	0	0	0	17
	Sphaeriidae	0	10	3	2
Annelida	Erpobdellidae	0	1	2	0
	Oligochaeta	55	127	214	275
Acari	Atractides sp.	0	4	0	0
	Forelia sp.	0	0	0	3
	Lebertia sp.	1	1	1	2
	Oribatei	0	1	0	0
	Sperchon sp.	4	10	5	14
	Testudacarus sp.	0	0	2	0
Crustacea	Caecidotea sp.	6	82	12	0
	Gammarus sp.	0	12	0	0
	Ostracoda	15	17	11	26
Other Organisms	Nematoda	12	26	12	12
	Turbellaria	0	0	2	0
		2,241	**2,243**	**2,286**	**2,305**

Provo R. Benthos 06 #1
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

Stream	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**	**Provo River, Summit Co. UT**
Site	**Below Jordanelle (BJ)**	**Casperville Rd. (CA)**	**NC Site (NC)**	**River Road (RR)**
Rep	**Pooled**	**Pooled**	**Pooled**	**Pooled**
Percent Subsampled	**100.00**	**100.00**	**100.00**	**100.00**
EcoAnalysts Sample ID	**17**	**18**	**19**	**20**
Abundance Measures				
Corrected Abundance	2241.00	2243.00	2286.00	2305.00
EPT Abundance	396.00	818.00	868.00	526.00
Dominance Measures				
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae
Dominant Abundance	1697.00	913.00	1026.00	1392.00
2nd Dominant Taxon	Baetis tricaudatus	Baetis tricaudatus	Hydropsyche sp.	Oligochaeta
2nd Dominant Abundance	224.00	250.00	292.00	275.00
3rd Dominant Taxon	Ephemerella inermis/infrequens	Optioservus sp.	Oligochaeta	Baetis tricaudatus
3rd Dominant Abundance	87.00	173.00	214.00	185.00
% Dominant Taxon	75.73	40.70	44.88	60.39
% 2 Dominant Taxa	85.72	51.85	57.66	72.32
% 3 Dominant Taxa	89.60	59.56	67.02	80.35
Richness Measures				
Species Richness	32.00	48.00	39.00	37.00
EPT Richness	15.00	23.00	17.00	18.00
Ephemeroptera Richness	7.00	10.00	6.00	8.00
Plecoptera Richness	3.00	2.00	3.00	3.00
Trichoptera Richness	5.00	11.00	8.00	7.00
Chironomidae Richness	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	30.00	46.00	37.00	35.00
Rhyacophila Richness	2.00	1.00	1.00	2.00
Community Composition				
% Ephemeroptera	14.73	19.88	13.74	16.96
% Plecoptera	0.36	7.00	9.19	0.43
% Trichoptera	2.59	9.59	15.05	5.42
% EPT	17.67	36.47	37.97	22.82
% Coleoptera	0.04	7.71	3.06	0.22
% Diptera	78.09	42.18	47.42	61.30
% Oligochaeta	2.45	5.66	9.36	11.93
% Baetidae	10.17	11.73	8.27	12.75
% Brachycentridae	1.74	1.07	1.01	3.99
% Chironomidae	75.73	40.70	44.88	60.39
% Ephemerellidae	4.06	5.62	2.54	1.69
% Hydropsychidae	0.13	7.40	12.95	0.82
% Odonata	0.00	0.00	0.00	0.00
% Perlidae	0.04	0.04	0.26	0.04
% Pteronarcyidae	0.00	0.00	0.00	0.00
% Simuliidae	1.34	0.62	1.57	0.35
Functional Group Composition				
% Filterers	3.21	9.05	15.22	3.34
% Gatherers	89.83	64.87	66.14	87.94
% Predators	2.23	9.54	11.24	2.30
% Scrapers	0.36	9.36	3.94	2.04
% Shredders	4.24	6.02	3.02	1.74
% Piercer-Herbivores	0.00	0.00	0.00	0.00
% Unclassified	0.13	1.16	0.44	2.65
Filterer Richness	3.00	8.00	5.00	6.00
Gatherer Richness	10.00	11.00	8.00	8.00
Predator Richness	10.00	12.00	18.00	10.00
Scraper Richness	3.00	11.00	5.00	9.00
Shredder Richness	4.00	3.00	2.00	3.00
Piercer-Herbivore Richness	0.00	0.00	0.00	0.00
Unclassified	2.00	3.00	1.00	1.00
Diversity/Evenness Measures				
Shannon-Weaver H' (log 10)	0.47	0.98	0.88	0.70
Shannon-Weaver H' (log 2)	1.55	3.24	2.92	2.34
Shannon-Weaver H' (log e)	1.08	2.25	2.02	1.62
Margalef's Richness	4.02	6.09	4.91	4.65
Pielou's J'	0.31	0.58	0.55	0.45
Simpson's Heterogeneity	0.41	0.80	0.76	0.61
Biotic Indices				
% Indiv. w/ HBI Value	98.97	97.90	98.95	96.31
Hilsenhoff Biotic Index	5.48	5.06	5.16	5.72
% Indiv. w/ MTI Value	19.59	48.82	41.51	20.61
Metals Tolerance Index	4.21	4.18	4.10	3.34
% Indiv. w/ FSBI Value	19.01	43.16	41.64	20.74
Fine Sediment Biotic Index	72.00	93.00	84.00	87.00
FSBI - average	2.25	1.94	2.15	2.35
FSBI - weighted average	4.76	3.96	3.89	4.64
% Indiv. w/ TPM Value	94.33	75.43	75.15	78.74
Temp. Pref. Metric - average	2.31	1.63	2.15	2.30
TPM - weighted average	5.06	4.55	4.40	4.87
Karr BIBI Metrics				
Long-Lived Taxa Richness	2.00	6.00	4.00	5.00
Clinger Richness	15.00	23.00	16.00	21.00
% Clingers	14.95	37.18	36.70	18.52
Intolerant Taxa Richness	11.00	12.00	12.00	14.00
% Tolerant Individuals	3.47	10.47	10.57	13.87
% Tolerant Taxa	12.50	12.50	10.26	10.81
Coleoptera Richness	1.00	1.00	1.00	1.00
UIN	**777-17**	**777-18**	**777-19**	**777-20**

Provo R. Benthos 06 #2
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

	Stream	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT	Provo River, Wasatch Co., UT
	Site	Below Jordanelle(BJ)	Below Jordanelle(BJ)	Below Jordanelle(BJ)	Below Jordanelle(BJ)	Below Jordanelle(BJ)	Casperville(CA)	Casperville(CA)	Casperville(CA)	Casperville(CA)	Casperville(CA)	Never Channel(NC)	Never Channel(NC)	Never Channel(NC)	Never Channel(NC)	Never Channel(NC)	River Road(RR)	River Road(RR)	River Road(RR)	River Road(RR)
	Rep	BJ01	BJ02	BJ03	BJ04	CA01	CA02	CA03	CA04	NC01	NC02	NC03	NC04	RR01	RR02	RR03	RR04
	Date	09-21-2006	09-21-2006	09-21-2006	09-21-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006	09-20-2006
	Percent Subsampled	12.50	15.63	21.88	5.21	9.38	25.00	6.25	8.33	28.69	8.33	10.42	4.17	12.50	8.33	12.50	5.21
	Device	Hess	Hess	Hess	D-frame	Hess	Hess	Hess	D-frame	Hess	Hess	Hess	D-frame	Hess	Hess	Hess	D-frame
	Habitat	127,0463333E,4492788N	127,0463333E,4492788N	127,0463333E,4492788N	127,0463333E,4492788N	127,0461162E,4482137N	127,0461162E,4482137N	127,0461162E,4482137N	127,0461162E,4482137N	127,0461871E,4484619N	127,0461871E,4484619N	127,0461871E,4484619N	127,0461871E,4484619N	127,0463293E,4490035N	127,0463293E,4490035N	127,0463293E,4490035N	127,0463293E,4490035N
	EcoAnalysts Sample ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ephemeroptera	Acentrella turbida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Alloretla margarita	2	2	4	0	0	0	0	0	0	0	0	0	0	1	1	0
	Baetis tricaudatus	94	151	118	170	81	84	29	46	119	109	25	121	99	15	1	27
	Diphetor hageni	0	0	0	0	0	0	3	0	0	1	6	1	0	3	0	3
	Drunella grandis	6	3	3	4	0	0	0	0	0	1	0	0	7	4	4	4
	Ephemerella inermis/infrequens	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Ephemerella sp.	1	1	0	1	0	1	6	11	0	0	1	0	1	0	1	0
	Ephemerellidae	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
	Heptageniidae	0	0	0	0	1	1	0	0	4	2	0	0	0	0	0	0
	Leptophlebiidae	0	1	0	1	6	11	8	3	3	0	6	2	3	0	8	1
	Nixe sp.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	Rhithrogena sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Tricorythodes sp.	0	0	0	0	0	1	1	11	5	0	2	6	0	1	0	0
Plecoptera	Claassenia sabulosa	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	Hesperopsefa pacifica	3	2	1	0	0	0	0	0	0	0	0	0	3	0	0	0
	Isoperla sp.	0	0	0	0	0	23	0	0	0	17	4	22	0	0	0	0
	Malenka sp.	1	2	0	0	0	0	0	0	0	0	0	0	4	0	0	0
	Perlidae	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0
	Perlodidae	0	0	0	0	0	0	4	13	0	0	7	0	1	1	0	0
	Pteronarcella sp.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1
	Skwala sp.	0	1	2	1	18	1	3	6	5	2	0	0	0	0	0	0
Coleoptera	Optioservus sp.	1	0	4	0	75	28	93	108	54	66	52	45	16	14	6	1
Diptera-Chironomidae	Chironomidae	296	235	361	228	74	160	245	197	296	201	245	211	362	366	416	322
Diptera	Antocha sp.	13	3	23	1	1	4	1	0	2	0	0	1	17	12	6	3
	Atherix sp.	0	0	0	0	0	1	0	3	1	2	0	0	0	0	0	1
	Bezzia/Palpomyia sp.	0	0	0	0	0	1	0	5	0	0	0	0	0	1	0	0
	Chelifera/Metachela sp.	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
	Empididae	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
	Hemerodromia sp.	0	0	0	0	0	2	1	3	0	0	1	0	0	0	0	0
	Neoplasta sp.	0	1	2	1	0	0	0	0	0	0	0	0	0	1	0	0
	Simulium sp.	1	4	7	5	44	72	0	4	2	4	1	39	34	5	0	3
	Tipula sp.	1	4	0	2	0	0	0	1	0	1	0	0	0	0	0	0
Trichoptera	Arctopsyche grandis	7	7	0	2	3	0	0	0	0	1	0	0	0	0	0	0
	Brachycentridae	0	6	20	0	0	3	0	0	1	0	0	0	0	0	1	0
	Brachycentrus americanus	11	7	20	7	7	3	0	0	0	11	33	12	0	0	1	32
	Brachycentrus sp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Cheumatopsyche sp.	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	0
	Glossosoma sp.	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0
	Glossosomatidae	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	Hydropsyche sp.	0	0	0	0	0	1	0	5	0	0	0	0	0	0	0	0
	Hydropsyche sp.	0	0	0	0	199	229	79	76	13	128	63	67	6	0	0	1
	Hydroptila sp.	0	0	0	3	0	0	0	3	0	0	3	3	0	1	1	1
	Hydroptilidae	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	Lepidostoma sp.	0	0	0	0	0	0	7	54	0	0	0	3	0	0	0	0
	Micrasema sp.	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
	Oecetis disjuncta	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Rhyacophila brunnea gr.	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0
	Rhyacophila coloradensis gr.	0	0	0	0	0	3	0	0	0	0	0	0	3	0	0	0
	Rhyacophila sp.	2	2	8	0	0	0	0	0	0	0	1	1	0	0	0	0
	Trichoptera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Gastropoda	Lymnaeidae	1	0	0	0	0	0	0	3	0	0	1	1	1	0	0	0
	Physa sp.	0	0	1	0	0	3	0	0	42	2	0	0	1	0	1	3
	Planorbidae	0	1	0	0	0	0	0	0	4	0	0	0	2	0	0	0
Bivalvia	Sphaeriidae	0	0	0	0	0	2	1	1	0	0	0	1	0	0	0	0
Annelida	Erpodotidae	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0
	Oligochaeta	40	64	9	44	3	3	32	91	15	6	8	4	13	55	89	90
Acari	Atractides sp.	0	1	0	0	0	0	0	1	0	1	0	4	4	2	0	3
	Atursa sp.	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0
	Corticacarus	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0
	Hygrobates sp.	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	2
	Lebertia sp.	0	1	1	4	0	0	4	0	4	0	1	1	0	0	1	1
	Sperchon sp.	10	10	89	12	0	5	1	3	0	3	0	4	5	18	5	2
	Testudacarus sp.	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crustacea	Caecidotea communis	0	0	0	0	0	0	0	53	0	0	0	0	0	0	0	0
	Caecidotea sp.	0	0	0	0	0	1	4	0	0	2	9	12	0	0	0	0
	Gammarus sp.	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	Ostracoda	6	6	3	8	0	0	2	19	0	0	1	1	4	0	0	5
Other Organisms	Hydra sp.	26	39	0	16	0	0	0	0	0	0	0	0	0	0	0	1
	Nematoda	3	2	4	8	12	4	2	6	6	2	5	0	1	5	2	7
	Polycelis sp.	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Turbellaria	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
		525	544	680	518	533	643	525	744	540	568	500	568	594	515	537	514

Provo R. Benthos 06 #2
EcoAnalysts, Inc.
Data are adjusted for subsampling

Stream	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**
Site	**Below Jordandell(BJ)**	**Below Jordandell(BJ)**	**Below Jordandell(BJ)**	**Below Jordandell(BJ)**	**Casperville(CA)**	**Casperville(CA)**	**Casperville(CA)**	**Casperville(CA)**
Rep	**BJ01**	**BJ02**	**BJ03**	**BJ04**	**CA01**	**CA02**	**CA03**	**CA04**
Date	**09-21-2006**	**09-21-2006**	**09-21-2006**	**09-21-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**
Percent Subsampled	**12.50**	**15.63**	**21.88**	**5.21**	**9.38**	**25.00**	**6.25**	**8.33**
Device	**Hess**	**Hess**	**Hess**	**D-frame**	**Hess**	**Hess**	**Hess**	**D-frame**
Habitat	**12T,0463333E,4492780N**	**12T,0463333E,4492780N**	**12T,0463333E,4492780N**	**12T,0463333E,4492780N**	**12T,0461162E,4482137N**	**12T,0461162E,4482137N**	**12T,0461162E,4482137N**	**12T,0461162E,4482137N**
EcoAnalysts Sample ID	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Abundance Measures								
Corrected Abundance	4200.00	3481.60	3107.60	9945.60	5681.78	2572.00	8400.00	8928.00
EPT Abundance	1000.00	1126.40	712.92	3628.80	3411.20	1432.00	2272.00	2292.00
Dominance Measures								
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Hydropsyche sp.	Hydropsyche sp.	Chironomidae	Chironomidae
Dominant Abundance	2368.00	1504.00	1741.17	4377.60	2121.34	916.00	3920.00	2364.00
2nd Dominant Taxon	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Baetis tricaudatus	Chironomidae	Optioservus sp.	Optioservus sp.
2nd Dominant Abundance	752.00	966.40	539.26	3264.00	863.46	640.00	1488.00	1296.00
3rd Dominant Taxon	Oligochaeta	Oligochaeta	Sperchon sp.	Oligochaeta	Optioservus sp.	Baetis tricaudatus	Hydropsyche sp.	Oligochaeta
3rd Dominant Abundance	320.00	409.60	406.73	844.80	799.50	336.00	1264.00	1092.00
% Dominant Taxon	56.38	43.20	56.03	44.02	37.34	35.61	46.67	26.48
% 2 Dominant Taxa	74.29	70.96	73.38	76.83	52.53	60.50	64.38	40.99
% 3 Dominant Taxa	81.90	82.72	86.47	85.33	66.60	73.56	79.43	53.23
Richness Measures								
Species Richness	24.00	24.00	18.00	20.00	17.00	24.00	21.00	32.00
EPT Richness	12.00	11.00	7.00	9.00	9.00	11.00	10.00	12.00
Ephemeroptera Richness	6.00	5.00	3.00	5.00	4.00	5.00	5.00	4.00
Plecoptera Richness	2.00	3.00	2.00	1.00	1.00	2.00	2.00	2.00
Trichoptera Richness	4.00	3.00	2.00	3.00	4.00	4.00	3.00	6.00
Chironomidae Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	22.00	22.00	16.00	18.00	15.00	22.00	19.00	30.00
Rhyacophila Richness	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Community Composition								
% Ephemeroptera	20.00	29.04	18.38	34.17	17.26	15.24	8.95	9.54
% Plecoptera	0.76	0.92	0.44	0.19	3.38	3.73	1.33	2.55
% Trichoptera	3.05	2.39	4.12	2.12	39.40	36.70	16.76	13.58
% EPT	23.81	32.35	22.94	36.49	60.04	55.68	27.05	25.67
% Coleoptera	0.19	0.00	0.59	0.00	14.07	4.35	17.71	14.52
% Diptera	59.43	44.67	60.88	45.75	22.51	37.33	47.05	28.63
% Oligochaeta	7.62	11.76	1.32	8.49	0.56	0.47	6.10	12.23
% Baetidae	17.90	27.76	17.35	32.82	15.20	13.06	6.10	6.18
% Brachycentridae	2.10	1.29	2.94	1.35	1.31	0.47	0.38	0.13
% Chironomidae	56.38	43.20	56.03	44.02	13.88	24.88	46.67	26.48
% Ephemerellidae	1.90	1.10	1.03	1.16	0.75	0.16	1.14	1.48
% Hydropsychidae	0.19	0.74	0.00	0.00	37.90	35.61	15.05	10.22
% Odonata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Perlidae	0.57	0.37	0.15	0.00	0.00	0.00	0.00	0.00
% Pteronarcyidae	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Simuliidae	0.19	0.74	1.03	0.97	8.26	11.20	0.00	0.54
Functional Group Composition								
% Filterers	2.48	2.76	3.97	2.32	47.47	47.59	15.62	11.02
% Gatherers	86.10	85.11	79.12	87.45	31.71	41.21	63.05	58.06
% Predators	8.57	11.03	15.74	8.30	5.82	6.53	2.29	6.18
% Scrapers	1.71	0.74	1.18	0.77	15.01	4.67	17.71	22.04
% Shredders	0.76	0.37	0.00	0.58	0.00	0.00	1.33	2.02
% Piercer-Herbivores	0.38	0.00	0.00	0.58	0.00	0.00	0.00	0.40
% Unclassified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27
Filterer Richness	3.00	3.00	2.00	2.00	4.00	4.00	3.00	4.00
Gatherer Richness	7.00	8.00	6.00	7.00	6.00	8.00	10.00	9.00
Predator Richness	6.00	10.00	7.00	7.00	3.00	9.00	6.00	10.00
Scraper Richness	4.00	2.00	3.00	1.00	4.00	3.00	1.00	5.00
Shredder Richness	3.00	1.00	0.00	2.00	0.00	0.00	1.00	2.00
Piercer-Herbivore Richness	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Unclassified	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Diversity/Evenness Measures								
Shannon-Weaver H' (log 10)	0.69	0.72	0.64	0.68	0.82	0.81	0.75	1.07
Shannon-Weaver H' (log 2)	2.28	2.40	2.12	2.27	2.72	2.68	2.48	3.55
Shannon-Weaver H' (log e)	1.58	1.66	1.47	1.57	1.89	1.86	1.72	2.46
Margalef's Richness	2.76	2.82	2.11	2.06	1.85	2.93	2.21	3.41
Pielou's J'	0.50	0.52	0.51	0.53	0.67	0.59	0.56	0.71
Simpson's Heterogeneity	0.64	0.72	0.64	0.69	0.79	0.78	0.72	0.87
Biotic Indices								
% Indiv. w/ HBI Value	97.90	97.61	86.62	96.72	100.00	99.07	99.62	97.98
Hilsenhoff Biotic Index	5.40	5.38	5.19	5.31	4.77	4.93	5.43	5.84
% Indiv. w/ MTI Value	32.19	40.99	28.68	42.28	82.93	71.70	42.67	40.32
Metals Tolerance Index	4.19	4.37	4.44	4.68	4.88	4.83	4.77	4.59
% Indiv. w/ FSBI Value	26.67	33.46	27.94	37.84	80.30	70.30	41.14	36.69
Fine Sediment Biotic Index	77.00	66.00	55.00	54.00	42.00	59.00	41.00	55.00
FSBI - average	3.21	2.75	3.06	2.70	2.47	2.46	1.95	1.72
FSBI - weighted average	5.34	5.15	5.30	5.04	4.50	4.42	4.10	4.11
% Indiv. w/ TPM Value	81.90	75.92	82.21	81.47	95.31	91.45	89.71	66.26
Temp. Pref. Metric - average	2.79	2.21	2.17	2.70	3.24	2.29	2.19	1.66
TPM - weighted average	4.98	4.99	4.93	4.98	3.44	3.73	4.11	4.08
Karr BIBI Metrics								
Long-Lived Taxa Richness	4.00	2.00	2.00	1.00	2.00	3.00	2.00	4.00
Clinger Richness	15.00	13.00	11.00	9.00	12.00	13.00	10.00	15.00
% Clingers	26.67	33.64	28.09	37.26	81.99	70.14	42.10	45.30
Intolerant Taxa Richness	9.00	9.00	5.00	7.00	6.00	6.00	6.00	6.00
% Tolerant Individuals	1.12	2.06	0.48	0.54	0.11	0.24	0.45	2.37
% Tolerant Taxa	8.33	8.33	16.67	10.00	11.76	12.50	14.29	15.63
Coleoptera Richness	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
UIN	**781-1**	**781-2**	**781-3**	**781-4**	**781-5**	**781-6**	**781-7**	**781-8**

Stream	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**
Site	**Never Channel(NC)**	**Never Channel(NC)**	**Never Channel(NC)**	**Never Channel(NC)**	**River Road(RR)**	**River Road(RR)**	**River Road(RR)**	**River Road(RR)**
Rep	**NC01**	**NC02**	**NC03**	**NC04**	**RR01**	**RR02**	**RR03**	**RR04**
Date	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**	**09-20-2006**
Percent Subsampled	**28.09**	**8.33**	**10.42**	**4.17**	**12.50**	**8.33**	**12.50**	**5.21**
Device	**Hess**	**Hess**	**Hess**	**D-frame**	**Hess**	**Hess**	**Hess**	**D-frame**
Habitat	**12T,0461871E,4484610N**	**12T,0461871E,4484610N**	**12T,0461871E,4484610N**	**12T,0461871E,4484610N**	**12T,0463292E,4490035N**	**12T,0463292E,4490035N**	**12T,0463292E,4490035N**	**12T,0463292E,4490035N**
EcoAnalysts Sample ID	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Abundance Measures								
Corrected Abundance	1922.40	6816.00	4800.00	13632.00	4752.00	6180.00	4296.00	9868.80
EPT Abundance	555.36	3336.00	1651.20	5808.00	1072.00	420.00	88.00	1344.00
Dominance Measures								
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae	Chironomidae
Dominant Abundance	1053.76	2412.00	2352.00	5064.00	2896.00	4392.00	3328.00	6182.40
2nd Dominant Taxon	Baetis tricaudatus	Hydropsyche sp.	Hydropsyche sp.	Baetis tricaudatus	Baetis tricaudatus	Oligochaeta	Oligochaeta	Oligochaeta
2nd Dominant Abundance	423.64	1536.00	796.80	2904.00	792.00	660.00	712.00	1728.00
3rd Dominant Taxon	Optioservus sp.	Baetis tricaudatus	Optioservus sp.	Hydropsyche sp.	Simulium sp.	Sperchon sp.	Antocha sp.	Brachycentrus americanus
3rd Dominant Abundance	192.24	1308.00	499.20	1608.00	272.00	216.00	48.00	614.40
% Dominant Taxon	54.81	35.39	49.00	37.15	60.94	71.07	77.47	62.65
% 2 Dominant Taxa	76.85	57.92	65.60	58.45	77.61	81.75	94.04	80.16
% 3 Dominant Taxa	86.85	77.11	76.00	70.25	83.33	85.24	95.16	86.38
Richness Measures								
Species Richness	18.00	22.00	25.00	25.00	22.00	24.00	15.00	22.00
EPT Richness	9.00	11.00	12.00	12.00	10.00	13.00	7.00	8.00
Ephemeroptera Richness	4.00	4.00	5.00	4.00	4.00	6.00	4.00	4.00
Plecoptera Richness	2.00	3.00	3.00	2.00	3.00	1.00	0.00	1.00
Trichoptera Richness	3.00	4.00	4.00	6.00	3.00	6.00	3.00	3.00
Chironomidae Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	16.00	20.00	23.00	23.00	20.00	22.00	13.00	20.00
Rhyacophila Richness	0.00	0.00	1.00	1.00	0.00	2.00	0.00	0.00
Community Composition								
% Ephemeroptera	24.26	19.89	8.00	22.89	18.52	4.85	1.30	6.81
% Plecoptera	1.11	3.70	2.40	4.23	1.35	0.19	0.00	0.19
% Trichoptera	3.52	25.35	24.00	15.49	2.69	1.75	0.74	6.61
% EPT	28.89	48.94	34.40	42.61	22.56	6.80	2.05	13.62
% Coleoptera	10.00	11.62	10.40	7.92	2.69	2.72	1.12	0.19
% Diptera	55.74	36.62	49.80	44.19	69.70	74.76	78.58	64.01
% Oligochaeta	3.33	1.06	1.60	0.70	2.19	10.68	16.57	17.51
% Baetidae	22.04	19.37	6.20	21.48	16.67	3.50	0.19	6.03
% Brachycentridae	0.93	1.94	6.60	2.11	1.35	0.39	0.19	6.23
% Chironomidae	54.81	35.39	49.00	37.15	60.94	71.07	77.47	62.65
% Ephemerellidae	0.00	0.18	0.20	0.00	1.35	0.97	1.12	0.78
% Hydropsychidae	2.59	22.71	16.60	11.80	1.35	0.19	0.00	0.19
% Odonata	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
% Perlidae	0.19	0.35	0.00	0.35	0.51	0.00	0.00	0.00
% Pteronarcyidae	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.19
% Simuliidae	0.37	0.70	0.20	6.87	5.72	0.97	0.00	0.58
Functional Group Composition								
% Filterers	2.96	25.35	23.60	20.77	8.42	1.55	0.19	7.00
% Gatherers	82.04	56.16	60.60	63.20	84.01	87.96	95.72	87.74
% Predators	2.41	5.46	4.00	6.34	2.36	6.21	1.68	3.31
% Scrapers	11.11	12.85	10.60	8.63	4.38	4.08	1.86	1.56
% Shredders	0.93	0.18	0.20	0.53	0.67	0.00	0.00	0.19
% Piercer-Herbivores	0.00	0.00	0.60	0.53	0.00	0.19	0.19	0.19
% Unclassified	0.56	0.00	0.40	0.00	0.17	0.00	0.37	0.00
Filterer Richness	3.00	4.00	4.00	3.00	4.00	3.00	1.00	3.00
Gatherer Richness	6.00	5.00	9.00	9.00	7.00	7.00	6.00	7.00
Predator Richness	4.00	8.00	7.00	7.00	5.00	8.00	4.00	7.00
Scraper Richness	3.00	4.00	2.00	4.00	4.00	5.00	2.00	3.00
Shredder Richness	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00
Piercer-Herbivore Richness	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Unclassified	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Diversity/Evenness Measures								
Shannon-Weaver H' (log 10)	0.64	0.78	0.78	0.86	0.65	0.54	0.35	0.59
Shannon-Weaver H' (log 2)	2.12	2.59	2.60	2.87	2.15	1.81	1.15	1.96
Shannon-Weaver H' (log e)	1.47	1.79	1.80	1.99	1.49	1.25	0.80	1.36
Margalef's Richness	2.25	2.38	2.83	2.52	2.48	2.63	1.67	2.28
Pielou's J'	0.51	0.58	0.56	0.62	0.48	0.39	0.30	0.44
Simpson's Heterogeneity	0.64	0.77	0.71	0.79	0.59	0.48	0.37	0.57
Biotic Indices								
% Indiv. w/ HBI Value	99.44	98.94	99.20	98.42	98.32	95.73	98.32	98.44
Hilsenhoff Biotic Index	5.33	4.96	5.17	4.97	5.32	5.91	6.23	5.87
% Indiv. w/ MTI Value	39.63	61.80	45.60	59.51	32.32	13.20	4.10	16.73
Metals Tolerance Index	4.84	4.79	4.65	4.72	4.60	3.99	3.73	4.20
% Indiv. w/ FSBI Value	38.33	61.09	42.40	56.34	33.16	12.62	3.91	14.98
Fine Sediment Biotic Index	43.00	64.00	52.00	55.00	56.00	69.00	44.00	57.00
FSBI - average	2.39	2.91	2.08	2.20	2.55	2.88	2.93	2.59
FSBI - weighted average	4.41	4.54	4.71	4.33	4.69	4.60	5.24	5.86
% Indiv. w/ TPM Value	93.89	94.01	91.80	90.32	94.28	83.69	81.19	77.63
Temp. Pref. Metric - average	2.33	2.73	2.08	2.16	2.91	3.00	2.40	2.09
TPM - weighted average	4.64	4.02	4.22	4.39	4.89	4.90	4.96	4.95
Karr BIBI Metrics								
Long-Lived Taxa Richness	4.00	4.00	3.00	1.00	3.00	1.00	1.00	3.00
Clinger Richness	12.00	13.00	14.00	15.00	14.00	17.00	8.00	12.00
% Clingers	39.44	61.27	44.00	57.04	33.84	13.01	3.91	15.56
Intolerant Taxa Richness	3.00	7.00	6.00	7.00	8.00	6.00	3.00	2.00
% Tolerant Individuals	1.05	0.12	0.38	0.13	0.36	0.95	2.11	1.01
% Tolerant Taxa	11.11	9.09	12.00	16.00	9.09	8.33	6.67	13.64
Coleoptera Richness	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
UIN	**781-9**	**781-10**	**781-11**	**781-12**	**781-13**	**781-14**	**781-15**	**781-16**

Provo R. Benthos 06 #2
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

	Stream Site	Provo River, Wasatch Co., UT Below Jordandell(BJ)	Provo River, Wasatch Co., UT Casperville(CA)	Provo River, Wasatch Co., UT Never Channel(NC)	Provo River, Wasatch Co., UT River Road(RR)
	Rep	Pooled	Pooled	Pooled	Pooled
	Percent Subsampled	100.00	100.00	100.00	100.00
	EcoAnalysts Sample ID	17	18	19	20
Ephemeroptera	Acentrella turbida	0	0	0	1
	Attenella margarita	8	0	0	2
	Baetis tricaudatus	533	240	374	142
	Diphetor hageni	0	3	8	6
	Drunella grandis	16	0	1	19
	Ephemerella inermis/infrequens	2	0	0	0
	Ephemerella sp.	3	18	1	2
	Ephemerellidae	0	4	0	0
	Heptageniidae	0	2	6	0
	Leptophlebiidae	2	28	11	3
	Nixe sp.	0	0	0	1
	Rhithrogena sp.	1	0	0	0
	Tricorythodes sp.	0	13	13	1
Plecoptera	Claassenia sabulosa	0	0	1	0
	Hesperoperla pacifica	6	0	0	3
	Isoperla sp.	0	23	43	0
	Malenka sp.	3	0	0	4
	Perlidae	0	0	4	0
	Perlodidae	0	17	7	2
	Pteronarcella sp.	0	0	1	1
	Skwala sp.	4	28	7	0
Coleoptera	Optioservus sp.	5	304	217	37
Diptera-Chironomidae	Chironomidae	1,140	676	953	1,466
Diptera	Antocha sp.	40	6	3	38
	Atherix sp.	0	4	3	1
	Bezzia/Palpomyia sp.	0	6	0	1
	Chelifera/Metachela sp.	0	0	2	1
	Empididae	1	1	0	0
	Hemerodromia sp.	0	6	1	0
	Neoplasta sp.	4	0	0	1
	Simulium sp.	17	120	46	42
	Tipula sp.	4	1	1	0
Trichoptera	Arctopsyche grandis	5	3	1	2
	Brachycentridae	0	2	0	0
	Brachycentrus americanus	45	11	56	33
	Brachycentrus sp.	0	0	0	10
	Cheumatopsyche sp.	0	0	1	1
	Glossosoma sp.	0	0	6	1
	Glossosomatidae	0	1	0	0
	Helicopsyche sp.	0	6	0	0
	Hydropsyche sp.	0	583	291	7
	Hydroptila sp.	3	3	6	3
	Hydroptilidae	2	0	0	0
	Lepidostoma sp.	0	21	3	0
	Micrasema sp.	0	0	5	0
	Oecetis disjuncta	0	2	0	0
	Rhyacophila brunnea gr.	1	0	0	1
	Rhyacophila coloradensis gr.	0	3	0	3
	Rhyacophila sp.	12	0	2	0
	Trichoptera	0	0	0	2
Gastropoda	Lymnaeidae	1	5	2	1
	Physa sp.	1	45	3	4
	Planorbidae	1	4	0	2
Bivalvia	Sphaeriidae	0	4	1	0
Annelida	Erpobdellidae	0	4	0	0
	Oligochaeta	157	129	36	247
Acari	Atractides sp.	1	1	5	9
	Aturus sp.	0	1	2	0
	Corticacarus	0	0	3	0
	Hygrobates sp.	0	0	2	3
	Lebertia sp.	5	4	1	2
	Sperchon sp.	121	9	7	30
	Testudacarus sp.	1	0	0	0
Crustacea	Caecidotea communis	0	53	0	0
	Caecidotea sp.	0	5	23	0
	Gammarus sp.	0	1	0	0
	Ostracoda	23	21	2	9
Other Organisms	Hydra sp.	81	0	0	1
	Nematoda	17	24	13	15
	Polycelis sp.	1	0	0	0
	Turbellaria	0	0	2	0
		2,267	**2,445**	**2,176**	**2,160**

Provo R. Benthos 06 #2
EcoAnalysts, Inc.
Data are NOT adjusted for subsampling

Stream	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**	**Provo River, Wasatch Co., UT**
Site	**Below Jordandell(BJ)**	**Casperville(CA)**	**Never Channel(NC)**	**River Road(RR)**
Rep	**Pooled**	**Pooled**	**Pooled**	**Pooled**
Percent Subsampled	**100.00**	**100.00**	**100.00**	**100.00**
EcoAnalysts Sample ID	**17**	**18**	**19**	**20**
Abundance Measures				
Corrected Abundance	2267.00	2445.00	2176.00	2160.00
EPT Abundance	646.00	1011.00	848.00	250.00
Dominance Measures				
Dominant Taxon	Chironomidae	Chironomidae	Chironomidae	Chironomidae
Dominant Abundance	1140.00	676.00	953.00	1466.00
2nd Dominant Taxon	Baetis tricaudatus	Hydropsyche sp.	Baetis tricaudatus	Oligochaeta
2nd Dominant Abundance	533.00	583.00	374.00	247.00
3rd Dominant Taxon	Oligochaeta	Optioservus sp.	Hydropsyche sp.	Baetis tricaudatus
3rd Dominant Abundance	157.00	304.00	291.00	142.00
% Dominant Taxon	50.29	27.65	43.80	67.87
% 2 Dominant Taxa	73.80	51.49	60.98	79.31
% 3 Dominant Taxa	80.72	63.93	74.36	85.88
Richness Measures				
Species Richness	35.00	44.00	44.00	42.00
EPT Richness	16.00	20.00	22.00	23.00
Ephemeroptera Richness	7.00	7.00	7.00	9.00
Plecoptera Richness	3.00	3.00	6.00	4.00
Trichoptera Richness	6.00	10.00	9.00	10.00
Chironomidae Richness	1.00	1.00	1.00	1.00
Oligochaeta Richness	1.00	1.00	1.00	1.00
Non-Chiro. Non-Olig. Richness	33.00	42.00	42.00	40.00
Rhyacophila Richness	2.00	1.00	1.00	2.00
Community Composition				
% Ephemeroptera	24.92	12.60	19.03	8.19
% Plecoptera	0.57	2.78	2.90	0.46
% Trichoptera	3.00	25.97	17.05	2.92
% EPT	28.50	41.35	38.97	11.57
% Coleoptera	0.22	12.43	9.97	1.71
% Diptera	53.20	33.54	46.37	71.76
% Oligochaeta	6.93	5.28	1.65	11.44
% Baetidae	23.51	9.94	17.56	6.90
% Brachycentridae	1.99	0.53	2.80	1.99
% Chironomidae	50.29	27.65	43.80	67.87
% Ephemerellidae	1.28	0.90	0.09	1.06
% Hydropsychidae	0.22	23.97	13.47	0.46
% Odonata	0.00	0.00	0.00	0.00
% Perlidae	0.26	0.00	0.23	0.14
% Pteronarcyidae	0.00	0.00	0.05	0.05
% Simuliidae	0.75	4.91	2.11	1.94
Functional Group Composition				
% Filterers	2.96	29.57	18.20	4.40
% Gatherers	84.08	48.96	65.44	88.75
% Predators	11.25	5.36	4.60	3.33
% Scrapers	1.10	15.01	10.80	3.01
% Shredders	0.40	0.90	0.46	0.23
% Piercer-Herbivores	0.22	0.12	0.28	0.14
% Unclassified	0.00	0.08	0.23	0.14
Filterer Richness	3.00	6.00	6.00	6.00
Gatherer Richness	8.00	13.00	10.00	11.00
Predator Richness	13.00	14.00	15.00	13.00
Scraper Richness	6.00	7.00	6.00	7.00
Shredder Richness	3.00	2.00	4.00	2.00
Piercer-Herbivore Richness	2.00	1.00	1.00	1.00
Unclassified	0.00	1.00	2.00	2.00
Diversity/Evenness Measures				
Shannon-Weaver H' (log 10)	0.72	0.99	0.83	0.60
Shannon-Weaver H' (log 2)	2.40	3.29	2.76	1.98
Shannon-Weaver H' (log e)	1.66	2.28	1.91	1.37
Margalef's Richness	4.40	5.51	5.60	5.34
Pielou's J'	0.47	0.60	0.50	0.37
Simpson's Heterogeneity	0.68	0.84	0.75	0.52
Biotic Indices				
% Indiv. w/ HBI Value	94.18	99.06	98.99	97.73
Hilsenhoff Biotic Index	5.31	5.28	5.11	5.82
% Indiv. w/ MTI Value	35.55	58.36	51.98	17.04
Metals Tolerance Index	4.43	4.79	4.75	4.34
% Indiv. w/ FSBI Value	31.23	55.99	49.91	16.67
Fine Sediment Biotic Index	92.00	79.00	99.00	114.00
FSBI - average	2.63	1.80	2.25	2.71
FSBI - weighted average	5.20	4.33	4.49	4.95
% Indiv. w/ TPM Value	80.46	84.25	92.51	84.54
Temp. Pref. Metric - average	2.26	2.09	2.27	2.57
TPM - weighted average	4.97	3.83	4.32	4.92
Karr BIBI Metrics				
Long-Lived Taxa Richness	4.00	5.00	8.00	5.00
Clinger Richness	20.00	24.00	25.00	27.00
% Clingers	31.19	59.14	50.78	17.08
Intolerant Taxa Richness	12.00	12.00	13.00	12.00
% Tolerant Individuals	8.48	10.61	2.97	12.32
% Tolerant Taxa	8.57	13.64	9.09	7.14
Coleoptera Richness	1.00	1.00	1.00	1.00
UIN	**781-17**	**781-18**	**781-19**	**781-20**