

APPENDIX A. Supplemental Tables and Figures

Appendix A Table 1. Area (m²) of Aquatic Habitats in the Swan Floodplain across discharge regimes from 1500 to 37,000 cfs.

	1500cfs	5000cfs	11,600cfs	25,000cfs	37,000cfs
Shallow ltr	419049	40611	51417	0	0
Deep ltr	89622	231973	30528	171765	473643
Shallow mtr	4383	82573	0	0	0
Deep mtr	0	336915	262701	177732	38817
Hight turbulent zone	405	0	43083	80928	0
Hight turbulent run	0	0	378891	428301	642285
Shallow shore	90702	72910	213228	532953	119952
Shallow expansive run	0	0	225	0	860724
Pool	432	20780	9828	8685	0
Deep pool	3546	290	18405	16182	0
Near shore riffles	82125	71509	1782	180648	358227
Deep riffles	0	50728	104409	49833	1080
Glides	8595	4325	180	0	0
Deep glide/eddy	0	2205	1134	0	0

Appendix A Table 2. Area (m²) of Aquatic Habitats in the Conant Floodplain across discharge regimes from 1500 to 37,000 cfs.

	1500cfs	5000cfs	11,600cfs	25,000cfs	37,000cfs
Shallow ltr	174816	119736	26631	74007	0
Deep ltr	256986	87284	10674	5265	306873
Shallow mtr	1296	81293	21285	666	29799
Deep mtr	31545	294034	232344	112401	190008
Hight turbulent zone	22095	72775	75933	51012	0
Hight turbulent run	0	0	199197	394164	428265
Shallow shore	103149	29081	364545	182988	155160
Shallow expansive run	17055	0	0	0	183267
Pool	891	2608	891	5562	121545
Deep pool	6948	2325	882	288	45576
Near shore riffles	56484	17131	4392	261783	0
Deep riffles	0	21571	81603	37116	0
Glides	0	0	0	0	0
Deep glide/eddy	0	0	0	0	0

Appendix A Table 3. Area (m²) of Aquatic Habitats in the Fisher Floodplain across discharge regimes from 1500 to 37,000 cfs.

	1500cfs	5000cfs	11,600c	25,000cfs	37,000cfs
Shallow ltr	122094	19002	1548	657	3177
Deep ltr	41193	13911	1656	51291	252729
Shallow mtr	216	119539	12087	9000	0
Deep mtr	8721	73349	162405	30942	95931
High turbulent zone	6228	33771	11763	18045	5022
High turbulent run	0	0	71424	214956	254799
Shallow shore	66519	69503	240372	92475	327438
Shallow expansive run	0	0	0	0	114696
Pool	11934	6468	7056	27207	27387
Deep pool	756	4037	11583	17451	0
Near shore riffles	42165	44520	13077	157212	72
Deep riffles	234	6291	61362	19530	0
Glides	0	4576	9648	5409	0
Deep glide/eddy	0	844	5418	0	0

Appendix A Table 4. Area (m²) of Aquatic Habitats in the Heise Floodplain across discharge regimes from 1500 to 37,000 cfs.

	1500cfs	5000cfs	11,600cfs	25,000cfs	37,000cfs
Shallow ltr	221751	113575	6273	75123	64062
Deep ltr	68895	68854	18666	94311	298818
Shallow mtr	5877	88703	23967	171	0
Deep mtr	0	105660	169974	181188	59400
High turbulent zone	2844	16501	2745	315	945
High turbulent run	0	0	217503	214380	351666
Shallow shore	29304	56842	269451	105831	493011
Shallow expansive run	20934	59719	0	0	0
Pool	1674	927	9009	21870	837
Deep pool	5922	179	18621	35136	131022
Near shore riffles	32787	24229	16731	97335	36441
Deep riffles	0	33872	58896	32337	279
Glides	0	4576	7155	0	0
Deep glide/eddy	0	0	37809	0	0

Appendix A Table 5. Area (m²) of Aquatic Habitats in the Twin Floodplain across discharge regimes from 1500 to 37,000 cfs.

	1500cfs	5000cfs	11,600cfs	25,000cfs	37,000cfs
Shallow ltr	272475	72431	23319	0	0
Deep ltr	187785	332199	335502	428661	985671
Shallow mtr	164232	49673	63216	0	0
Deep mtr	39501	287826	460188	424998	428679
High turbulent zone	0	44299	20124	29700	58167
High turbulent run	0	0	259119	366030	710325
Shallow shore	452133	268462	871821	2317761	1708749
Shallow expansive run	63	0	0	0	0
Pool	29286	26432	63441	109854	1125009
Deep pool	3672	61303	53064	103977	174861
Near shore riffles	16893	221631	49383	349614	221238
Deep riffles	0	137685	78291	83880	768294
Glides	0	113	10503	10566	0
Deep glide/eddy	0	0	2187	11835	0

Appendix A Table 6. Percent Cover of vegetation cover types across each Floodplain.

Cover Types	Percent Cover				
	Swan	Conant	Fisher	Heise	Twin
Water	31.26	29.06	32.22	18.71	16.53
Deciduous (majority cottonwood)	16.09	15.17	10.24	25.70	20.55
Shadow	6.69	10.53	18.53	15.10	16.68
Dry grass	30.16	10.26	17.54	27.32	25.49
Mixed grasses	4.86	7.38	4.70	2.03	5.29
Cobble	0.76	2.78	1.66	1.43	1.69
Willow	5.55	11.54	12.16	7.95	13.77
Reed canary grass	4.48	1.91	0.43	1.77	0.00
Other	0.14	0.00	2.52	0.00	0.00
Pasture	0.00	11.37	0.00	0.00	0.00

Appendix A Table 7. Area (m2) and (Hectares) and Percent Cover of cover types of vegetation and water on the Swan floodplain.

Cover type	Area	Area (ha)	% of fp	
water	1185062	118.5062	0.312571	0.312571
shadow	610193	61.0193	0.160944	0.160944
dry grass	253593	25.3593	0.066887	0.066887
cottonwood	1143533	114.3533	0.301617	0.301617
cobble	184264	18.4264	0.048601	0.048601
reed canary grass	28970	2.897	0.007641	0.007641
mixed grasses	210556	21.0556	0.055536	0.055536
willow	169901	16.9901	0.044813	0.044813
other	5265	0.5265	0.001389	0.001389
pasture	0	0	0	0
	3791337		0.687429	1

Appendix A Table 8. Area (m2) and (Hectares) and Percent Cover of cover types of vegetation and water on the Conant floodplain.

Cover type	Area	Area (ha)	% of fp	
water	701924	70.1924	0.290583	0.290583
shadow	366488	36.6488	0.151719	0.151719
dry grass	254365	25.4365	0.105302	0.105302
cottonwood	247762	24.7762	0.102569	0.102569
cobble	178320	17.832	0.073821	0.073821
reed canary grass	67127	6.7127	0.027789	0.027789
mixed grasses	278838	27.8838	0.115434	0.115434
willow	46022	4.6022	0.019052	0.019052
other	0	0	0	0
pasture	274725	27.4725	0.113731	0.113731

Appendix A Table 9. Area (m2) and (Hectares) and Percent Cover of cover types of vegetation and water on the Fisher floodplain.

Cover type	Area (ha)	%of fp	
water	44.2593	0.322248	0.322248
shadow	14.0634	0.102394	0.102394
dry grass	25.4457	0.185268	0.185268
cottonwood	24.0867	0.175373	0.175373
cobble	6.453	0.046984	0.046984
reed canary grass	2.2797	0.016598	0.016598
mixed grasses	16.6977	0.121575	0.121575
willow	0.5931	0.004318	0.004318
other	3.4668	0.025241	0.025241
pasture	0	0	0

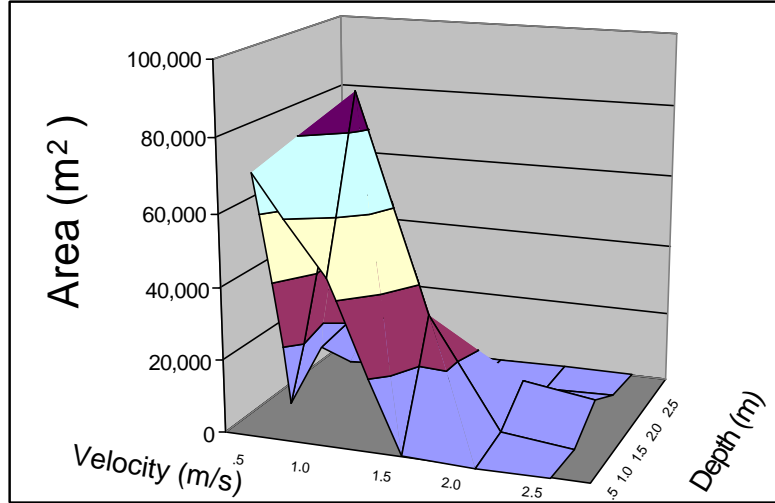
Appendix A Table 10. Area (m2) and (Hectares) and Percent Cover of cover types of vegetation and water on the Fisher floodplain.

Cover type	Area (ha)	%of fp	
water	56.097	0.187062	0.187062
shadow	77.0571	0.256956	0.256956
dry grass	45.2709	0.150961	0.150961
cottonwood	81.9369	0.273228	0.273228
cobble	6.0759	0.020261	0.020261
reed canary grass	4.2957	0.014325	0.014325
mixed grasses	23.8428	0.079507	0.079507
willow	5.3082	0.017701	0.017701
other	0	0	0
pasture	0	0	0

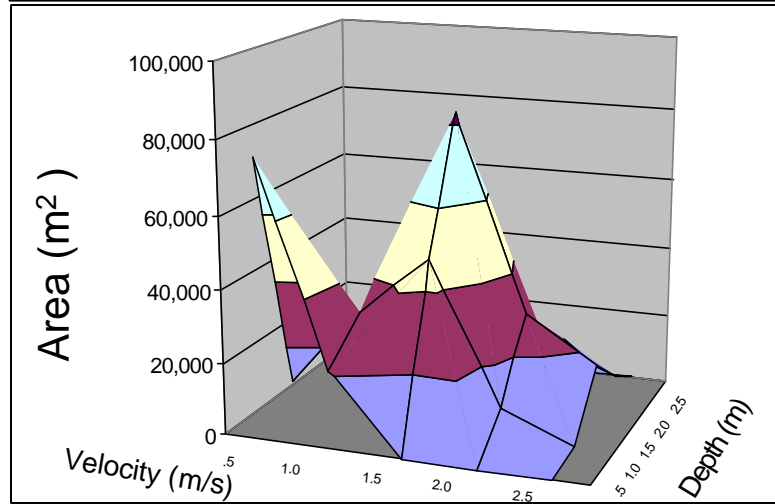
Appendix A Table 11. Area (m2) and (Hectares) and Percent Cover of cover types of vegetation and water on the Upper and Lower Twin floodplain. Willow was not separable from cottonwood in the Twin floodplain and has been recorded with the cottonwood.

Cover type	Area (ha)	%of fp	
water	185.41133	0.165336	0.165336
shadow	230.41298	0.205466	0.205466
dry grass	187.0803	0.166825	0.166825
cottonwood	285.8445	0.254895	0.254895
cobble	59.3289	0.052905	0.052905
reed canary grass	18.9297	0.01688	0.01688
mixed grass	154.4112	0.137693	0.137693
willow	0	0	0
other	0	0	0
pasture	0	0	0

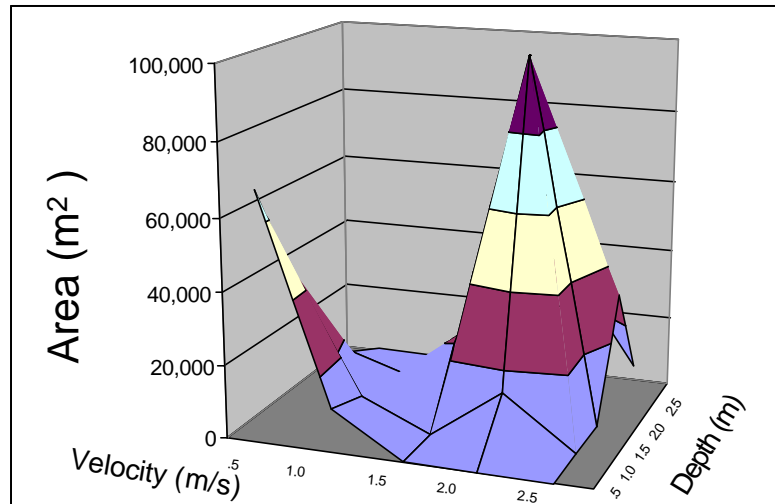
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3260cfs

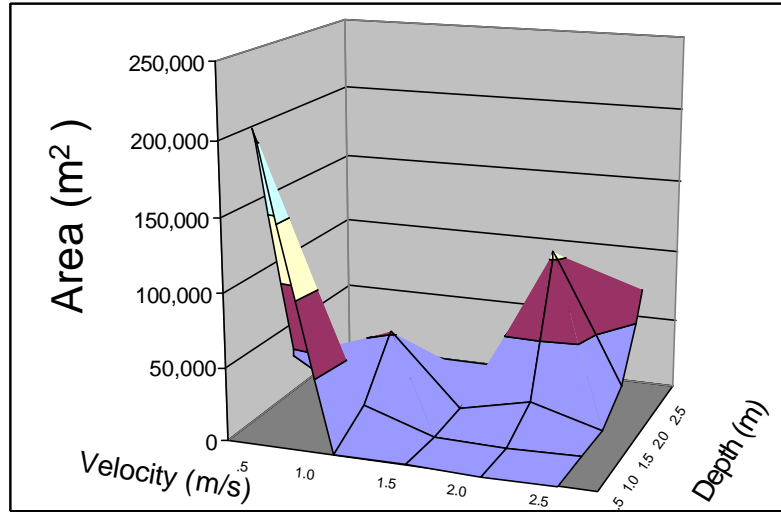


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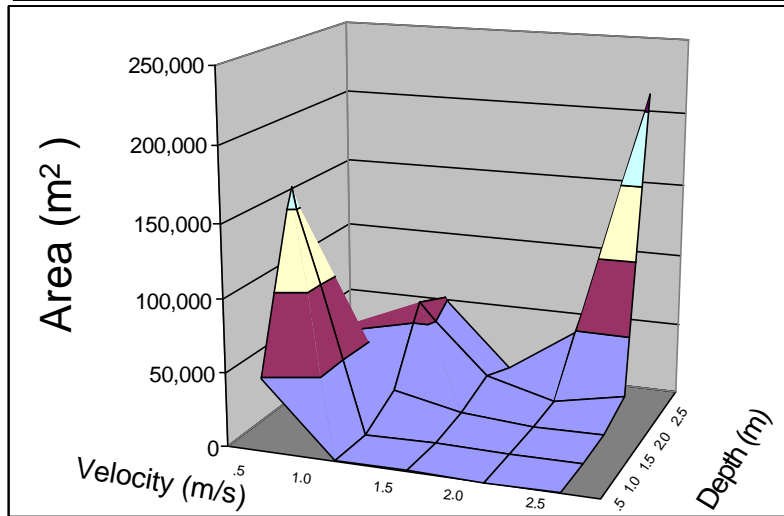


APPENDIX A Figure 1. Area (m²) by depth and velocity on the Fisher floodplain across three discharges from 1500 to 5000 cfs.

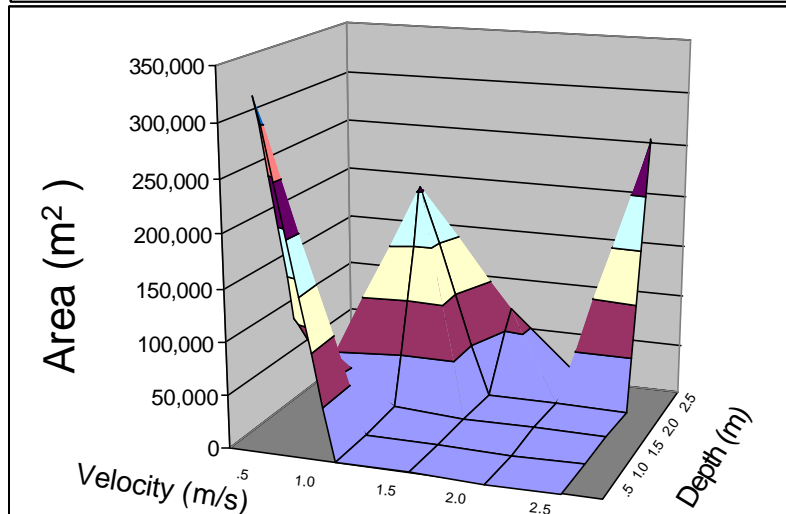
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25000cfs



37000cfs

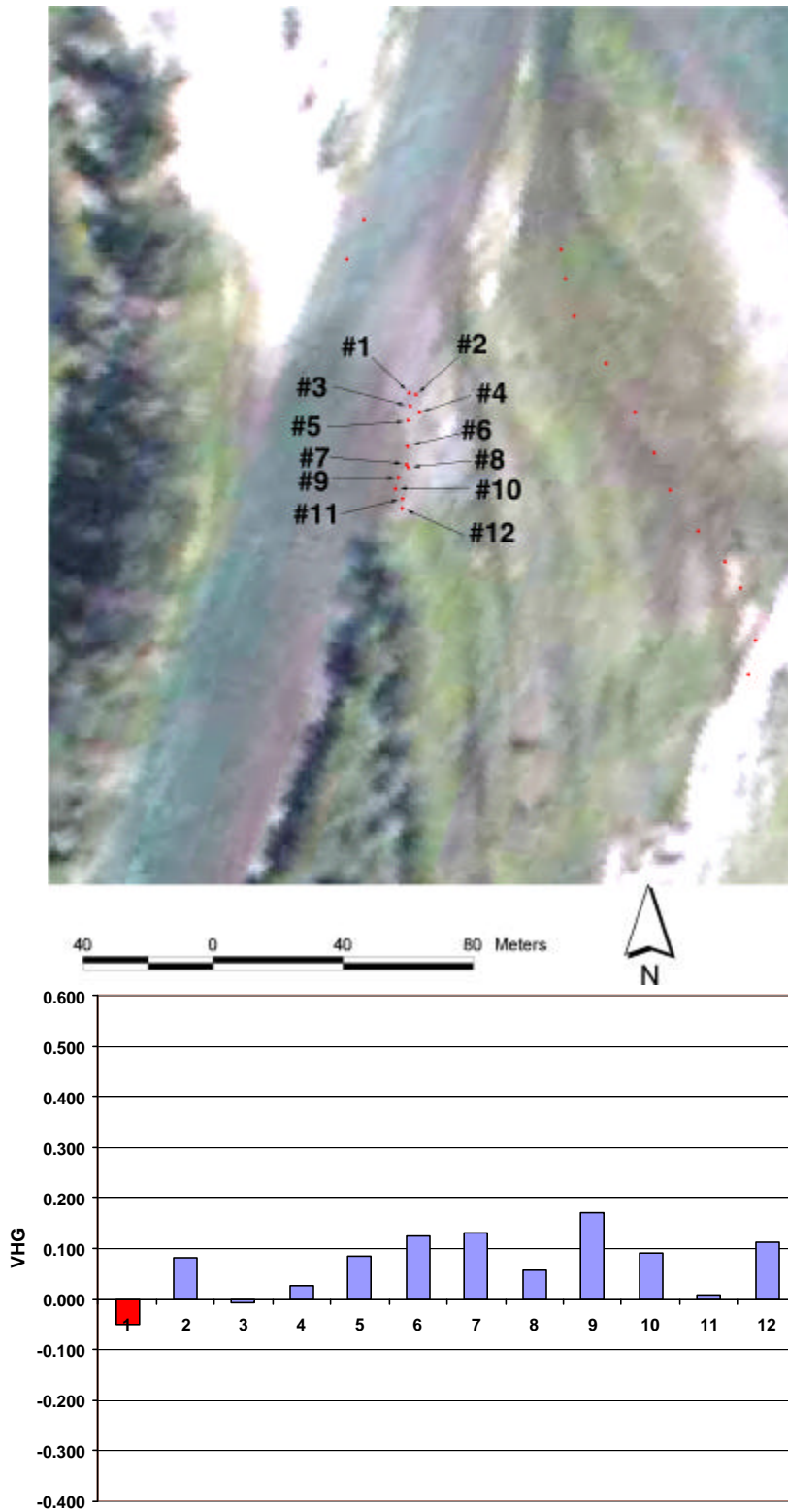


APPENDIX A Figure 2. Area (m²) by depth and velocity on the Fisher floodplain across three discharges from 11000 to 37000 cfs.

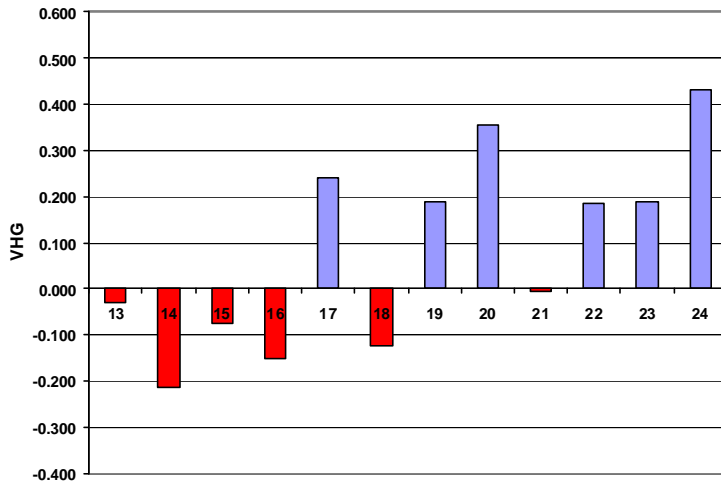
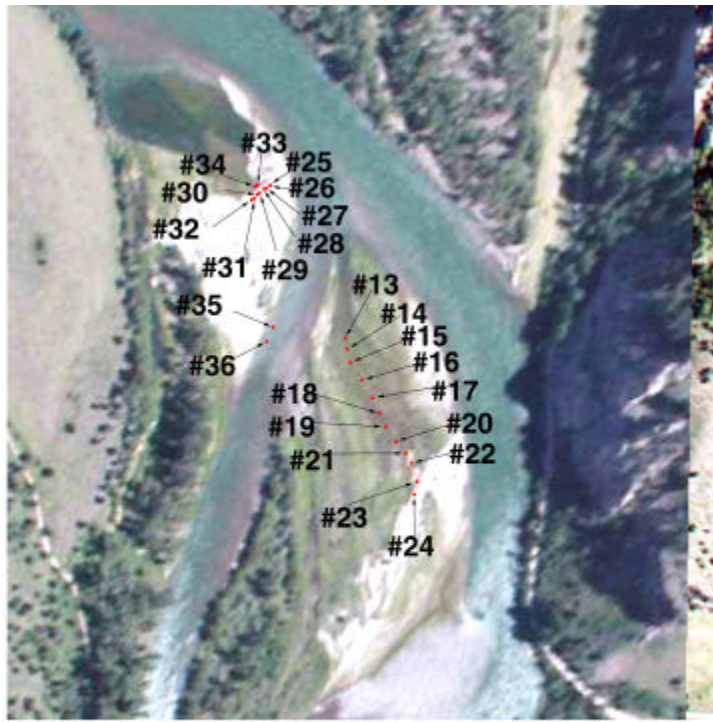
APPENDIX A Figure 3. Georectified hyperspectral image of the Fisher floodplain with piezometer locations A-H .



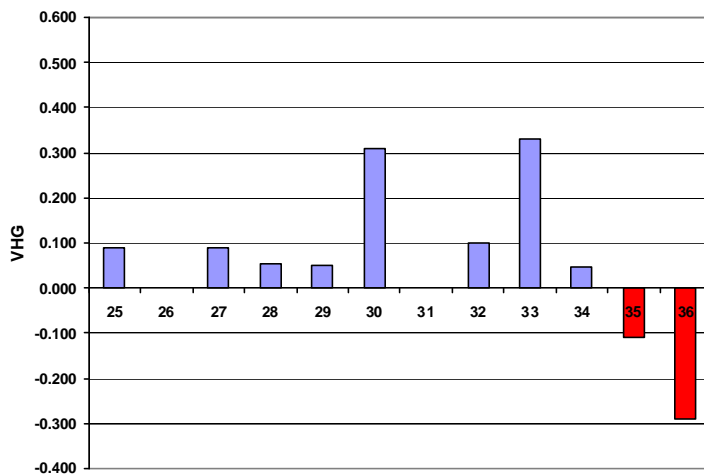
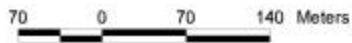
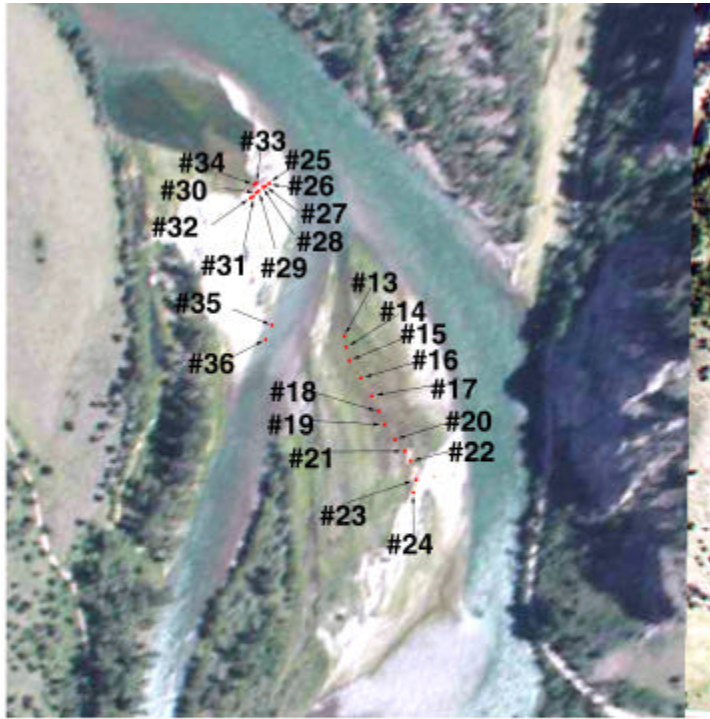
APPENDIX A Figure 4. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Site correspondence is with Area C.



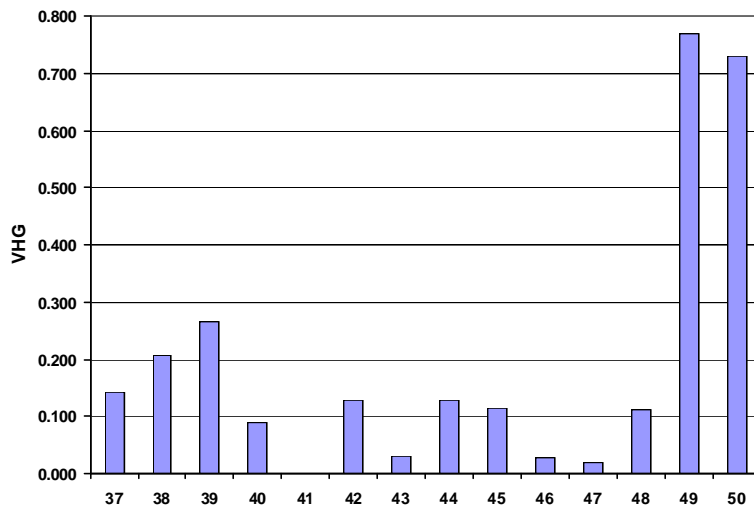
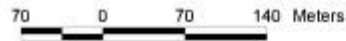
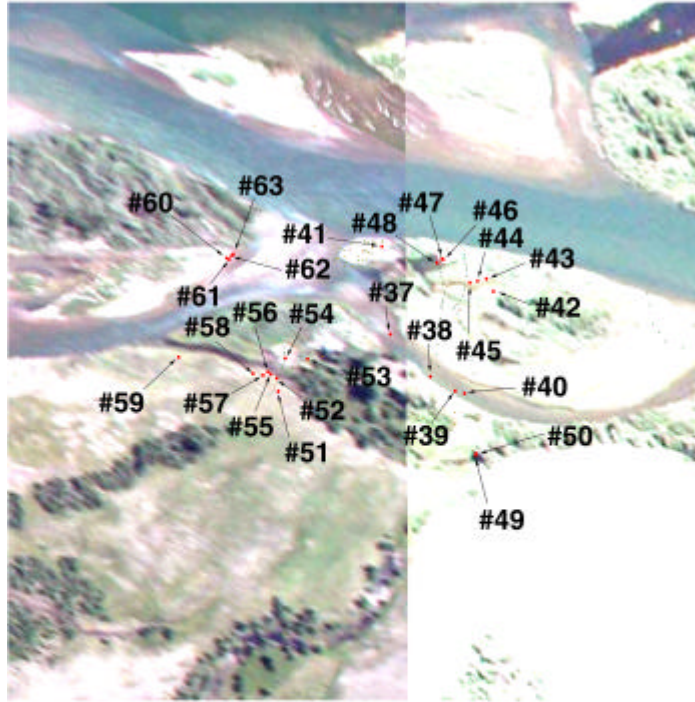
APPENDIX A Figure 5. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 13-24 correspond with Area B.



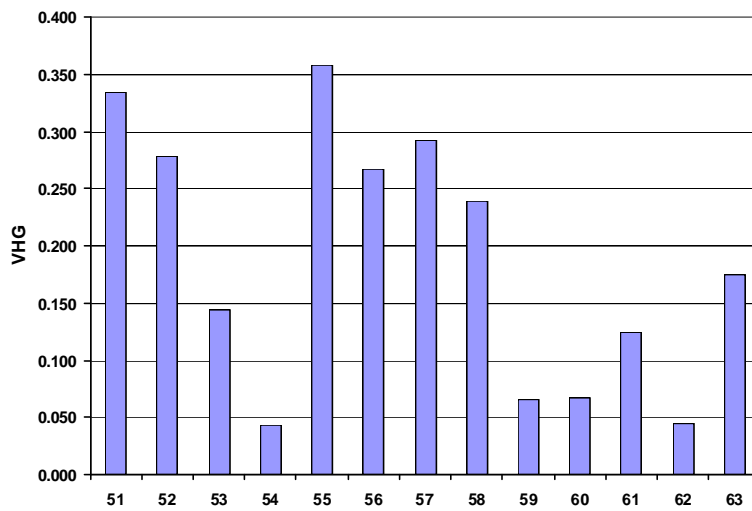
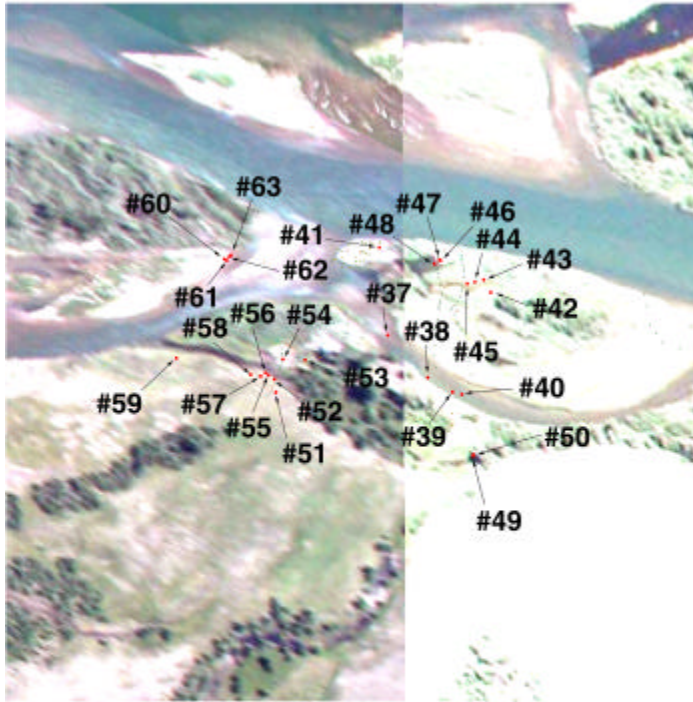
APPENDIX A Figure 6. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 25-36 correspond with Area D.



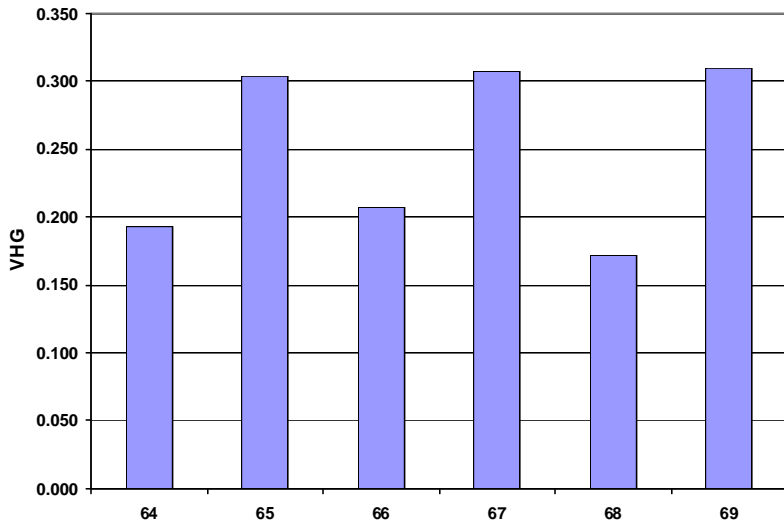
APPENDIX A Figure 7. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 37-50 correspond with Area G.



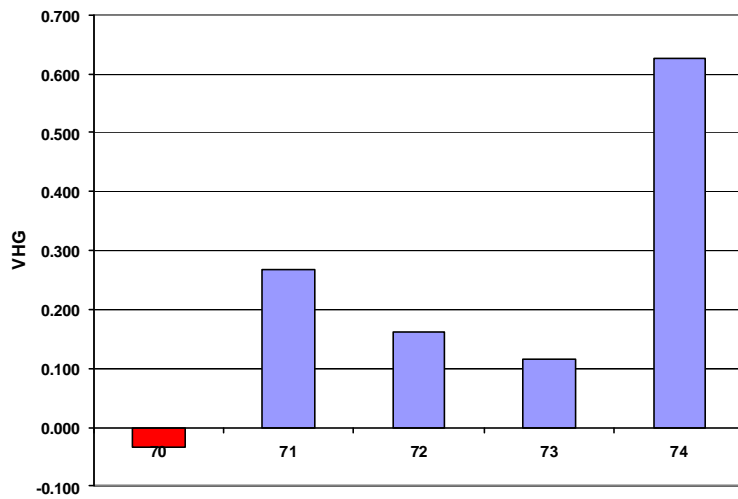
APPENDIX A Figure 8. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 51-63 correspond with Area G.



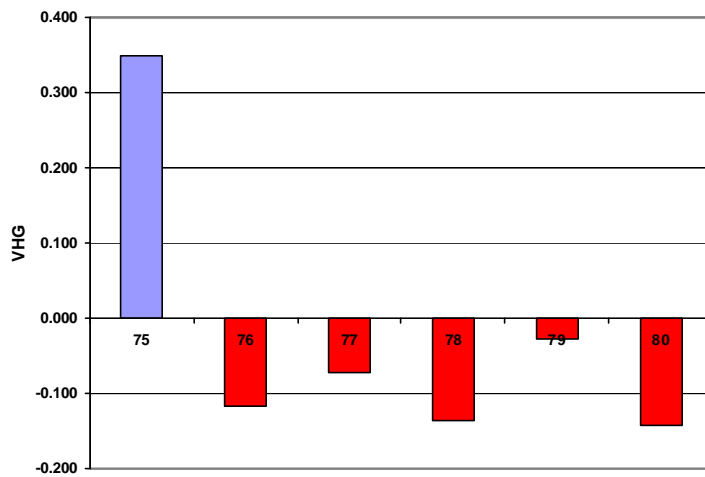
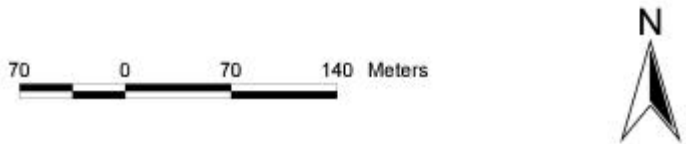
APPENDIX A Figure 9. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 64-69 correspond with Area F.



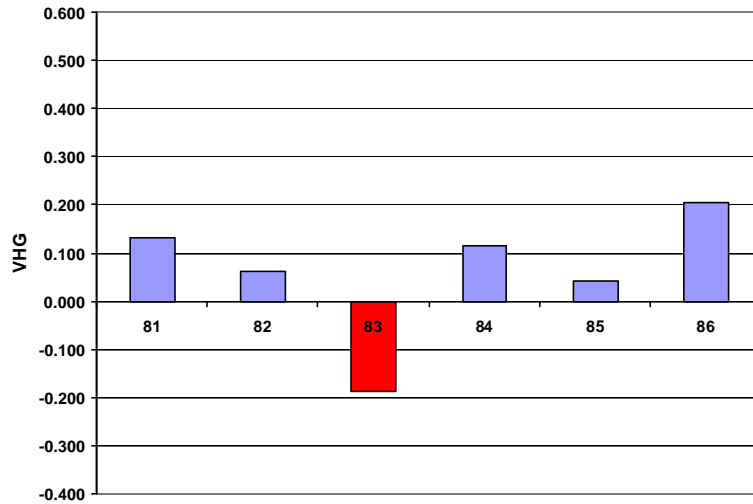
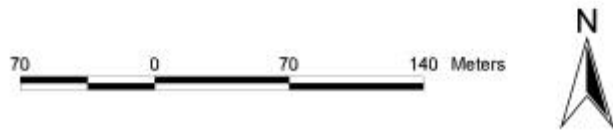
APPENDIX A Figure 10. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 70-74 correspond with Area E.



APPENDIX A Figure 11. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 75-80 correspond with Area A.



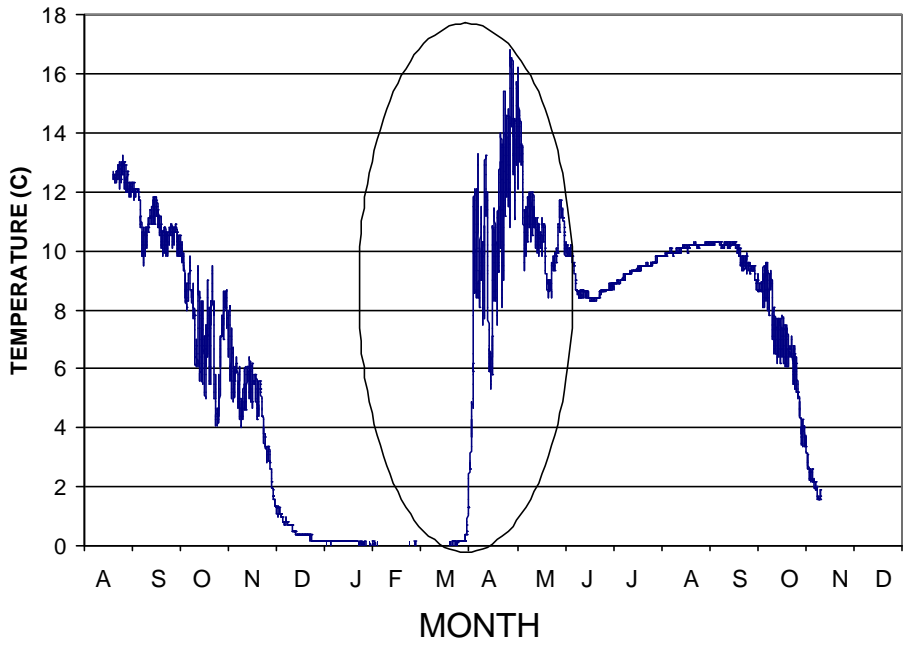
APPENDIX A Figure 12. Georectified aerial photo with piezometer locations on the Fisher Floodplain. Piezometers 81-86 correspond with Area H.



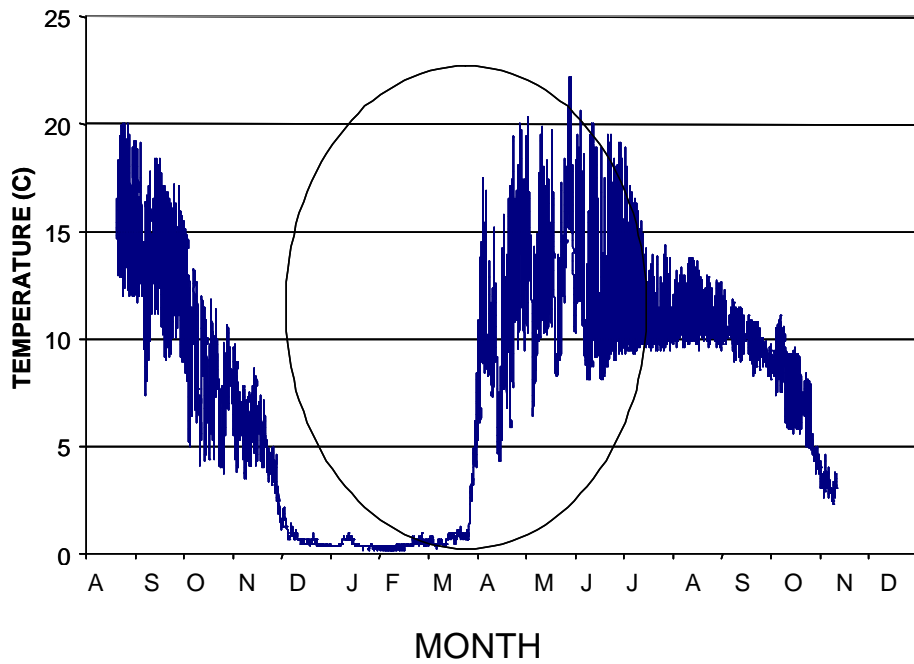
APPENDIX A Figure 13. Georectified hyperspectral image of the Fisher floodplain with locations of Temperature loggers. Temperatures were recorded every two hours for 16 months. Data are displayed in the following figures.



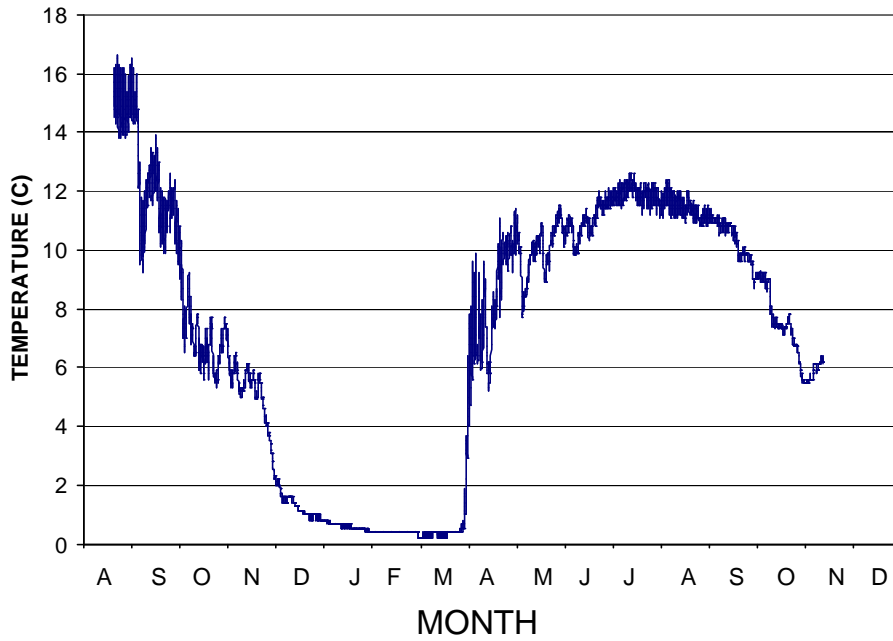
APPENDIX A Figure 14. Temperatures at Thermal Site 1 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours. Circled temperatures were the result of exposure to atmospheric temperatures during low discharge.



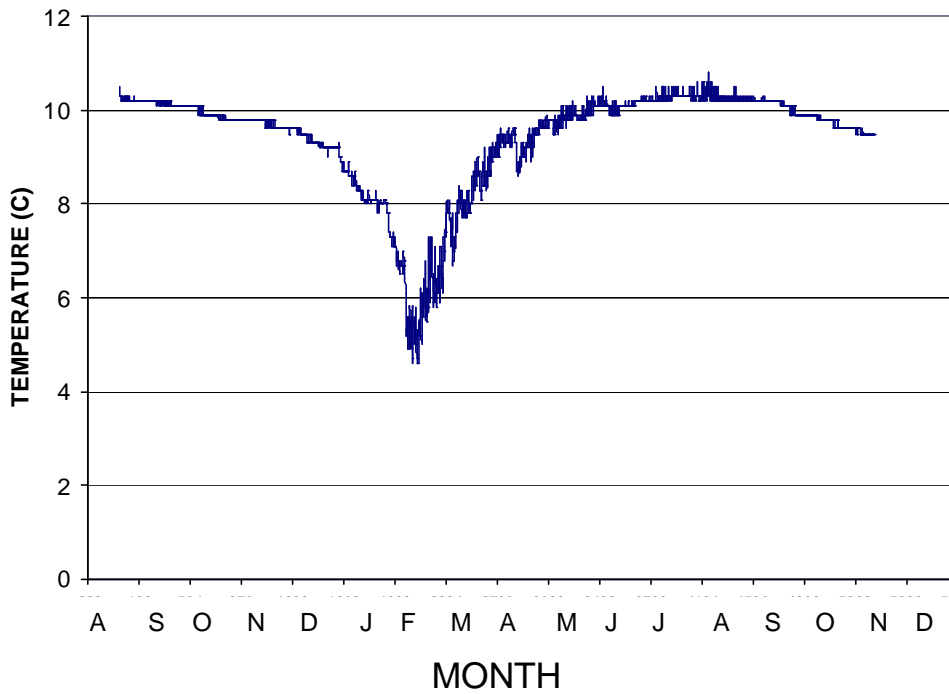
APPENDIX A Figure 15. Temperatures at Thermal Site 2 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours. Circled temperatures were the result of exposure to atmospheric temperatures during low discharge.



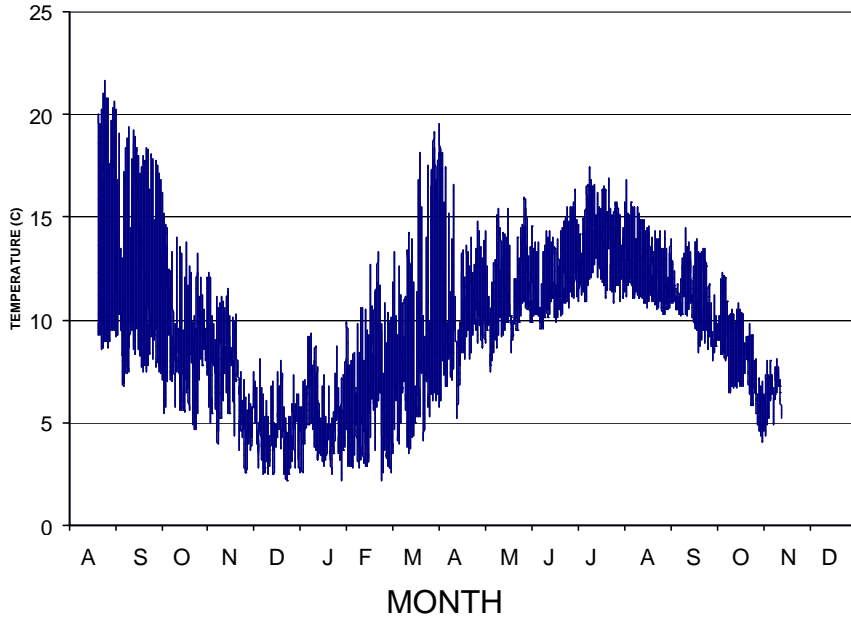
APPENDIX A Figure 16. Temperatures at Thermal Site 3 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours.



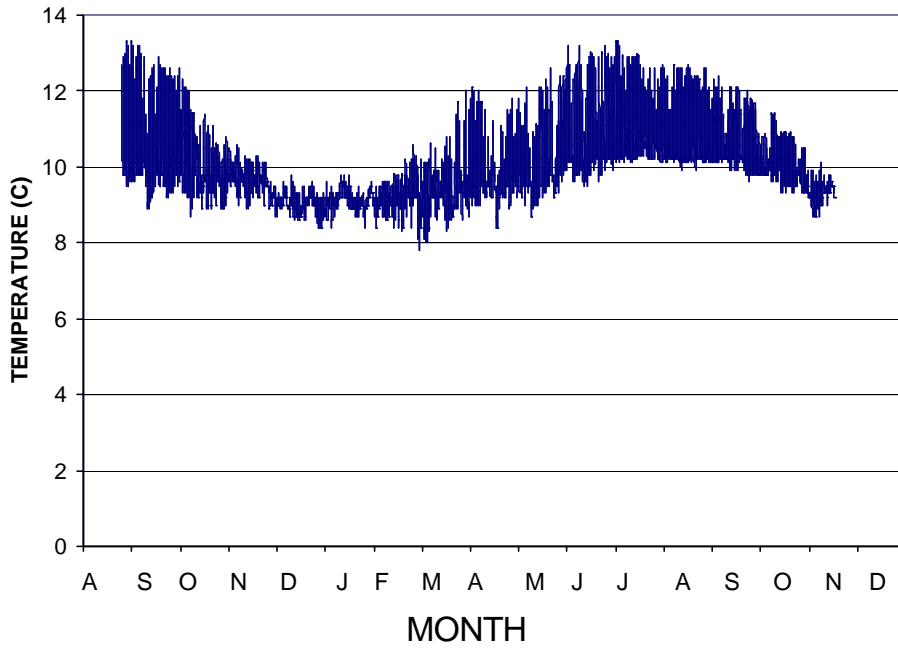
APPENDIX A Figure 17. Temperatures at Thermal Site 4 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours.



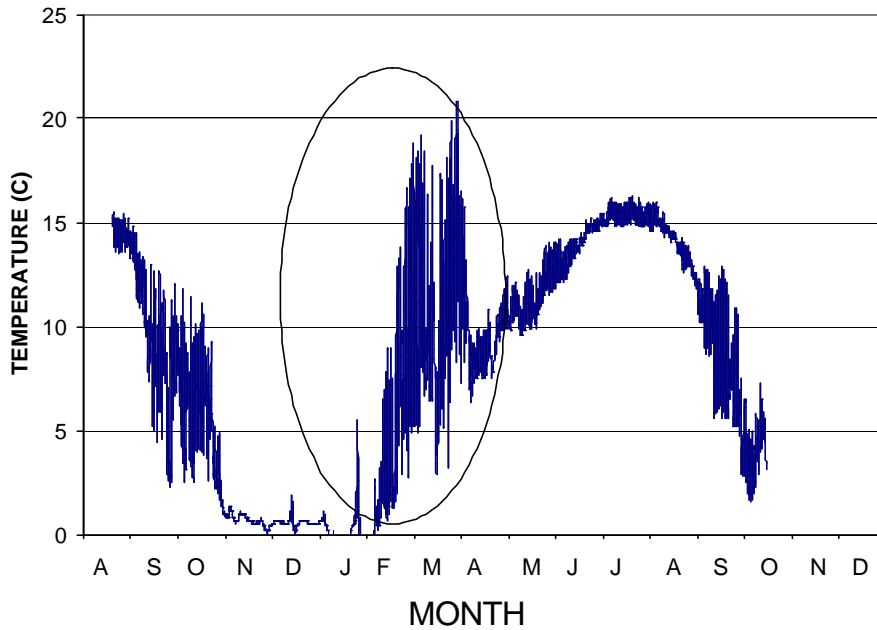
APPENDIX A Figure 18. Temperatures at Thermal Site 5 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours



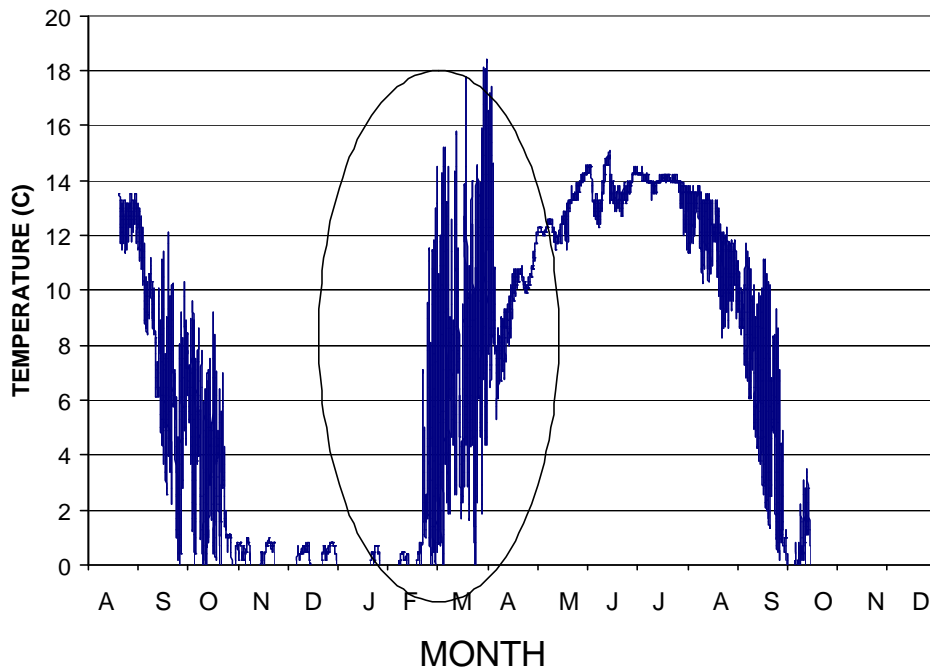
APPENDIX A Figure 19. Temperatures at Thermal Site 6 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours



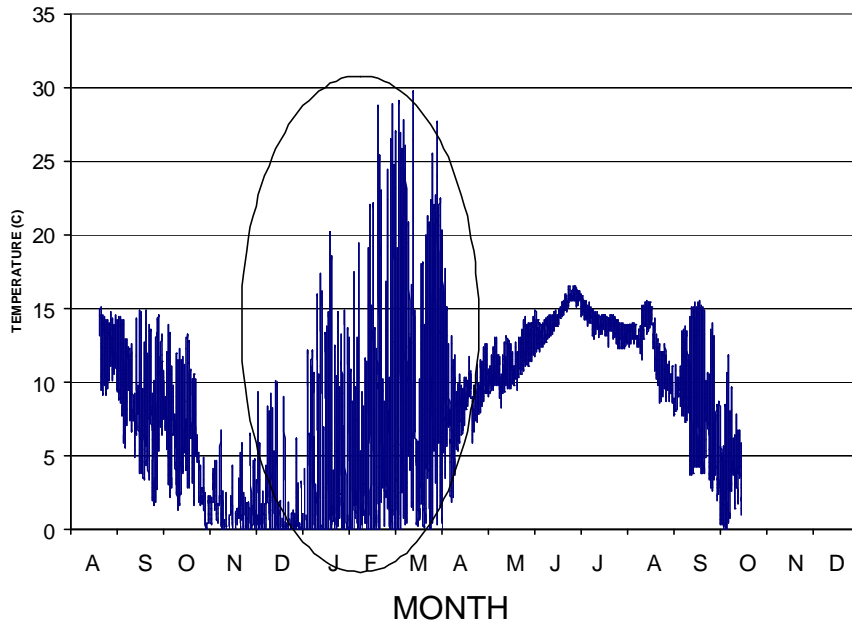
APPENDIX A Figure 20. Temperatures at Thermal Site 7 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours. Circled temperatures were the result of exposure to atmospheric temperatures during low discharge.



APPENDIX A Figure 21. Temperatures at Thermal Site 8 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours. Circled temperatures were the result of exposure to atmospheric temperatures during low discharge.



APPENDIX A Figure 22. Temperatures at Thermal Site 9 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours. Circled temperatures were the result of exposure to atmospheric temperatures during low discharge.



APPENDIX A Figure 23. Temperatures at Thermal Site 10 on the Fisher floodplain Aug 2001 – Nov 2002. Data were recorded every two hours.

