

Well Number	50 m Buffer						100 m Buffer						200 m Buffer						Drainage Code	Texture code	Geology Code	Surficial Texture	Parent Material
	% For	% Rur	% Ag	% Urb	% For	% Rur	% Ag	% Urb	% For	% Rur	% Ag	% Urb	% For	% Rur	% Ag	% Urb	% For	% Rur					
40	19.8	31.1	37.5	0.0	51.2	11.3	25.6	5.4	50.4	14.9	37.8	16.6	1	2	5	1	2	1	2	5	1	2	2
41	5.1	94.6	0.0	0.0	28.9	52.7	10.8	0.0	48.8	28.5	16.9	0.0	1	2	5	4	2	1	2	5	4	2	2
42	0.0	0.0	0.0	100.0	0.4	12.1	0.3	81.9	22.7	24.5	7.5	46.4	1	2	5	4	2	1	2	5	4	2	2
43	0.0	78.6	20.1	0.0	7.9	56.9	14.1	15.6	23.9	29.4	18.8	24.6	1	2	5	1	2	1	2	5	1	2	2
44	58.4	41.6	0.0	0.0	61.8	33.5	0.0	0.0	84.8	12.4	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
45	50.9	43.4	0.0	0.0	34.5	59.2	0.0	0.0	49.1	47.6	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
46	82.6	17.4	0.0	0.0	88.9	11.1	0.0	0.0	83.3	14.1	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
47	59.8	40.2	0.0	0.0	66.3	31.0	0.0	0.0	76.9	13.9	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
48	90.8	9.2	0.0	0.0	76.5	23.5	0.0	0.0	72.0	28.0	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
49	39.6	60.4	0.0	0.0	51.9	42.4	0.0	0.0	50.4	38.8	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
50	25.0	62.3	0.0	0.0	39.1	53.8	0.0	0.0	49.2	47.1	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
51	94.6	5.4	0.0	0.0	61.5	33.4	0.0	0.0	55.6	55.5	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
52	100.0	0.0	0.0	0.0	94.8	5.2	0.0	0.0	67.8	26.0	0.0	0.0	2	3			6	2	3				6
53	100.0	0.0	0.0	0.0	81.0	19.0	0.0	0.0	82.1	17.2	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
54	7.6	0.0	92.4	0.0	45.2	0.0	54.5	0.0	58.2	1.4	31.2	0.0	3	2	2	2	1	3	2	2	2	2	1
55	44.7	43.1	9.5	0.0	38.9	20.3	26.2	0.0	47.8	8.4	33.5	0.0	5	3			7	5	3	4	4	4	7
56	0.8	91.6	0.0	0.0	19.4	73.0	0.0	0.0	44.0	78.6	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
57	71.9	0.0	28.1	0.0	63.3	8.1	28.5	0.0	58.8	8.4	32.8	0.0	3	2			1	3	2	2	2	2	1
58	97.6	0.0	0.0	0.0	87.0	7.8	0.0	0.0	81.1	15.9	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
59	74.3	0.0	0.0	12.1	54.3	0.0	0.0	24.1	47.0	5.3	13.5	21.0	1	2	5	4	2	1	2	5	4	2	2
60	34.3	65.7	0.0	0.0	73.6	23.1	0.0	0.0	85.0	12.4	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
61	86.2	0.0	0.0	0.0	71.1	0.0	0.0	0.0	57.6	5.0	0.0	0.0	5	5			5	5	5	5	5	4	5
62	0.0	100.0	0.0	0.0	96.7	2.1	0.0	0.0	90.7	8.4	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
63	88.1	2.1	0.0	0.0	82.7	9.8	0.0	0.0	87.3	6.5	2.7	0.0	3	2	N/A	N/A	1	3	2	N/A	N/A	N/A	1
64	65.6	34.4	0.0	0.0	59.2	35.9	0.0	0.0	61.0	36.0	0.0	0.0	3	2	N/A	N/A	1	3	2	N/A	N/A	N/A	1
65	93.2	0.0	0.0	0.0	91.0	0.0	0.0	0.0	64.8	19.3	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
66	4.9	95.1	0.0	0.0	29.8	67.6	0.0	0.0	57.3	32.0	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
67	0.0	100.0	0.0	0.0	9.9	90.1	0.0	0.0	29.2	69.3	0.0	0.0	3	2	N/A	N/A	1	3	2	N/A	N/A	N/A	1
68	8.7	84.9	0.0	0.0	48.8	47.0	0.0	0.0	61.7	36.1	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
69	48.8	51.2	0.0	0.0	75.3	21.9	0.0	0.0	73.6	22.5	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
70	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	93.1	2.5	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
71	43.7	56.3	0.0	0.0	61.5	34.9	0.0	0.0	71.8	23.5	0.0	0.0	2	3	N/A	N/A	6	5	3	N/A	N/A	N/A	6
73	0.0	100.0	0.0	0.0	28.1	71.9	0.0	0.0	58.4	39.3	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
74	75.2	24.8	0.0	0.0	90.9	9.1	0.0	0.0	81.6	2.3	0.0	0.0	5	5			5	5	5	N/A	N/A	N/A	5
75	29.3	46.1	7.4	0.0	43.2	20.9	28.4	0.0	53.5	13.1	30.1	0.0	2	4	5	4	5	3	4	5	5	4	5
76	100.0	0.0	0.0	0.0	96.0	0.0	0.0	0.0	88.4	8.4	0.0	0.0	3	2	2	2	1	3	2	2	2	2	1
77	13.9	74.3	0.0	0.0	35.2	55.6	2.5	0.0	53.5	34.5	8.7	0.0	5	5			5	5	5	5	5	4	5
79	0.0	38.3	54.0	0.0	4.7	23.6	63.6	0.0	15.7	23.7	56.4	0.0	2	2	5	1	6	2	2	5	1	1	6

Appendix 9 – Raw Stream Data

Size and Location

Station	X-COR	Y-COR	%For 100 m	%Ag 100 m	%Wet/Rip 100 m	%Clear 100 m	Other m	Forest Area (Ha)	Ag Area (Ha)	Clearing Area (Ha)	Wet/Rip Area (Ha)	Other Area (Ha)	Total Area (Ha)	Length (km)
1	55867.59	544584.15	52.90	31.00	6.10	8.70	1.30	88.97	62.75	20.85	10.82	3.37	186.75	8.92
2	556001.87	5448433.14	98.00	0.00	0.00	2.00	0.00	52.29	0.00	1.19	0.00	0.27	53.76	2.551
4	556127.07	5449966.08	97.80	0.00	0.00	1.40	0.70	38.91	0.00	0.56	0.00	0.29	39.76	1.911
5	555977.05	5451000.45	94.50	1.70	0.00	3.60	0.20	221.13	3.90	8.45	0.00	0.50	233.98	10.479
6	556456.87	5452709.80	98.80	0.00	0.00	0.60	0.50	41.94	0.00	0.26	0.00	0.29	42.43	2.132
7	557017.22	5455038.22	98.20	0.00	0.00	0.90	0.90	31.39	0.00	0.28	0.00	0.30	31.96	1.471
8	555032.33	5452230.37	79.20	16.90	0.00	2.60	1.20	19.87	4.25	0.66	0.00	0.30	25.07	1.108
9	555359.08	5452233.43	77.60	8.70	0.00	9.90	3.70	30.30	3.40	3.89	0.00	0.28	39.04	1.833
10	554820.10	5452228.85	88.79	3.30	0.00	5.90	2.00	51.67	1.92	3.43	0.00	1.17	58.19	2.789
11	554806.36	5451802.86	79.58	4.70	0.00	6.07	9.60	157.22	9.31	11.99	1.00	13.18	187.70	9.855
12	554314.72	5451769.27	96.20	3.10	0.00	0.20	0.40	37.71	1.22	0.09	0.00	0.18	39.27	1.827
13	553476.49	5449758.43	61.40	20.00	0.00	11.00	6.70	67.50	5.53	4.45	0.00	0.57	78.05	3.925
14	554557.49	5449772.17	69.33	18.85	1.29	7.67	2.86	382.43	103.99	42.31	7.11	15.76	551.60	40.738
15	554504.05	5449805.76	62.10	26.70	1.30	8.50	1.20	115.45	49.68	15.89	2.51	2.40	185.89	9.929
16	554814.00	5450051.58	76.30	18.70	0.80	3.30	0.80	288.40	70.72	12.74	3.05	3.05	377.96	19.093
17	554823.16	5448779.73	68.90	21.10	1.80	6.10	2.09	725.87	222.73	64.29	18.98	22.01	1053.88	56.24
18	554830.79	5448285.04	2.10	78.20	4.20	8.60	6.60	0.21	7.46	0.83	0.40	0.64	9.52	0.337
19	555646.12	5448172.05	69.21	20.60	1.99	5.90	2.30	784.19	232.97	67.28	22.55	26.09	1133.07	60.446

Temperature (Degrees Celcius)

Station	May 16, 2002	July 2, 2002	July 24, 2002	Aug 22, 2002	Sept 20, 2002	Oct 16, 2002	Nov 19, 2002	Dec 19, 2002	Jan 30, 2003	Mar 12, 2003	Avg - Dry	Avg - Wet
1	15.00	17.00	25.80	20.20	15.30	12.70	9.80	6.60	8.00	6.90	17.67	7.83
2	8.00	12.00	17.50	14.20	13.10	11.30	9.90	8.20	7.80	6.00	12.68	7.98
4	8.00	11.30	Skipped	15.70	Skipped	11.40	10.20	7.80	7.50	6.40	11.60	7.98
5	10.50	12.40	27.00	16.80	15.80	9.00	9.90	8.00	8.10	6.40	15.25	8.10
6	8.70	13.00	23.40	16.20	12.20	9.80	9.90	6.50	7.10	5.90	13.88	7.35
7	7.00	10.70	Dry	Dry	Dry	Dry	11.00	7.60	6.70	5.70	8.85	7.75
8	9.80	10.80	12.60	10.30	11.40	8.40	10.50	7.00	7.70	6.40	10.55	7.90
9	9.60	10.50	31.00	10.40	11.50	8.60	10.50	7.10	8.10	6.70	13.60	8.10
10	9.30	10.80	13.50	10.50	10.40	8.70	10.50	7.20	7.90	6.40	10.53	8.00
11	7.40	14.00	18.50	13.10	12.20	9.60	9.90	6.60	7.70	6.30	12.47	7.63
12	9.70	13.30	20.50	18.30	14.50	12.00	11.00	6.20	6.90	6.00	14.72	7.53
13	11.50	12.70	19.40	17.50	13.00	11.20	10.00	7.10	7.90	6.50	14.22	7.88
14	13.00	15.80	19.90	19.00	16.10	10.70	10.90	6.40	7.50	6.30	15.75	7.78
15	14.00	16.80	26.40	21.10	13.10	12.00	9.50	6.00	7.20	6.40	17.23	7.28
16	13.50	19.80	23.60	24.00	12.00	11.30	10.90	6.60	8.30	6.40	17.37	8.05
17	13.40	14.70	27.20	20.40	15.30	11.90	10.00	6.60	7.80	6.40	17.15	7.70
18	19.00	23.40	28.70	22.40	16.30	14.30	10.60	5.70	7.10	6.20	20.68	7.40
19	12.00	16.90	26.70	20.40	14.80	11.60	10.70	6.40	7.80	6.40	17.07	7.83

Station	Nitrate (mg/L)												
	May 16, 2002	July 2, 2002	Aug 22, 2002	Oct 16, 2002	Nov, 19, 2002	Dec 19, 2002	Jan 30, 2003	Mar 12, 2003	May 5, 2003	Avg - Dry	Avg - Wet		
1	0.06	0.02	0.02	0.00	0.94	0.48	0.40	0.34	0.03	0.05	0.44		
2	0.17	0.25	0.28	0.48	0.41	0.37	0.21	0.20	0.20	0.30	0.28		
4	0.17	0.23	0.27	0.43	1.25	0.60	0.38	0.39	0.23	0.27	0.57		
5	0.32	0.28	0.20	0.27	1.45	0.78	0.60	0.52	0.37	0.27	0.74		
6	0.19	0.15	0.16	0.27	0.38	0.36	0.25	0.25	0.17	0.19	0.28		
7	0.18	0.12	DRY	DRY	0.17	0.30	0.02	0.14	0.09	0.15	0.14		
8	0.22	0.20	0.16	0.20	1.02	0.56	0.52	0.56	0.43	0.19	0.62		
9	0.43	0.42	0.20	0.50	0.97	0.39	0.37	0.47	0.21	0.39	0.48		
10	0.29	0.26	0.47	0.26	1.43	0.68	0.59	0.64	0.28	0.32	0.72		
11	0.26	0.25	0.23	0.35	0.77	0.54	0.35	0.32	0.32	0.28	0.46		
12	0.18	0.20	0.35	0.30	0.94	0.47	0.39	0.41	0.21	0.26	0.48		
13	0.56	0.51	0.41	0.47	2.51	1.89	1.52	1.43	0.92	0.49	1.65		
14	0.29	0.23	0.19	0.36	1.29	1.11	0.87	0.91	0.37	0.27	0.91		
15	0.31	0.17	0.04	0.09	1.22	1.21	0.91	1.05	0.45	0.16	0.97		
16	0.31	0.13	0.09	0.18	1.76	0.88	0.50	0.45	0.26	0.17	0.77		
17	0.29	0.04	0.28	0.34	0.95	0.78	0.56	0.50	0.33	0.24	0.62		
18	0.10	0.02	0.02	0.12	0.82	0.66	0.38	0.39	0.06	0.06	0.46		
19	0.00	0.24	0.27	0.34	0.96	0.82	0.61	0.56	0.33	0.21	0.65		

Conductivity (μS/cm)														
Station	May 02, 2002	May 16, 2003	July 2, 2002	July 24, 2002	Aug 22, 2003	Sept 20, 2002	Oct 16, 2002	Nov 19, 2002	Dec 19, 2002	Jan 30, 2003	Mar 12, 2003	Avg - Dry	Avg - Wet	
1	71.00	80.00	105.00	95.60	100.70	82.80	84.00	49.40	47.40	46.60	34.60	88.44	44.50	
2	67.00	29.00	32.50	36.00	41.20	43.90	49.10	23.00	31.40	25.70	23.10	42.67	25.80	
4	26.00	27.70	28.50	skipped	37.20	skipped	38.10	31.00	31.10	28.00	25.90	31.50	29.00	
5	36.00	33.00	40.60	42.70	22.10	51.50	54.60	34.00	34.90	32.00	28.30	40.07	32.30	
6	28.00	31.00	35.00	41.60	45.40	45.90	50.10	27.00	34.40	31.70	29.60	39.57	30.68	
7	10.00	15.50	20.60	Dry	Dry	Dry	Dry	13.70	26.10	17.36	17.91	15.37	18.77	
8	137.00	147.00	143.50	146.50	151.00	149.00	163.00	42.00	123.60	65.40	51.30	148.14	70.58	
9	83.00	89.00	86.50	87.70	89.30	86.60	93.20	31.00	71.00	112.80	89.10	87.90	75.98	
10	87.00	89.00	90.90	100.10	103.30	100.00	108.00	37.00	61.20	55.70	43.30	96.90	49.30	
11	32.00	44.00	51.70	150.00	66.50	75.40	271.00	61.00	44.20	36.30	32.10	98.66	43.40	
12	Skipped	14.30	15.20	21.10	23.70	22.20	23.30	17.00	14.50	13.91	13.00	19.97	14.60	
13	43.00	12.00	45.80	55.20	56.90	59.60	66.50	35.00	35.60	32.30	27.10	48.43	32.50	
14	61.00	73.20	85.30	88.70	125.40	151.40	106.70	59.00	49.70	52.90	36.00	98.81	49.40	
15	81.00	84.50	92.80	78.20	160.60	115.90	235.00	58.00	49.60	54.30	35.10	121.14	49.25	
16	72.00	81.00	83.70	100.00	120.50	108.10	109.20	70.90	76.30	69.70	49.00	96.36	66.48	
17	62.00	71.50	79.80	91.40	102.40	94.80	104.90	37.00	57.80	52.50	42.50	86.69	47.45	
18	136.00	159.00	149.00	188.00	196.70	235.00	244.00	57.00	90.00	90.10	60.30	183.96	74.35	
19	67.00	73.00	81.90	95.10	107.00	98.50	106.10	40.00	61.10	56.50	47.90	89.80	51.38	

Appendix 10. Dendrogram Used to Determine Clusters in Figure 25



