Table 1. Contingency table analysis of the association of presence of frogs with categorical environmental variables. Analysis is performed separately for each age class (larva or adult) for each species (spotted frog or treefrog). The N and Y on the left side of each contingency table refer to the presence (Y) or absence (N) of that species/life stage. The numbers in each box refer are the observed number of sites in that cell (above) and the expected number of sites in that cell (below), based on independence of presence and the environmental parameter. Statistical analysis is the G-test (Likelihood Ratio X^2) of SAS Proc FREQ. Statistical analyses were not performed on Spotted frog larvae due to low sample sizes.

SPOTTED FROGS

Spotted Frog Larvae by NWI System

	P	R3	R4		Total
N(absent)	148	12	25	<Observed	185
	148.59	11.809	24.601	<Expected	
Y(present)	3	0	0		3
	2.4096	0.1915	0.3989		
Total	151	12	25		188

Spotted Frog Larvae by NWI Class

	EM	FO	SB	SS	UB	US	Total
N	45	3	22	97	16	2	185
	46.25	2.9521	21.649	96.436	15.745	1.9681	
Y	2	0	0	1	0	0	3
	0.75	0.0479	0.3511	1.5638	0.2553	0.0319	
Total	47	3	22	98	16	2	188

Spotted Frog Larvae by NWI Regime

	A	B	C	F	H	Total
N	21	3	131	17	13	185
	20.665	2.9521	131.86	16.729	12.793	
Y	0	0	3	0	0	3
	0.3351	0.0479	2.1383	0.2713	0.2074	
Total	21	3	134	17	13	188

Spotted Frog Larvae by Weather

	CLOUDY	PCLOUD	RAINY	SUNNY	Total
N	53	9	8	119	189
	53.156	8.8594	7.875	119.11	
Y	1	0	0	2	3
	0.8438	0.1406	0.125	1.8906	
Total	54	9	8	121	192

Spotted Frog Larvae by Water Body Type

	Oxbow	Pond	Pool	Riffle	Run	Total
N	34 34.453	12 12.797	29 29.531	36 35.438	78 76.781	189
Y	1 0.5469	1 0.2031	1 0.4688	0 0.5625	0 1.2188	3
Total	35	13	30	36	78	192

Spotted Frog Larvae by Presence of Hiding Place

	N	Y	Total
N	53 52.025	107 107.98	160
Y	0 0.9755	3 2.0245	3
Total	53	110	163

Spotted Frog Adults by NWI System

	P	R3	R4	Total
N	116 118.07	7 9.383	24 19.548	147
Y	35 32.931	5 2.617	1 5.4521	41
Total	151	12	25	188

G-test df = 2 G = 8.993 P = 0.011

Spotted Frog Adults by NWI Class

	EM	FO	SB	SS	UB	US	Total
N	39 36.75	3 2.3457	22 17.202	72 76.628	10 12.511	1 1.5638	147
Y	8 10.25	0 0.6543	0 4.7979	26 21.372	6 3.4894	1 0.4362	41
Total	47	3	22	98	16	2	188

G-test df = 5 G = 16.982 P = 0.005

Spotted Frog Adults by NWI Regime

	A	B	C	F	H	Total
N	19 16.42	3 2.3457	101 104.78	17 13.293	7 10.165	147
Y	2 4.5798	0 0.6543	33 29.223	0 3.7074	6 2.8351	41
Total	21	3	134	17	13	188

G-test df = 4 G = 16.451 P = 0.002

Spotted Frog Adults by Weather

	CLOUDY	PCLOUD	RAINY	SUNNY	Total
N	43 42.469	8 7.0781	8 6.2917	92 95.161	151
Y	11 11.531	1 1.9219	0 1.7083	29 25.839	41
Total	54	9	8	121	192

G-test df = 3 G = 5.005 P = 0.171

Spotted Frog Adults by Water Body Type

	Oxbow	Pond	Pool	Riffle	Run	Total
N	14 27.526	11 10.224	18 23.594	35 28.312	73 61.344	151
Y	21 7.474	2 2.776	12 6.4063	1 7.6875	5 16.656	41
Total	35	13	30	36	78	192

G-test df = 4 G = 54.209 P = 0.000

Spotted Frog Adults by Presence of Hiding Place

	N	Y	Total
N	50 43.571	84 90.429	134
Y	3 9.4294	26 19.571	29
Total	53	110	163

G-test df = 1 G = 9.274 P = 0.002

TREEFROGS

Treefrog Larvae by NWI System

	P	R3	R4	Total
N	123 120.48	8 9.5745	19 19.947	150
Y	28 30.521	4 2.4255	6 5.0532	38
Total	151	12	25	188

G-test df = 2 G = 1.607 P = 0.448

Treefrog Larvae by NWI Class

	EM	FO	SB	SS	UB	US	Total
N	31 37.5	3 2.3936	17 17.553	88 78.191	10 12.766	1 1.5957	150
Y	16 9.5	0 0.6064	5 4.4468	10 19.809	6 3.234	1 0.4043	38
Total	47	3	22	98	16	2	188

G-test df = 5 G =16.856 P = 0.005

Treefrog Larvae by NWI Regime

	A	B	C	F	H	Total
N	16 16.755	3 2.3936	108 106.91	13 13.564	10 10.372	150
Y	5 4.2447	0 0.6064	26 27.085	4 3.4362	3 2.6277	38
Total	21	3	134	17	13	188

G-test df = 4 G = 1.747 P = 0.782

Treefrog Larvae by Weather

	CLOUDY	PCLOUD	RAINY	SUNNY	Total
N	38 42.75	8 7.125	6 6.3333	100 95.792	152
Y	16 11.25	1 1.875	2 1.6667	21 25.208	40
Total	54	9	8	121	192

G-test df = 3 G = 3.924 P = 0.270

Treefrog Larvae by Water Body Type

	OXBO	POND	POOL	RIFF	RUN	Total
N	22 27.708	4 10.292	18 23.75	36 28.5	72 61.75	152
Y	13 7.2917	9 2.7083	12 6.25	0 7.5	6 16.25	40
Total	35	13	30	36	78	192

G-test df = 4 G =51.594 P = 0.000

Treefrog Larvae by Presence of Hiding Place

	N	Y	Total
N	45 40.319	79 83.681	124
Y	8 12.681	31 26.319	39
Total	53	110	163

G-test df = 1 G = 3.569 P = 0.059

Treefrog Adults by NWI System

	P	R3	R4	Total
N	143 142.97	12 11.362	23 23.67	178
Y	8 8.0319	0 0.6383	2 1.3298	10
Total	151	12	25	188

G-test df = 2 G = 1.623 P = 0.444

Treefrog Adults by NWI Class

	EM	FO	SB	SS	UB	US	Total
N	45 44.5	3 2.8404	21 20.83	92 92.787	15 15.149	2 1.8936	178
Y	2 2.5	0 0.1596	1 1.1702	6 5.2128	1 0.8511	0 0.1064	10
Total	47	3	22	98	16	2	188

G-test df = 5 G = 0.833 P = 0.975

Treefrog Adults by NWI Regime

	A	B	C	F	H	Total
N	19 19.883	3 2.8404	126 126.87	17 16.096	13 12.309	178
Y	2 1.117	0 0.1596	8 7.1277	0 0.9043	0 0.6915	10
Total	21	3	134	17	13	188

G-test df = 4 G = 4.320 P = 0.364

Treefrog Adults by Weather

	CLOUDY	PCLOUD	RAINY	SUNNY	Total
N	50 50.906	9 8.4844	7 7.5417	115 114.07	181
Y	4 3.0938	0 0.5156	1 0.4583	6 6.9323	11
Total	54	9	8	121	192

G-test df = 3 G = 1.977 P = 0.577

Treefrog Adults by Water Body Type

	OXBO	POND	POOL	RIFF	RUN	Total
N	35 32.995	9 12.255	27 28.281	36 33.938	74 73.531	181
Y	0 2.0052	4 0.7448	3 1.7187	0 2.0625	4 4.4688	11
Total	35	13	30	36	78	192

G-test df = 4 G =17.161 P = 0.002

Treefrog Adults by Presence of Hiding Place

	N	Y	Total
N	50 49.423	102 102.58	152
Y	3 3.5767	8 7.4233	11
Total	53	110	163

G-test df = 1 G = 0.152 P = 0.697

Table 2. Results of Multivariate Analysis of Variance examining the whether transects with larval frogs differ from those without larval frogs. The statistical model used was SPOTLA TREELA = DEPTH, WIDTH, GRAZE, etc..., where SPOTLA and TREELA refer to the presence or absence of spotted frog larvae or treefrog larvae, respectively. To control for Type I error, probability values should be evaluated for significance against a Bonferroni corrected $\alpha = 0.003$. Because the overall MANOVA for Spotted frog larvae is not significant, univariate tests for that species should not be evaluated. *statistically significant; #marginally significant.

OVERALL MANOVA RESULTS

Species	Wilks' Lambda	F	Num DF	Den DF	P
Spotted Frog Larvae	0.86148323	1.5228	17	161	0.0925
Treefrog Larvae	0.74750176	3.1991	17	161	0.0001*

UNIVARIATE TESTS

Environmental Variable	Species	df	Mean Square	F	P
DEPTH					
	SPOTLA	1	148.67886	0.88	0.3483
	TREELA	1	115.12593	0.68	0.4090
	Error	177	168.09780		
WIDTH					
	SPOTLA	1	18.54682	0.63	0.4271
	TREELA	1	271.02782	9.26	0.0027*
	Error	177	29.27740		
GRAZE					
	SPOTLA	1	1.12311	1.90	0.1693
	TREELA	1	2.41007	4.09	0.0447
	Error	177	0.58963		
MUD					
	SPOTLA	1	8380.02233	6.44	0.0120
	TREELA	1	28011.51245	21.52	0.0001*
	Error	177	1301.38271		
SAND					
	SPOTLA	1	812.55792	0.74	0.3894
	TREELA	1	705.20974	0.65	0.4225
	Error	177	1091.24921		
GRAVEL					
	SPOTLA	1	1513.01798	1.28	0.2589
	TREELA	1	12347.39018	10.47	0.0014*
	Error	177	1179.35836		
ROCK					
	SPOTLA	1	478.90922	0.64	0.4258
	TREELA	1	1684.71246	2.24	0.1361
	Error	177	751.61030		
SAGE					
	SPOTLA	1	0.12253	0.24	0.6259
	TREELA	1	0.71300	1.39	0.2404
	Error	177	0.51388		
GRASS					
	SPOTLA	1	0.77883	1.34	0.2486
	TREELA	1	0.98090	1.69	0.1956
	Error	177	0.58130		

(CONTINUED)

Environmental Variable	Species	df	Mean Square	F	P
FORB					
	SPOTLA	1	1.03824	1.90	0.1703
	TREELA	1	4.00914	7.32	0.0075#
	Error	177	0.54781		
REED					
	SPOTLA	1	1.84933	1.57	0.2119
	TREELA	1	18.50595	15.71	0.0001*
	Error	177	1.17796		
BARE					
	SPOTLA	1	0.90353	1.12	0.2919
	TREELA	1	4.79730	5.93	0.0158
	Error	177	0.80850		
WILLOW					
	SPOTLA	1	0.00557	0.01	0.9401
	TREELA	1	3.71094	3.77	0.0536
	Error	177	0.98310		
COTTON					
	SPOTLA	1	0.43607	7.96	0.0053#
	TREELA	1	0.01912	0.35	0.5554
	Error	177	0.05478		
EMERGE					
	SPOTLA	1	2.06823	2.85	0.0929
	TREELA	1	11.74411	16.21	0.0001*
	Error	177	0.72459		
SUBMERGE					
	SPOTLA	1	0.12926	0.21	0.6462
	TREELA	1	9.41167	.39	0.0001*
	Error	177	0.61140		
ALGAE					
	SPOTLA	1	0.02809	0.03	0.8629
	TREELA	1	12.41571	13.22	0.0004*
	Error	177	0.93942		

Table 2 (continued) . Means and standard deviations of environmental variables analyzed by MANOVA for larval spotted frogs and larval treefrogs.

Presence of Spotted Frog Larvae	N	DEPTH Mean	DEPTH SD	WIDTH Mean	WIDTH SD	GRAZE Mean	GRAZE SD	MUD Mean	MUD SD
N	178	18.556	12.971	2.833	5.550	1.162	0.774	24.612	38.205
Y	2	10.500	9.192	0.750	0.353	0.500	0.707	100.000	0.000

	N	SAND Mean	SAND SD	GRAVEL Mean	GRAVEL SD	ROCK Mean	ROCK SD	SAGE Mean	SAGE SD
N	178	21.938	33.094	34.438	35.342	18.084	27.588	0.550	0.719
Y	2	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.354

	N	GRASS Mean	GRASS SD	FORB Mean	FORB SD	REED Mean	REED SD	BARE Mean	BARE SD
N	178	1.070	0.766	1.106	0.755	1.462	1.132	1.203	0.914
Y	2	0.500	0.000	0.500	0.000	0.750	0.354	1.750	0.354

	N	WILLOW Mean	WILLOW SD	COTTON Mean	COTTON SD	EMERGE Mean	EMERGE SD	SUBMERGE Mean	SUBMERGE SD
N	178	0.91910	1.001	0.0370	0.228	1.070	0.881	0.551	0.808
Y	2	0.75000	0.353	0.5000	0.707	0.250	0.353	1.000	1.414

	N	ALGAE Mean	ALGAE SD
N	178	0.919	0.996
Y	2	1.250	1.768

Presence of Tree Frog Larvae	N	DEPTH Mean	DEPTH SD	WIDTH Mean	WIDTH SD	GRAZE Mean	GRAZE SD	MUD Mean	MUD SD
N	146	18.11	12.25	2.22	3.69	1.10	0.79	19.13	33.75
Y	34	19.97	15.68	5.30	9.88	1.38	0.65	52.58	47.18

	N	SAND Mean	SAND SD	GRAVEL Mean	GRAVEL SD	ROCK Mean	ROCK SD	SAGE Mean	SAGE SD
N	146	22.73	33.56	38.18	34.91	19.43	27.76	0.58	0.77
Y	34	17.20	30.43	16.32	31.84	11.23	25.65	0.41	0.35

	N	GRASS Mean	GRASS SD	FORB Mean	FORB SD	REED Mean	REED SD	BARE Mean	BARE SD
N	146	1.03	0.75	1.03	0.70	1.30	1.12	1.28	0.90
Y	34	1.20	0.81	1.39	0.90	2.10	0.92	0.88	0.85

	N	WILLOW Mean	WILLOW SD	COTTON Mean	COTTON SD	EMERGE Mean	EMERGE SD	SUBMERGE Mean	SUBMERGE SD
N	146	0.98	1.01	0.04	0.25	0.94	0.81	0.45	0.73
Y	34	0.61	0.88	0.02	0.17	1.57	1.00	1.04	0.94

	N	ALGAE Mean	ALGAE SD
N	146	0.79	0.92
Y	34	1.47	1.14

Table 3. Results of Multivariate Analysis of Variance examining the whether transects with adult frogs differ from those without adult frogs. The statistical model used was SPOTAD TREEAD = DEPTH, WIDTH, GRAZE, etc..., where SPOTAD and TREEAD refer to the presence or absence of spotted frog adults or treefrog adults, respectively. To control for Type I error, probability values should be evaluated for significance against a Bonferroni corrected $\alpha = 0.003$. Because the overall MANOVA for treefrogs is not significant, univariate tests for that species should not be evaluated. *statistically significant, #marginally significant

OVERALL MANOVA RESULTS

Species	Wilks' Lambda	F	Num DF	Den DF	P
Spotted Frog Adults	0.75518093	3.0702	17	161	0.0001*
Treefrog Adults	0.93419562	0.6671	17	161	0.8316

UNIVARIATE TESTS

Environmental Variable	Species	df	Square	F	P
DEPTH					
	SPOTAD	1	48.87976	0.29	0.5902
	TREEAD	1	236.10741	1.41	0.2373
	Error	177	167.90248		
WIDTH					
	SPOTAD	1	0.00097	0.00	0.9955
	TREEAD	1	11.17224	0.36	0.5477
	Error	177	30.79398		
GRAZE					
	SPOTAD	1	7.29159	12.94	0.0004*
	TREEAD	1	0.50957	0.90	0.3428
	Error	177	0.56330		
MUD					
	SPOTAD	1	2923.37	1.94	0.1654
	TREEAD	1	9.22082	0.01	0.9377
	Error	177	1506.61978		
SAND					
	SPOTAD	1	8902.27201	8.48	0.0040#
	TREEAD	1	238.93564	0.23	0.6338
	Error	177	1049.46348		
GRAVEL					
	SPOTAD	1	9308.05741	7.72	0.0061#
	TREEAD	1	836.30678	0.69	0.4061
	Error	177	1206.05579		
ROCK					
	SPOTAD	1	3808.84857	5.13	0.0247
	TREEAD	1	131.69954	0.18	0.6741
	Error	177	131373.70798		
SAGE					
	SPOTAD	1	6.15981	12.80	0.0004*
	TREEAD	1	0.38647	0.80	0.3714
	Error	177	0.48130		
GRASS					
	SPOTAD	1	1.70400	2.97	0.0864
	TREEAD	1	1.48911	2.60	0.1087
	Error	177	0.57302		

FORB					
	SPOTAD	1	3.83211	6.95	0.0091#
	TREEAD	1	0.15711	0.28	0.5943
	Error	177	0.55171		
REED					
	SPOTAD	1	0.00187	0.00	0.9696
	TREEAD	1	0.09958	0.08	0.7813
	Error	177	1.28759		
BARE					
	SPOTAD	1	0.79874	0.96	0.3287
	TREEAD	1	0.35408	0.43	0.5152
	Error	177	0.83263		
WILLOW					
	SPOTAD	1	0.67721	0.69	0.4079
	TREEAD	1	2.99655	3.04	0.0827
	Error	177	0.98415		
COTTON					
	SPOTAD	1	0.00051	0.01	0.9245
	TREEAD	1	0.01279	0.22	0.6368
	Error	177	0.05720		
EMERGE					
	SPOTAD	1	0.20420	0.26	0.6130
	TREEAD	1	0.38568	0.48	0.4871
	Error	177	0.79523		
SUBMERGE					
	SPOTAD	1	0.06310	0.09	0.7583
	TREEAD	1	0.30158	0.45	0.5014
	Error	177	0.66463		
ALGAE					
	SPOTAD	1	2.17640	2.19	0.1405
	TREEAD	1	1.06121	1.07	0.3027
	Error	177	0.99306		

Table 3 (continued). Means and standard deviations of environmental variables analyzed by MANOVA for adult spotted frogs and adult treefrogs.

Presence of Spotted Frog Adults		---DEPTH-----		-----WIDTH------		-----GRAZE------		------MUD--------	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	141	18.213	13.092	2.813	5.741	1.262	0.762	23.333	37.310
Y	39	19.385	12.521	2.799	4.722	0.769	0.706	33.103	43.467
		------SAND------		-----GRAVEL-----		------ROCK------		------SAGE-------	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	141	18.014	29.123	37.801	35.382	20.319	28.487	0.645	0.731
Y	39	35.000	42.068	20.513	32.052	9.077	21.701	0.192	0.533
		-----GRASS-----		------FORB------		------REED------		------BARE-------	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	141	1.113	0.738	1.177	0.747	1.452	1.181	1.175	0.901
Y	39	0.885	0.839	0.821	0.721	1.462	0.928	1.333	0.948
		-----WILLOW----		-----COTTON-----		-----EMERGE-----		----SUBMERGE----	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	141	0.887	0.972	0.043	0.238	1.079	0.905	0.574	0.841
Y	39	1.026	1.088	0.038	0.241	1.000	0.835	0.526	0.707
		-----ALGAE-----							
	N	Mean	SD						
N	141	0.979	1.017						
Y	39	0.718	0.916						

Presence of Treefrog Adults		--DEPTH-----		---WIDTH-----		------GRAZE-----		------MUD------	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	173	18.693	3.018	2.860	5.621	1.167	0.778	25.468	38.965
Y	7	12.857	10.139	1.571	1.618	0.857	0.690	25.000	37.527
		----SAND------		---GRAVEL----		------ROCK------		------SAGE-----	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	173	21.878	32.912	33.670	35.358	18.086	27.853	0.557	0.725
Y	7	17.142	37.289	43.571	35.906	12.857	17.043	0.285	0.393
		-----GRASS-----		----FORB-----		------REED------		-----BARE-----	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	173	1.046	0.759	1.106	0.763	1.449	1.140	1.217	0.905
Y	7	1.500	0.816	0.928	0.449	1.571	0.838	1.000	1.080
		-----WILLOW---		-----COTTON----		-----EMERGE----		---SUBMERGE---	
	N	Mean	SD	Mean	SD	Mean	SD	Mean	SD
N	173	0.942	1.005	0.043	0.242	1.052	0.897	0.572	0.824
Y	7	0.285	0.393	0.000	0.000	1.285	0.636	0.357	0.377
		-----ALGAE---							
	N	Mean	SD						
N	173	0.907	1.001						
Y	7	1.285	0.951						

Table 4. Analysis of Variance tables for water quality variables. P-values should be evaluated for significance relative to an alpha α=0.0085 to control for Type I error. A multivariate analysis of variance is not performed because missing values would have led to exclusion of a large proportion of the samples from the analysis.

Dependent Variable: Conductivity

Source	df	MS	F	P
Spotted Frog Larvae	1	163.63949	0.03	0.8741
Treefrog Larvae	1	7345.08962	1.13	0.2894
Error	136	6492.20688		

Dependent Variable: Conductivity

Source	df	MS	F	P
Spotted Frog Adults	1	9193.99396	1.42	0.2352
Treefrog Adults	1	1396.59939	0.22	0.6429
Error	136	6465.88063		

Dependent Variable: Hardness

Source	df	MS	F	P
Spotted Frog Larvae	1	87.94377	0.24	0.6271
Treefrog Larvae	1	281.73449	0.76	0.3849
Error	171	371.17141		

Dependent Variable: Hardness

Source	df	MS	F	P
Spotted Frog Adults	1	687.21726	1.86	0.1740
Treefrog Adults	1	118.53557	0.32	0.5715
Error	171	368.70018		

Dependent Variable: Alkalinity

Source	df	MS	F	P
Spotted Frog Larvae	1	6.83646	0.02	0.8954
Treefrog Larvae	1	1303.72674	3.31	0.0707
Error	171	394.22258		

Dependent Variable: Alkalinity

Source	df	MS	F	P
Spotted Frog Adults	1	774.55128	1.95	0.1644
Treefrog Adults	1	4.38811	0.01	0.9164
Error	171	397.29927		

Dependent Variable: Air Temperature

Source	df	MS	F	P
Spotted Frog Larvae	1	30.37503	0.80	0.3735
Treefrog Larvae	1	16.16005	0.42	0.5160
Error	137	38.10321		

Dependent Variable: Air Temperature

Source	df	MS	F	P
Spotted Frog Adults	1	0.02072	0.00	0.9815
Treefrog Adults	1	3.69394	0.10	0.7569
Error	137	38.40289		

Table 4. (continued)

Dependent Variable: Water Temperature

Source	df	MS	F	P
Spotted Frog Larvae	1	182.13128	7.14	0.0083
Treefrog Larvae	1	131.17726	5.14	0.0247
Error	162	25.51997		

Dependent Variable: Water Temperature

Source	df	MS	F	P
Spotted Frog Adults	1	0.11488	0.00	0.9484
Treefrog Adults	1	36.62034	1.34	0.2485
Error	162	27.29827		

Table 4(continued). Means and standard deviations of water quality variables.

Conductivity			
Present?	N	Mean	SD
Spotted Frog Larvae			
N	136	106.602941	81.2076697
Y	3	96.333333	1.1547005
Treefrog Larvae			
N	113	109.902655	84.4203941
Y	26	91.076923	58.2758427
Spotted Frog Adults			
N	106	111.075472	87.7850945
Y	33	91.303030	47.3032008
Treefrog Adults			
N	131	107.328244	82.6157410
Y	8	90.875000	13.3997601

Hardness			
Present?	N	Mean	SD
Spotted Frog Larvae			
N	171	45.8479532	19.3652276
Y	3	40.0000000	0.0000000
Treefrog Larvae			
N	137	46.4233577	20.2824622
Y	37	43.2432432	14.5399935
Spotted Frog Adults			
N	135	46.8148148	21.0419571
Y	39	42.0512821	10.0471224
Treefrog Adults			
N	165	45.9393939	19.5341156
Y	9	42.2222222	12.0185043

Alkalinity			
Present?	N	Mean	SD
Spotted Frog Larvae			
N	171	59.2982456	20.1049876
Y	3	60.0000000	0.0000000
Treefrog Larvae			
N	137	60.7299270	21.0613612
Y	37	54.0540541	14.0355619
Spotted Frog Adults			
N	135	60.4444444	21.9179837
Y	39	55.3846154	9.6916008
Treefrog Adults			
N	165	59.2727273	20.2292844
Y	9	60.0000000	14.1421356

Table 4. (continued)

Air Temperature			
Present?	N	Mean	SD
Spotted Frog Larvae			
N	137	20.8744526	6.20382981
Y	3	24.0000000	1.00000000
Treefrog Larvae			
N	109	21.1128440	6.16803440
Y	31	20.3387097	6.16899113
Spotted Frog Adults			
N	114	20.9535088	6.10070618
Y	26	20.8884615	6.50902923
Treefrog Adults			
N	134	20.9761194	6.24342275
Y	6	20.1666667	3.92003401

Water Temperature			
Present?	N	Mean	SD
Spotted Frog Larvae			
N	162	15.8938272	5.0101846
Y	3	24.0000000	10.5830052
Treefrog Larvae			
N	128	15.5414063	5.05019727
Y	37	17.7702703	5.47036790
Spotted Frog Adults			
N	137	16.0459854	5.23400947
Y	28	16.0178571	5.21124522
Treefrog Adults			
N	156	15.9282051	5.15716595
Y	9	18.0000000	6.12372436

Table 5. Miscellaneous species encountered during wetland surveys. Legal location is given in the order of, for example, SW 1/4 of the NE 1/4 of the SE 1/4 of Section 24.

GENUS	SPECIES	DATE	LOCATION	LEGAL LOCATION
Sceloporus	occidentalis	May 19,1993	rocks 10 m from deep creek	SW SW SW S3 T10S R3W
Thamnophis	elegans	May 19,1993	bank of deep creek	SE SE SE S4 T10S R3W
Sceloporus	graciosus	May 19,1993	rocks 40 m from deep creek	SW SW NE S9 T10S R3W
Uta	stansburiana	May 19, 1993	flats above deep creek	SW SE SE S4 T10S R3W
Coluber	constrictor	May 20, 1993	on flats to SW of current creek.	SW SW SW S5 T10S R3W
Thamnophis	elegans	May 20,1993	tributary of current creek	SW S32 T9S R3W
Thamnophis	elegans	May 20, 1993	tributary of current creek	SW SW SW S31 T9S R3W
Sceloporus	occidentalis	May 20, 1993	tributary of current creek	SW SW SW S31 T9S R3W
Thamnophis	elegans	May 21, 1993	poison creek	NW SW S11 T8S R1E
Thamnophis	elegans	May 21, 1993	poison creek	NW SW S11 T8S R1E
Sceloporus	occidentalis	may 21, 1993	poison creek	NW of S11 T8S R1E
Uta	stansburiana	May 21, 1993		NW SE SW S2 T8S R1E
Uta	stansburiana	May 21, 1993		NW NE S10 T8S R1E
Pituophis	catenifer	May 21, 1993	Poison creek springs	NE NE SE S2 T8S R1E
Masticophis	taeniatus	May 21, 1993	Mud flat road.	NE of S21 T7S R2E
Coluber	constrictor	May 24,1993	Near spring - wet habitat	SW NW NE S14 T8S R2W
Sceloporus	graciosus	May 25,1993	Dried stream bed - rocky sagebrush	NW NW NE S14 T8S R2W
Phrynosoma	douglassi	May 25,1993	flat plateau	NW NW NE S11 T8S R2W
Thamnophis	elegans	May 25,1993	on shale rock 5m above rock creek	SE NE SE S26 T8S R2W
Phrynosoma	douglassi	May 25,1993	dry sagebrush	NW NW SW S12 T8S R2W
Phrynosoma	douglassi	May 25,1993	flat plateau	NW SE NW S12 T8S R2W
Thamnophis	elegans	May 26,1993	up from transect 11-2 inches from rock cr	SE SE NW S23 T8S R2W
Sceloporus	graciosus	May 26,1993	east side of Rock Creek in rocks and sagebrush	
Sceloporus	graciosus	May 26,1993	east side of Rock Creek in rocks and sagebrush	
Sceloporus	graciosus	May 26,1993	east side of Rock Creek in rocks and sagebrush	
Thamnophis	elegans	June 3,1993	near mud flat rd.	S7 T10S R3W
Thamnophis	elegans	June 3,1993	on shore in reeds 10m below trans 1	SW SW SW S4 T10S R3W
Thamnophis	elegans	July 7,1993	Camas creek (transect 12)	NW SE NE S25 T10S R2W
Thamnophis	elegans	July 7,1993	Oxbow next to camas creek (tansect13)	NW SE NW S25 T10S R2W
Thamnophis	elegans	July 7,1993	Oxbow next to camas creek (tansect13)	NW SE NW S25 T10S R2W
Crotalus	viridis	July 7,1993	Rocks along stream	SE SE NE S26 T10S R2W
Crotalus	viridis	July 7, 1993	Mud flat rd. approx. 4miles from guard station	
Sceloporus	graciosus	July 8,1993	on trail - in sagebrush	NW SW NE S9 T7S R1E
Cnemodophorus	tigris	July 12,1993	on E.F. Shoofly Creek apprx. 1mile from mudflat	
Sceloporus	occidentalis	July 12,1993	Poison creek- approx. 3 ft. fom poison cr	NW NW NE S20 T7S R2E
Thamnophis	elegans	July 13,1993	Hackberry resv. approx. 1.5 miles from Mud flat rd	SE SE SE S28 T9S R3W
Thamnophis	elegans	June 21,1993	in stream(Camas Creek)	SW NW SW S17 T10S R1W
Sceloporus	occidentalis	June 22,1993	In slate on slope(N. Fork Castle cr.)	SE NE SW S15 T7S R2W
Sceloporus	occidentalis	June 23,1993	on large boulder in sun (E.F. Shoofly Cr.	SW NE SW S18 T8S R2E