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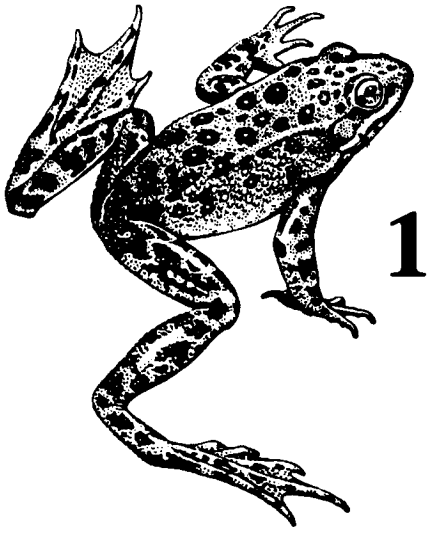

1996 Survey for Columbia Spotted Frogs in the Owyhee Mountains of Southwestern Idaho

by
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A challenge cost-share agreement between
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Boise State University

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INTRODUCTION

The Habitat Conservation Assessment and Strategy for the Columbia Spotted Frog in Idaho recently identified the highest priority research needs for this species as identifying the status of and threats to the Owyhee Mountains population of this species (Munger et al, 1995b). We simply do not know whether this population is stable or is suffering declines. Similarly, it is unknown how strongly various land use practices, such as grazing, affect spotted frogs in arid environments. Addressing these questions will determine the need for management of spotted frogs in SW Idaho.

The USFWS (Turner 1993) elevated to C1 status 3 of the 4 populations of the Columbia spotted frog (*Rana luteiventris*), based on documented extinctions and declines as well as the existence of threats due to loss of habitat by conversion to pastures and dewatering of wetlands to supply irrigation needs, impact of livestock grazing, development, restricted habitat availability, and introduction of predaceous fish and amphibians. The USFWS has subsequently modified its classification system: all C2 species were dropped, and most C1 species became "candidate" species. One such candidate population, the Great Basin population of the Columbia spotted frog, occupies isolated mountain ranges in southwestern Idaho, southeastern Oregon, and Nevada. Its elevation to candidate status was based on loss of populations in a number of areas of

Nevada. Although technically a part of the Great Basin population, the isolated population occupying the Owyhee Mountains of SW Idaho is relatively poorly known. Our knowledge of this population is based primarily on two previous BLM-financed surveys (Munger et al. 1994, 1995a) that identified eleven populations and gathered habitat data. We were able to identify several trends: spotted frogs tended to be near permanent, slow-moving water with little vegetation, and were found more often then expected in National Wetland Inventory's (NWI) palustrine system, shrubscrub class, and seasonally-flooded regime. Evidence of recent grazing was found to have a measurable but modest negative association with spotted frogs.

The present study represents the third year of survey. As we go to press with this report, a fourth year of surveying is underway, using many of the same methods as the present study. For that reason, we will in this report give only a preliminary analysis of habitat data. Following the completion of the Summer 1997 survey, we plan to produce a comprehensive report that will give a more in-depth analysis of distribution, habitat affinities, and land-use effects.

MATERIALS AND METHODS

Spotted Frog Occurrence: We continued to survey as much of the remaining wetland area in the Owyhee Mountains as possible. We examined topographic maps and land use maps and chose to survey those stretches of stream that seemed, based on their low gradient, likely to harbor spotted frogs. Streams and other wetlands were walked in a slow and deliberate manner, and all likely places in which adult frogs might reside were examined. All still waters are examined and/or dipnetted to ascertain the presence of tadpoles. UTM's for all sites where frogs were found were taken using a Geoexplorer GPS unit. We typically took a minimum of 120 points with a PDOP of 6 or less. Locations were later corrected in the laboratory using base station data from the McCall, the Idaho City, and the Shoshone base stations. All frogs were sexed, weighted, measured (snout to vent), and a toe was collected (and stored in 95% ethanol) for later age and genetic analysis.

Habitat associations: To expand our data base on habitat associations, we took habitat measures at sites where adult or larval spotted frogs were found and at randomly chosen sites. For the area within 5 m of the frog sighting, we measured the width and depth of the water body; measured the air and water temperature; classified it as an oxbow, sidebow, pond, pool, riffle, or run; classified the bank slope as shallow, moderate, or steep; estimated the percent cover or willow, sagebrush, grass, forb, duff, rock, bare, algae, and other aquatic vegetation; gave the site a 0 to 3 rating for overall grazing impact; and counted the number of cow pats within 5 m.. On a larger scale (on the order of a 50 m segment), we classified the water body as a stream, pond, stock pond, or reservoir; classified the gradient as still, slow, moderate, fast, or cascade; measured the bank height on both sides of the water; classified the valley type as V, trough, flat-bottom, or box canyon; classified the sinuousness as low, moderate, high, or braided; and scored the presence or absence of downcutting, dead willows, and historic braids or oxbows.

Population Monitoring: At Stoneman Creek we continued our yearly census of the frogs. See

Munger 1995 for a description of the exact stretch of stream surveyed. On May 24, 1996, workers moved through the area, capturing and freeze-branding all frogs encountered. On May 31, 1996, the crew returned and captured all frogs encountered, scoring them as to whether they were marked or not. A simple Lincoln Index was used to estimate the population size. At Rock Creek, we captured and freeze-branded all frogs encountered on May 15 and 16, 1997, along the ca. 2 mile stretch of federal land in Sections 23, 25, 26, and 35 of T8S R2W. We returned to recapture frogs on May 23, 1997. Again, a Lincoln index was used to estimate population size.

Incidental Captures: We noted all encounters of other species of reptiles and amphibians. UTM coordinates and elevation were approximated using a single uncorrected GPS reading.

RESULTS

Spotted Frog Occurrence

We found adult or subadult Columbia spotted frogs at the following water bodies: Little Blue Creek, Cottonwood Creek, tributary to Pleasant Valley Creek, Duck Creek, Johnston Reservoir, Camel Creek, Pole Creek, Rail Creek Reservoir, and Old Man Creek (Appendix I). We found eggs or larvae at the following water bodies: Camel Creek, Cottonwood Creek, Duck Creek, Little Blue Creek (Appendix I). This substantially increases the number of breeding sites known for the Owyhees, bringing the total to 11 sites.

Habitat Associations

The association of the presence of spotted frogs to categorical variables were analyzed using contingency tables (Table 1). For non-categorical variables, we compared spotted frog sites to non-frog sites using a Multivariate Analysis of Variance (Table 2).

Of note are the following:

1. Spotted Frogs tended to be found more often then expected in or around ponds or pools and less often than expected in or near riffles or runs (Table 1).
2. Spotted frog sites had a warmer water temperature than non-frog sites (Table 2).
3. Spotted frog sites were lower in sagebrush, rock, and forbs, but higher in grass and algae than nonfrog sites (Table 2).
4. Frog sites were of lower gradient, had lower banks, and had banks of lower slope than non-frog sites (Table 2, Figure 1).
5. Spotted frog sites had less evidence of recent grazing than non-frog sites: a lower overall rating and a lower number of cowpats (Tables 1 and 2; Figures 1 and 2).
6. There is evidence that long-term degradation of the habitat negatively affects spotted frogs: spotted frog sites had lower bank heights and greater sinuousness than non-frog sites. In addition, spotted frog sites tended to be found more often than expected where no downcutting or lateral erosion were present (Tables 1 and 2; Figures 1 and 2).
7. We found old braids present at 79 sites and dead willows at 17 sites, indicating that in some areas the water table previously had been higher and the stream course previously had

been more sinuous. Spotted frogs were found more often than expected in sites with dead willows, indicating that frogs tend to prefer willowed sites (which have perennial water) even if the water table has dropped (Table 1).

Population Monitoring

Numbers of spotted frogs at Stoneman Creek have remained relatively stable for the last three years, with on the order of 100-150 frogs (Figure 3). We estimate that a population of about 80 frogs occupies Rock Creek. At this time there is no indication of decline in the number of frogs at Stoneman Creek.

Incidental Captures

We captured two additional amphibian species, the Pacific treefrog (*Pseudacris regilla*) and the western toad (*Bufo boreas*) (Appendices I and II). We also captured individuals of eleven reptile species: the rubber boa (*Charina bottae*), the racer (*Coluber constrictor*), the western whiptail (*Cnemidophorus tigris*), the western rattlesnake (*Crotalus viridis*), the leopard lizard (*Gambelia wislizenii*), the gopher snake (*Pituophis catenifer*), the shorthorned lizard (*Phrynosoma douglassii*), the desert horned lizard (*Phrynosoma platyrhinos*), the sagebrush lizard (*Sceloporus graciosus*), the western fence lizard (*Sceloporus occidentalis*), and the western terrestrial garter snake (*Thamnophis elegans*) (Appendix II).

DISCUSSION

Habitat

Habitat measures taken in 1996 indicate that Spotted frogs are most likely to be found in areas with low gradient, shallow banks, and with pools and/or oxbows. While we have been somewhat successful at finding such habitat on federal lands, much of this prime habitat occurs on private land. This is because areas with low gradient (which typically occur in gentle valleys) were the areas that were originally chosen by homesteaders. It is also interesting to note that in a number of cases, frogs we found on federal land were located immediately adjacent to private land. It is clear, therefore, that the cooperation of private landowners could substantially increase the potential for protecting appropriate habitat for spotted frogs.

Grazing

We found evidence that spotted frogs were found more often in areas with less evidence of recent grazing: spotted frog sites were given (on average) lower ratings of grazing evidence and had fewer cow pats. However, except for preventing the sort of overgrazing that leads to long-term loss of habitat (see next paragraph), the institution of new management actions concerning grazing should await further study specifically designed to examine the effects of grazing. Such a study is scheduled to begin in the summer of 1998. There are several reasons for awaiting the results of a more intensive study:

1. The focus of the present study was not to gather information on grazing, but was focussed on the discovery of new populations. Because the focus was not on grazing, information on grazing

was gathered in a relatively informal way. An intensive study will have a more rigorous study design and a reduced chance for bias and other potential sampling problems.
2. Although trends were apparent for grazing rating and for cow pat number, the trends were only modest. Examination of Figure 2A shows that frogs were found in areas of relatively high grazing intensity.
3. Severely overgrown areas may be relatively poor habitat for spotted frogs.

It is our opinion that the long-term effects of overgrazing are a greater problem than short-term effects of grazing. Long-term overgrazing can lead to compaction of soil and loss of stream side vegetation, which in turn lead to increased erosion and downcutting. Downcutting leads to a lowering of the water table and a less sinuous water course. The net result is a loss of the oxbows and pools that are important components of the habitat of spotted frogs. For although frogs may occasionally feed along runs and riffles, feeding frogs tend to be concentrated along pools and in oxbows, and breeding is restricted to oxbows, ponds, and occasionally occurs in very slow moving pools. The prevention of downcutting and the restoration of downcut areas should be high priority management goals.

LITERATURE CITED:

Munger, J., L. Heberger, D. Logan, W. Peterson, L. Mealy, and M. Cauglin. 1994. A survey of the herpetofauna of the Bruneau Resource Area, with focus on the spotted frog, Rana pretiosa. Idaho Bureau of Land Management Technical Bulletin.

Munger, J., M. Gerber, M. Cauglin, and T. Bert. 1995a. Status and habitat associations of the spotted frog, Rana pretiosa, in southwestern Idaho. Idaho Bureau of Land Management Technical Bulletin.

Munger, J., C. Peterson, M. McDonald, and T. Carrigan. 1995b. Habitat Conservation Assessment and Strategy for the Spotted Frog. Prepared for Idaho Department of Fish and Game.

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Figure 1. Selected habitat measures.
A. Slope of bank. B. Gradient of water body. C. Sinuosity of the water body. D. Height of the bank.

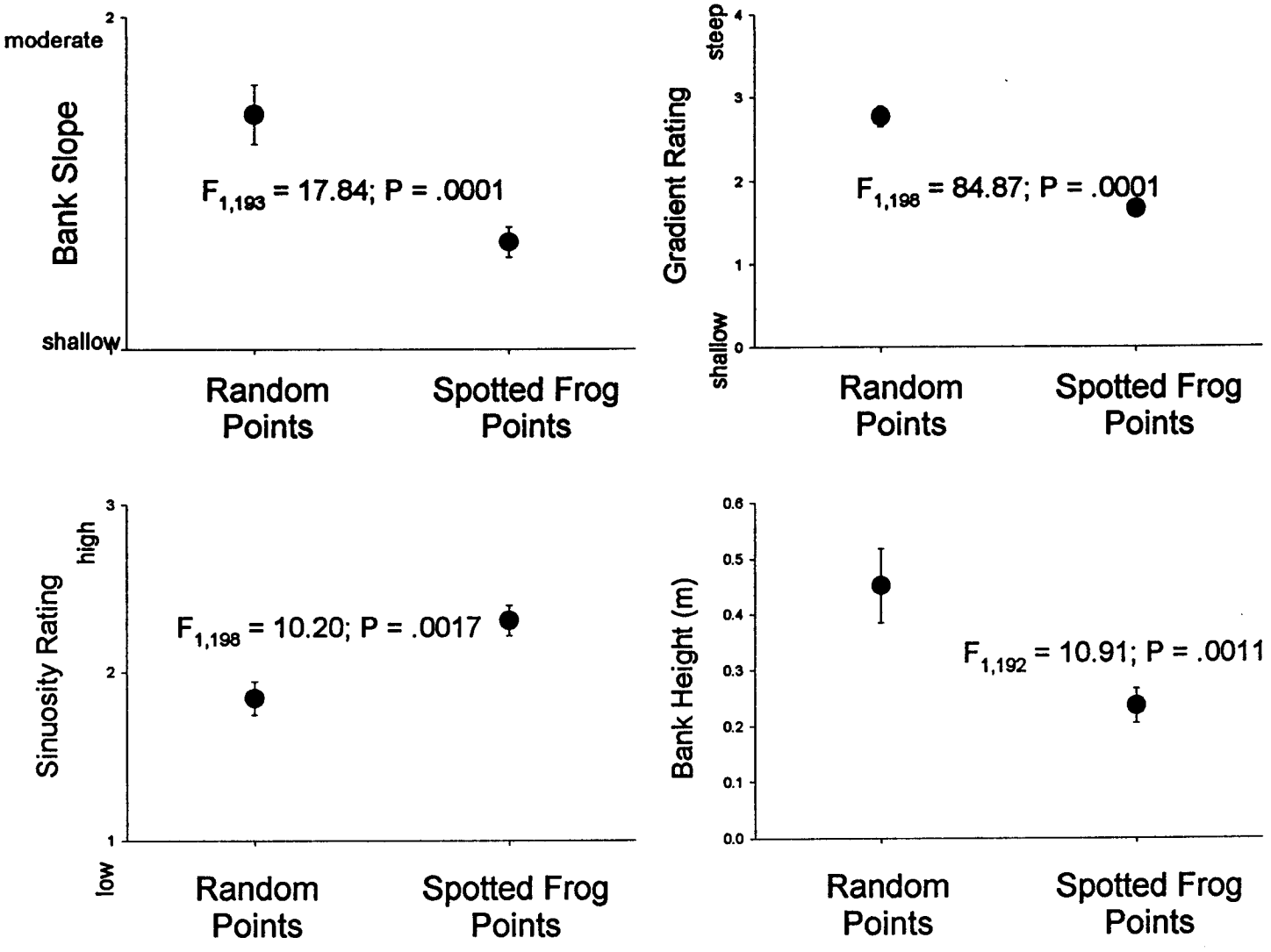
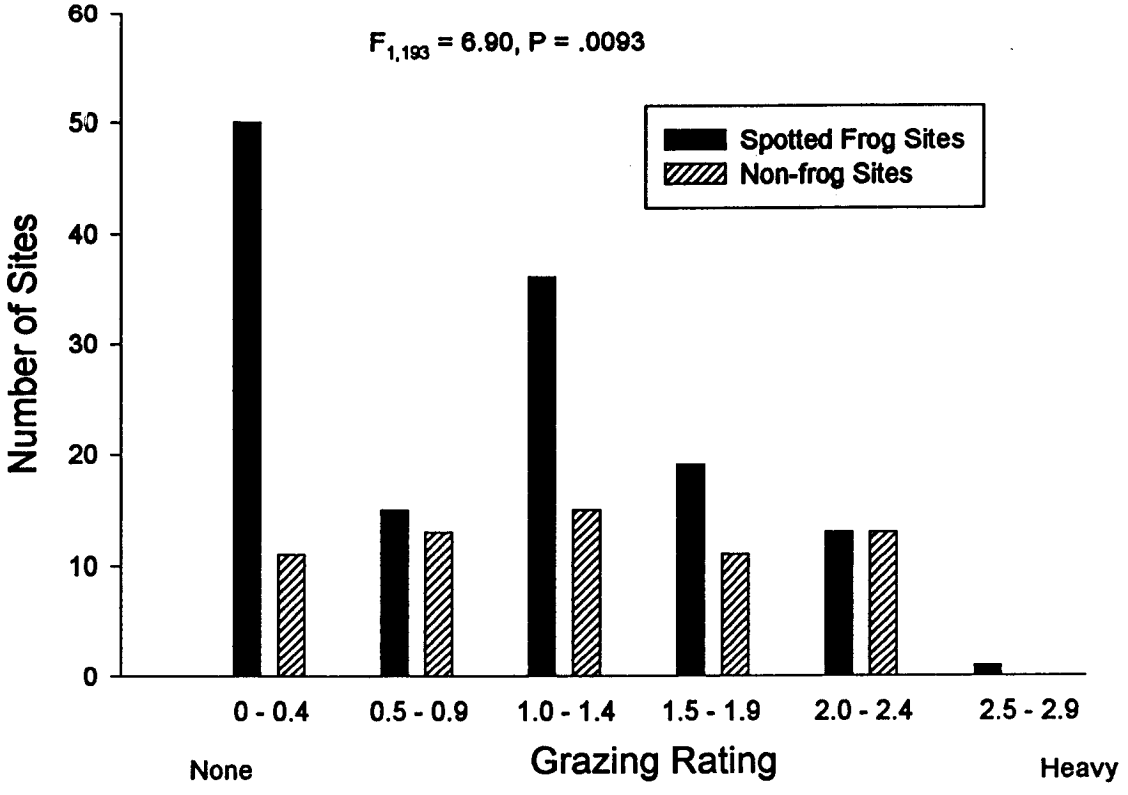
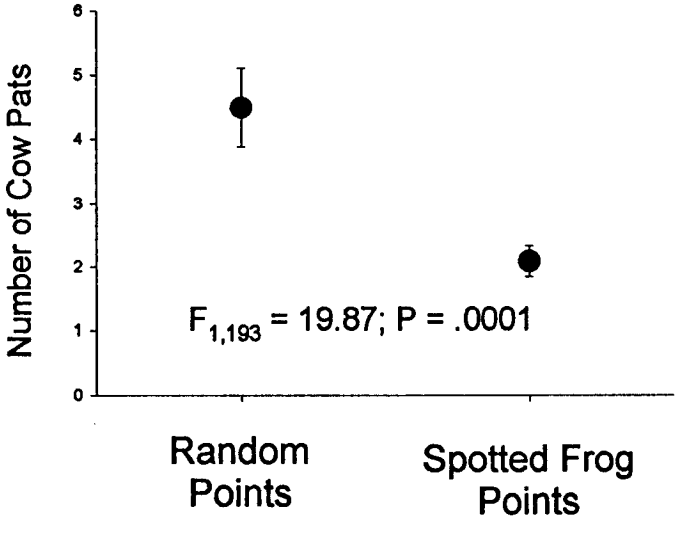


Figure 2. Grazing-related variables. A. Overall grazing rating (0 - 3). B. Number of cow pats within 5 m. C. Presence of downcutting.





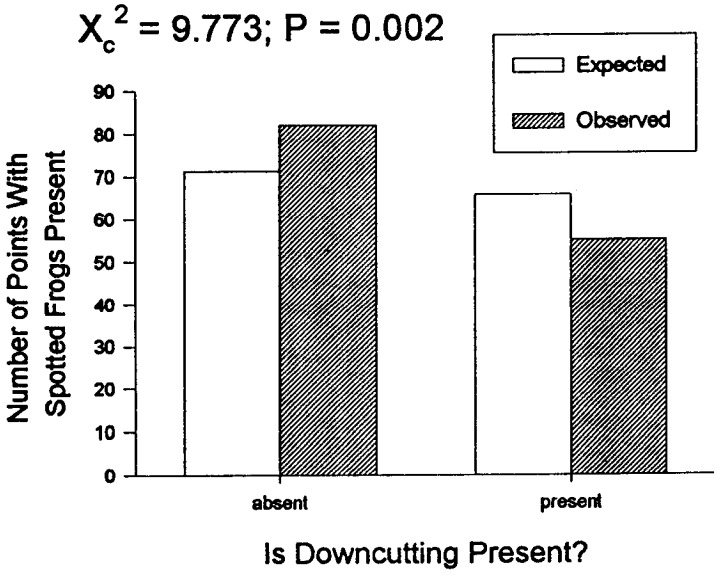


Figure 3. Density of Columbia spotted frogs at Stoneman Creek and Rock Creek.

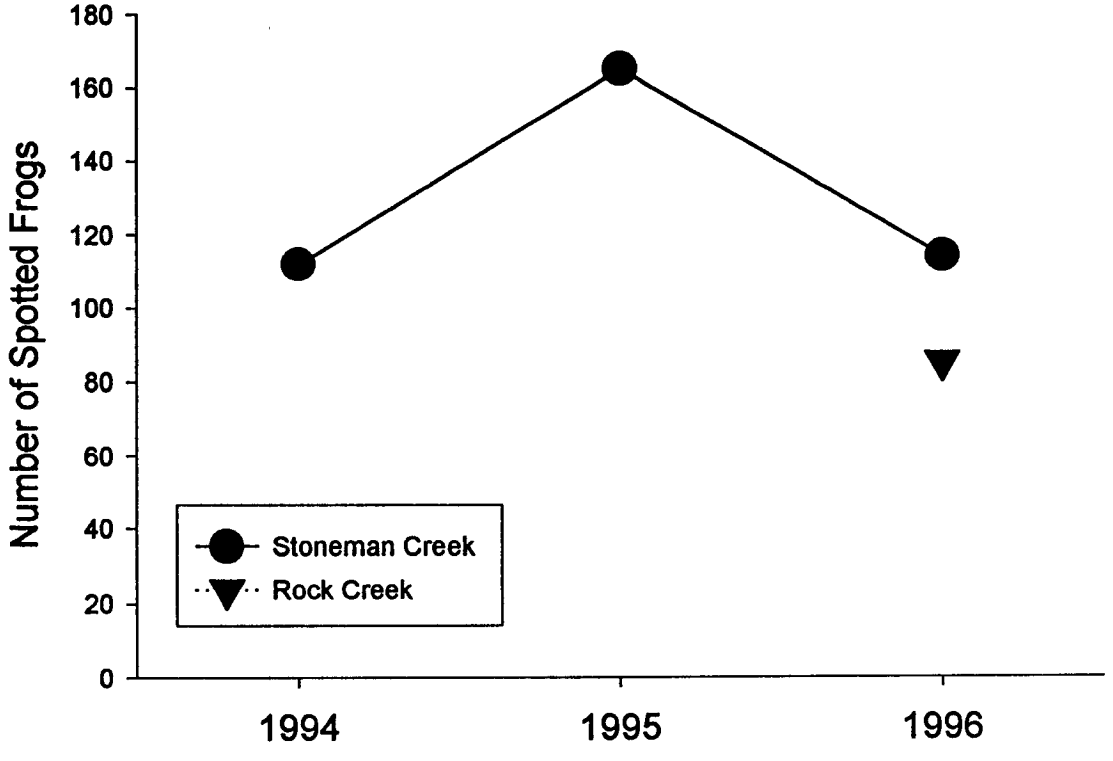


Table 1. Analysis of categorical variables. 0 = not present, 1 = present.

DOWNCUTTING PRESENT?

	0	1
random	22	41
	32.76	30.24
spotted frog	82	55
	71.24	65.76

G-test, df = 1 G = 10.856 P = 0.001

LATERAL EROSION PRESENT?

	0	1
random	36	10
	40.11	5.8902
spotted frog	107	11
	102.89	15.11

G-test, df = 1 G = 4.200 P = 0.040

OLD BRAIDS PRESENT?

	0	1	Total
random	33	29	62
	37.263	24.737	
spotted frog	86	50	136
	81.737	54.263	

G-test, df = 1 G = 1.765 P = 0.184

DEADWILLOWS PRESENT?

	0	1
random	60	1
	55.736	5.264
spotted frog	120	16
	124.26	11.736

G-test, df = 1 G = 7.062 P = 0.008

WATER BODY TYPE

	oxbow	oxpool	pond	pool	pool/runériffle	ériffrun	érun	sidebow	sidepondé
random	2	0	1	1	0	33	2	24	0	0
	1.5909	1.2727	8.5909	7.9545	0.3182	14.318	0.6364	20.682	7.3182	0.3182
spotted frog	3	4	26	24	1	12	0	41	23	1
	3.4091	2.7273	18.409	17.045	0.6818	0.682	1.3636	44.318	15.682	0.6818

G-test, df = 9 G = 86.210 P = 0.001

Table 2. Analysis of meristic variables. A conservative evaluation of the statistical significance of P-values would be to compare them to a Bonferroni adjusted α = .0032.

	Means for Means for Random Sites			Means for Spotted Frog Sites				
Variable	Mean	N	Std Error	Mean	N	Std Error	ANOVA p-value	R^2
WIDTH OF WATER BODY	2.4674603	63	0.7803036	12.7811111	135	2.2328920	0.0021	0.047036
WATER TEMPERATURE	14.3141026	39	0.6416939	19.0733333	135	0.3936129	0.0001	0.167231
GRAZING RATING	1.0452381	63	0.0848307	0.7678030	132	0.0607159	0.0093	0.034503
# OF COW PATS	4.4920635	63	0.6109066	2.0809160	131	0.2347901	0.0001	0.093544
BANK DEGREDATION	1.7063492	63	0.0888244	1.3244275	131	0.0459530	0.0001	0.085021
WILLOW COVERAGE	18.1269841	63	3.1171439	19.9562044	137	2.2881203	0.6465	0.001065
SAGEBRUSH COVERAGE	7.3968254	63	1.0390579	3.5401460	137	0.6657459	0.0016	0.048935
GRASS COVERAGE	44.8412698	63	3.1759470	54.5766423	137	2.2064380	0.0134	0.030479
FORB COVERAGE	12.1428571	63	1.4944610	5.1240876	137	0.6835996	0.0001	0.108708
DUFF COVERAGE	4.0317460	63	0.9238736	1.6277372	137	0.3274685	0.0027	0.044685
ROCK COVERAGE	11.1904762	63	1.9382237	4.1094891	137	1.1265312	0.0010	0.053450
BARE COVERAGE	8.5873016	63	1.2807678	5.0948905	137	0.7710745	0.0155	0.029224
ALGAE RATING	9.0634921	63	1.9903599	28.1021898	137	2.4397701	0.0001	0.110141
GRADIENT RATING	2.7698413	63	0.1196435	1.6605839	137	0.0603976	0.0001	0.300035
BANKHEIGHT	0.4513492	63	0.0673527	0.2370229	131	0.0312743	0.0011	0.053789
SINUOSITY RATING	1.8467742	62	0.0972851	2.3070175	114	0.0920932	0.0017	0.055398

ANOVA TABLES

Overall Manova

Wilks' Lambda = 0.53436509 $F_{16,110}$ = 6.4264 P= 0.0001

Univariate Tests

Dependent Variable: WIDTH OF WATER BODY

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	4569.13482251	4569.13482251	9.67	0.0021
Error	196	92571.50512698	472.30359759		
Corrected Total	197	97140.63994949			

Dependent Variable: WATER TEMPERATURE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	685.36615584	685.36615584	34.54	0.0001
Error	172	3412.94874359	19.84272525		
Corrected Total	173	4098.31489943			

Dependent Variable: GRAZING RATING

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	3.28248364	3.28248364	6.90	0.0093
Error	193	91.85423431	0.47592868		
Corrected Total	194	95.13671795			

Dependent Variable: NUMBER OF COW PATS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	247.31910086	247.31910086	19.81	0.0001
Error	192	2396.54832182	12.48202251		
Corrected Total	193	2643.86742268			

Dependent Variable: BANK DEGRADATION DUE TO GRAZING

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	6.20524370	6.20524370	17.84	0.0001
Error	192	66.77929238	0.34780881		
Corrected Total	193	72.98453608			

Dependent Variable: WILLOW COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	144.39864674	144.39864674	0.21	0.6465
Error	198	135500.72135326	684.34707754		
Corrected Total	199	135645.12000000			

Dependent Variable: SAGEBRUSH COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	641.88643784	641.88643784	10.19	0.0016
Error	198	12475.10856216	63.00559880		
Corrected Total	199	13116.99500000			

Dependent Variable: GRASS COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	4090.12204611	4090.12204611	6.22	0.0134
Error	198	130105.85795389	657.10029270		
Corrected Total	199	134195.98000000			

Dependent Variable: FORB COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	2125.95020334	2125.95020334	24.15	0.0001
Error	198	17430.60479666	88.03335756		
Corrected Total	199	19556.55500000			

Dependent Variable: DUFF COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	249.40389352	249.40389352	9.26	0.0027
Error	198	5331.95110648	26.92904599		
Corrected Total	199	5581.35500000			

Dependent Variable: ROCK COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	2163.80805005	2163.80805005	11.18	0.0010
Error	198	38319.07194995	193.53066641		
Corrected Total	199	40482.88000000			

Dependent Variable: BARE COVERAGE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	526.35873537	526.35873537	5.96	0.0155
Error	198	17485.03626463	88.30826396		
Corrected Total	199	18011.39500000			

Dependent Variable: ALGAE RATING

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	15642.47962519	15642.47962519	24.51	0.0001
Error	198	126380.31537481	638.28442108		
Corrected Total	199	142022.79500000			

Dependent Variable: GRADIENT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	53.10014830	53.10014830	84.87	0.0001
Error	198	123.87985170	0.62565582		
Corrected Total	199	176.98000000			

Dependent Variable: BANK HEIGHT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	1.95416428	1.95416428	10.91	0.0011
Error	192	34.37579925	0.17904062		
Corrected Total	193	36.32996353			

Dependent Variable: SINUOSITY

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
FROG	1	8.50665692	8.50665692	10.20	0.0017
Error	174	145.04874080	0.83361345		
Corrected Total	175	153.55539773			

Appendix I. Data from surveys of water bodies during the summer of 1996.

For complete description of variables, see text. "99" refers to missing data.

trans.	water name	utm.N	utm.E	elev.	weather	date	time	G.s./random	approx #	lifestage	svl	mass	sex	frntoe	bktoe	width	depth	T air	T water	razin	pets
1	Cottonwood Cr.	99	99	99	partly cloudy	05/20/96	99	random	99	99	99	99	99	99	99	7	0.5	15	13	1	4
2	Cottonwood Cr.	508433	4707198	1720	mostly cloudy	05/20/96	99	random	99	99	99	99	99	99	99	3	0.1	16	12.2	1	4
3	Grave Cr. Res.	99	99	99	partly cloudy	05/20/96	1005	random	99	99	99	99	99	99	99	50	>5	13	12.5	0.8	7
4	Cottonwood Cr.	99	99	99	partly cloudy	05/20/96	1022	random	99	99	99	99	99	99	99	1.5	0.2	15	9	0.5	1
5	Cottonwood Cr.	99	99	99	partly cloudy	05/20/96	1100	Pseudacris regilla	40	tadpole	99	99	99	99	99	4	0.5	13	9.5	0.1	1
6	Cottonwood Cr.	99	99	99	mostly cloudy	05/20/96	1115	Pseudacris regilla	1	adult	37	4.3	male	1	1	3	0.1	14	8.8	0.5	2
7	Cottonwood Cr.	508019	4707392	9912	mostly cloudy	05/20/96	1129	Pseudacris regilla	1	adult	37	4	male	1	1	2.5	0.1	14	12	1	2
8	Cottonwood Cr.	508137	4707438	994	mc breeze	05/20/96	1135	Rana luteiventris	>100	tadpole	99	99	99	99	99	3	0.2	14	99	99	99
9	Cottonwood Cr.	99	99	99	mostly cloudy	05/20/96	1155	random	99	99	99	99	99	99	99	0.3	0.1	15	11.5	0.5	0
10	Cottonwood Cr.	99	99	99	mc breeze	05/20/96	1207	random	99	99	99	99	99	99	99	0.4	0.1	14	12.5	1.5	8
11	Cottonwood Cr.	99	99	99	mc breeze	05/20/96	1215	random	99	99	99	99	99	99	99	0.75	0.1	14	11.5	1.5	16
12	Cottonwood Cr.	99	99	99	mc breeze	05/20/96	1243	random	99	99	99	99	99	99	99	2	0.1	15	13	2	4
13	Cottonwood Cr.	508137	4707438	994	cloudy	05/20/96	1308	Rana luteiventris	1	adult	64	26.3	female	1	1	3	0.2	14	11	1	3
14	Cottonwood Cr.	508137	4707438	994	cloudy	05/20/96	1347	Pseudacris regilla	1	adult	38	4.4	male	1	1	3	0.2	14	11	1	3
15	Cottonwood Cr.	508137	4707438	994	mostly cloudy	05/20/96	1355	Rana luteiventris	1	adult	72	36	male	1	5	2	0.1	99	13.2	0	0
16	Cottonwood Cr.	508344	4707100	1722	mostly cloudy	05/20/96	1355	Pseudacris regilla	1	adult	81	46.3	female	1	1	2	0.1	99	13.2	0	0
17	Cottonwood Cr.	508337	4707108	1722	cloudy	05/20/96	1400	Pseudacris regilla	100	tadpole	99	99	99	99	99	3	0.1	99	17.2	0.8	8
18	Cottonwood Cr.	508337	4707108	1722	cloudy	05/20/96	1420	Pseudacris regilla	1	adult	47	7.3	female	1	1	5	0.1	99	12.2	0.5	0
19	Cottonwood Cr.	508337	4707108	1722	cloudy	05/20/96	1440	Pseudacris regilla	1	adult	38	5.1	male	1	1	5	0.1	99	16	0.5	7
20	Cottonwood Cr.	508433	4707198	1720	mostly cloudy	05/20/96	1450	Rana luteiventris	1	adult	63	25.3	male	1	5	0.8	0.2	16	12	0	1
21	Cottonwood Cr.	508137	4707438	994	partly cloudy	05/20/96	1525	Rana luteiventris	1	adult	57	19.6	female	1	5	3	0.2	14	11	1	3
22	Cottonwood Cr.	508374	4707068	1721	partly cloudy	05/20/96	1540	Rana luteiventris	1	adult	56	18.1	male	1	5	4	0.5	13	9.5	0.1	0.1
23	Cottonwood Cr.	508372	4707066	1728	partly cloudy	05/20/96	1545	Rana luteiventris	1	adult	63	26.9	male	1	5	4	0.5	13	9.5	0.1	1
24	Cottonwood Cr.	508372	4707066	1728	partly cloudy	05/20/96	1545	Rana luteiventris	1	adult	61	25.4	male	1	5	4	0.5	13	9.5	0.1	0.1
25	Cottonwood Cr.	508371	4707057	1721	partly cloudy	05/20/96	1550	Rana luteiventris	1	adult	77	47.7	female	1	5	4	0.5	13	9.5	0.1	0.1
26	Cottonwood Cr.	508372	4707066	1728	partly cloudy	05/20/96	1601	Rana luteiventris	1	adult	62	25.3	male	99	99	4	0.5	13	9.5	0.1	0.1
27	Cottonwood Cr.	508372	4707066	1728	partly cloudy	05/20/96	1605	Rana luteiventris	1	adult	52	16.1	male	99	99	4	0.5	13	9.5	0.1	0.1
28	Cottonwood Cr.	508372	4707066	1728	partly cloudy	05/20/96	1610	Rana luteiventris	1	adult	62	29	male	1	5	4	0.5	13	9.5	0.1	0.1
29	Cottonwood Cr.	508344	4707053	1726	partly cloudy	05/20/96	1643	Rana luteiventris	1	adult	77	41.8	female	1	5	35	0.1	99	14	99	99
30	Cottonwood Cr.	508381	4707118	1726	partly cloudy	05/20/96	1653	Rana luteiventris	1	adult	58	16.9	male	1	5	10	0.1	21	14.5	1	6
31	Cottonwood Cr.	508458	4707546	1712	partly cloudy	05/20/96	1715	Rana luteiventris	1	adult	56	19.3	99	1	5	1	0.1	19	14.2	0.5	2
32	Cottonwood Cr.	508497	4709040	4	partly cloudy	05/20/96	1724	Rana luteiventris	1	adult	u	u	u	u	u	5	0.1	13	13.5	1	4
33	Cottonwood Cr.	508295	4709928	4	partly cloudy	05/20/96	1740	Rana luteiventris	1	adult	28	2.1	99	99	99	2	0.4	16	13.5	1.5	7
34	Cottonwood Cr.	508295	4709928	4	partly cloudy	05/20/96	1742	Pseudacris regilla	1	adult	99	99	male	99	99	99	99	99	99	99	99
35	Cottonwood Cr.	508492	4707773	1716	partly cloudy	05/20/96	1755	Pseudacris regilla	1	adult	37	6.2	female	1	5	2	0.3	13	13.5	1.5	14
36	Cottonwood Cr.	508493	4707851	1708	partly cloudy	05/20/96	1807	Rana luteiventris	1	adult	85	44.2	female	1	5	99	99	15	13.5	0.8	0
37	Cottonwood Cr.	508513	4707939	1708	partly cloudy	05/20/96	1820	Pseudacris regilla	1	adult	40	4.5	male	99	99	2	0.5	14	13.5	1	4
38	Cottonwood Cr.	508513	4707939	1708	partly cloudy	05/20/96	1820	Pseudacris regilla	1	adult	42	6	male	99	99	2	0.5	14	13.5	1	4
39	Cottonwood Cr.	508538	4707995	1708	partly cloudy	05/20/96	1832	Pseudacris regilla	1	adult	20	0.5	99	99	99	1.5	0.5	14	13.5	1.5	6
40	Cottonwood Cr.	508502	4708083	1705	partly cloudy	05/20/96	1841	Pseudacris regilla	1	adult	41	5	male	99	99	2	0.3	14	13.5	1	5
41	Cottonwood Cr.	508472	4708238	1704	partly cloudy	05/20/96	1910	random	99	99	99	99	99	99	99	3	0.3	16	13.8	1.5	8
42	Trib. to Cottonwood	508542	4708056	1710	partly cloudy	05/20/96	1921	Rana luteiventris	1	adult	69	28.5	male	1	5	1	0.1	12	16.5	1.5	8
43	Trib. to Cottonwood	508601	4708050	1715	partly cloudy	05/20/96	1928	Pseudacris regilla	1	adult	34	3	male	99	99	1	0.1	13	15.5	1.5	9
44	Cottonwood Cr.	99	99	99	partly cloudy	05/20/96	1937	random	99	99	99	99	99	99	99	2.5	0.3	13	13	1.5	19
45	Cottonwood Cr.	99	99	99	partly cloudy	05/20/96	1944	random	99	99	99	99	99	99	99	3	0.3	15	13	1	5

46	Cottonwood Cr.	99	99	99	cloudy	05/21/96	99	random	99	99	99	99	99	99	99	1.5	0.5	15	10	0.5	1
47	Cottonwood Cr.	508937	4710574	1674	partly cloudy	05/21/96	99	Pseudacris regilla	50	tadpole	99	99	99	99	99	0.5	0.1	14	11	0.8	6
48	Cottonwood Cr.	99	99	99	cloudy	05/21/96	99	random	99	99	99	99	99	99	99	1	0.5	15	9.75	1.3	25
49	Cottonwood Cr.	99	99	99	cloudy	05/21/96	99	random	99	99	99	99	99	99	99	1.5	0.5	15	10	0.5	1
50	Cottonwood Cr.	99	99	99	rain	05/21/96	1323	Pseudacris regilla	99	99	99	99	male	99	99	2	0.3	12	8.5	1.5	5
51	Cottonwood Cr.	99	99	99	rain	05/21/96	1549	Pseudacris regilla	99	99	99	99	99	99	99	1	0.3	15	9.5	1	7
52	Cottonwood Cr.	99	99	99	rain	05/21/96	1604	random	99	99	99	99	99	99	99	1	0.1	15	9.5	1.5	7
53	Cottonwood Cr.	99	99	99	rain	05/21/96	1722	random	99	99	99	99	99	99	99	2	0.2	15	9.5	2	17
54	Cottonwood Cr.	99	99	99	rain	05/21/96	1745	random	99	99	99	99	99	99	99	2	0.2	15	10	0.5	2
55	Cattle pond near Cottonwood Cr.				high clouds/sun	05/27/96	1230	Pseudacris regilla	1000	tadpole	99	99	99	99	99	15	.0/2.	19	19	2.5	4
56	Cottonwood Cr.				cloudy	05/27/96	1352	Pseudacris regilla	1	adult	35	5.9	female	1	1	99	99	99	17	99	99
57	Grasshopper Springs				cloudy	05/27/96	1439	Pseudacris regilla	1	adult	16	0.5	99	1	1	99	99	99	99	99	99
58	Cottonwood Cr.				cloudy	05/27/96	1509	Pseudacris regilla	1	adult	16	0.5	99	1	1	99	99	99	99	99	99
59	Cottonwood Cr.				cloudy	05/27/96	1515	Pseudacris regilla	1	adult	20	1.5	99	1	1	99	99	99	99	99	99
60	Cottonwood Cr.				cloudy	05/27/96	1516	Pseudacris regilla	1	adult	40	4.3	99	99	99	99	99	99	99	99	99
61	Tributary to Cottonwood Cr.				cloudy	05/27/96	1549	Pseudacris regilla	1	adult	39	4.2	99	1	1	99	99	99	99	99	99
62	Tributary to Cottonwood Cr.				cloudy	05/27/96	1556	Pseudacris regilla	1	adult	32	3.3	99	1	1	99	99	99	99	99	99
63	Tributary to Cottonwood Cr.				cloudy	05/27/96	1614	Pseudacris regilla	1	adult	35	4.8	male	99	99	99	99	99	99	99	99
64	Tributary to Cottonwood Cr.				cloudy	05/27/96	1619	Pseudacris regilla	1	adult	99	4.5	99	1	1	99	99	99	99	99	99
65	Tributary to Cottonwood Cr.				cloudy	05/27/96	1623	Pseudacris regilla	1	adult	32	4.6	99	99	99	99	99	99	99	99	99
66	Tributary to Cottonwood Cr.				clear	05/28/96	954	Pseudacris regilla	10	tadpole	99	99	99	99	99	1	0.1	8	9	99	99
67	Cottonwood Cr.	508375	4708315	1703	sun	05/28/96	1034	Rana luteiventris	1	adult	82	45.5	male	1	1	1	0.2	11	9	1.5	3
68	Cottonwood Cr.	508363	4708493	1700	sun	05/28/96	1050	Rana luteiventris	1	adult	70	45	female	1	10	1	0.3	10	9.5	1.5	99
69	Cottonwood Cr.	508328	4708547	1698	sun	05/28/96	1103	Pseudacris regilla	1	adult	35	3.5	male	1	1	99	99	99	99	99	99
70	Cottonwood Cr.	508341	4708644	1697	sun	05/28/96	1113	Pseudacris regilla	1	adult	36	3.5	male	1	1	99	99	99	99	99	99
71	Cottonwood Cr.	508328	4708690	1697	sun	05/28/96	1120	Pseudacris regilla	1	adult	38	5.75	female	1	1	99	99	99	99	99	99
72	Cottonwood Cr.	508321	4708812	1695	sun	05/28/96	1134	Rana luteiventris	1	adult	58	26	99	1	1	1.5	0.5	12	11	1.7	2
73	Cottonwood Cr.	508350	4709003	1695	sun	05/28/96	1203	Rana luteiventris	1	adult	59	25.75	male	1	1	1.5	0.1	12	11.5	1.5	2
74	Cottonwood Cr.	508346	4709042	1690	sun	05/28/96	1213	Rana luteiventris	1	adult	72	35	female	1	1	1.5	0.4	12	12	1	0
75	Tributary to Cottonwood Cr.	508308	4709085	1693	sun	05/28/96	1225	Pseudacris regilla	1	adult	33	3	male	1	1	99	99	99	99	99	99
76	Tributary to Cottonwood Cr.	508172	4709000	1701	sun	05/28/96	1237	Pseudacris regilla	100	tadpole	99	99	99	99	99	99	99	99	99	99	99
77	Cottonwood Cr.	501797	4758397	1427	sun	05/28/96	1356	Pseudacris regilla	1	adult	21	0.5	99	1	1	99	99	99	99	99	99
78	Cottonwood Cr.	508345	4709228	1696	sun	05/28/96	1400	Pseudacris regilla	1	adult	31	4.5	male	1	1	99	99	99	99	99	99
79	Cottonwood Cr.	508539	4709550	1689	sun	05/28/96	1425	Pseudacris regilla	1	adult	35	3.5	male	1	1	99	99	99	99	99	99
80	Cottonwood Cr.	508537	4709563	1689	sun	05/28/96	1429	Pseudacris regilla	1	adult	15	0.5	99	1	1	99	99	99	99	99	99
81	Cottonwood Cr.	505517	4712368	11	sun	05/28/96	1448	Rana luteiventris	1	adult	77	41.5	female	1	1	1.5	0.4	20	17	2	15
82	Cottonwood Cr.	508540	4709860	1679	sun	05/28/96	1519	Rana luteiventris	1	adult	81	70	female	1	1	1.5	0.4	20	19	0.5	2
83	Cottonwood Cr.	508540	4709860	1679	sun	05/28/96	1520	Rana luteiventris	1	adult	76	46	female	1	1	1.5	0.4	20	19	0.5	2
84	Cottonwood Cr.	508540	4709860	1679	sun	05/28/96	1521	Rana luteiventris	1	adult	99	16.5	female	8	1	1.5	0.4	20	19	0.5	2
85	Cottonwood Cr.	508426	4709829	1	sun/wind	05/28/96	1606	Rana luteiventris	1	adult	54	19.5	male	1	1	1.5	0.5	20	19	1.5	12
86	Cottonwood Cr.	508214	4709957	2	sun	05/28/96	1613	Rana luteiventris	2	tadpole	99	99	99	99	99	1.5	0.5	20	19	1.5	12
87	Cottonwood Cr.	508214	4709957	2	sun	05/28/96	1614	Rana luteiventris	1	adult	u	u	u	u	u	1.5	0.5	20	19	1.5	12
88	Cottonwood Cr.	509183	4710465	5	sun	05/28/96	1639	Rana luteiventris	1	adult	u	u	u	u	u	0.7	0.5	20	19	0.5	2
89	Cottonwood Cr.	508426	4709829	1	sun	05/28/96	1649	Rana luteiventris	1	adult	57	21.5	female	1	1	1	0.3	20	19.5	0.2	1
90	Tributary to Cottonwood Cr.	506293	4708936	1727	sun	05/29/96	1539	Pseudacris regilla	99	tadpole	99	99	99	99	99	99	99	99	99	99	99
91	Tributary to Cottonwood Cr.	506072	4708708	1	sun	05/29/96	1553	Pseudacris regilla	1	adult	44	9	female	1	1	99	99	99	99	99	99
92	Tributary to Cottonwood Cr.	506045	4708400	991	sun	05/29/96	1630	Pseudacris regilla	1	adult	37	6.1	male	1	1	99	99	99	99	99	99
93	Tributary to Cottonwood Cr.	506721	4709556	1044	sun	05/29/96	1647	Pseudacris regilla	1	adult	30	3	99	1	1	99	99	99	99	99	99
94	Pleasant Valley Cr.	99	99	99	sun	05/30/96	951	random	99	99	99	99	99	99	99	0.4	0.1	14	7.5	1.8	7
95	Pleasant Valley Cr.	509906	4704911	1796	sun	05/30/96	1009	Pseudacris regilla	1	adult	45	9.5	female	1	1	99	99	99	99	99	99

96	Pleasant Valley Cr.	99	99	99	partly cloudy	05/30/96	1032	random	99	99	99	99	99	99	99	0.7	0.1	99	99	0.2	1
97	Pleasant Valley Cr.	99	99	99	pc/wind	05/30/96	1106	random	99	99	99	99	99	99	99	1	0.1	18	8.5	1	4
98	Pleasant Valley Cr.	99	99	99	sun	05/30/96	1142	random	99	99	99	99	99	99	99	1	0.1	14	99	0.5	2
99	Tributary to Pleasant Valley	510994	4707084	1710	sun	05/30/96	1156	Rana luteiventris	1	adult	58	20.5	male	1	1	0.5	0.1	19	17	0.5	2
100	Tributary to Pleasant Valley	510988	4707077	1708	sun	05/30/96	1205	Rana luteiventris	1	adult	59	22	female	1	1	1	0.2	19	17	0.5	2
101	Tributary to Pleasant Valley	510988	4707077	1708	sun	05/30/96	1212	Rana luteiventris	1	adult	67	27	female	1	1	1	0.2	19	17	0.5	2
102	Tributary to Pleasant Valley	510953	4707070	1708	sun	05/30/96	1220	Pseudacris regilla	1	adult	15	0.5	99	1	1	99	99	99	99	99	99
103	Tributary to Pleasant Valley	510906	4707030	1717	sun/wind	05/30/96	1230	Pseudacris regilla	10	tadpole	99	99	99	99	99	99	99	99	99	99	99
104	Tributary to Pleasant Valley	510906	4707030	1717	sun/wind	05/30/96	1235	Rana luteiventris	1	adult	58	23	female	1	1	1	0.3	19	17	0.5	1
105	Tributary to Pleasant Valley	510906	4707030	1717	sun	05/30/96	1244	Rana luteiventris	1	adult	67	27	male	1	1	1	0.3	19	17	0.5	1
106	Tributary to Pleasant Valley	510898	4707021	1715	sun	05/30/96	1259	Pseudacris regilla	100	tadpole	99	99	99	99	99	99	99	99	99	99	99
107	Tributary to Pleasant Valley	510887	4707011	1714	sun	05/30/96	1305	Rana luteiventris	u	u	u	u	u	u	u	1	0.2	19	17	1	5
108	Tributary to Pleasant Valley	99	99	99	partly cloudy	05/30/96	1401	random	99	99	99	99	99	99	99	0.4	0.1	20	17.5	0.5	1
109	Nickel Cr.	517094	4711707	1665	warm cloudy	06/03/96	1113	Pseudacris regilla	99	tadpole	99	99	99	99	99	99	99	99	99	99	99
110	Nickel Cr.	99	99	99	partly cloudy	06/03/96	1200	random	99	99	99	99	99	99	99	4	1	26	20	2	9
111	Nickel Cr.	99	99	99	partly cloudy	06/03/96	1213	random	99	99	99	99	99	99	99	1.5	0.3	26	20	2	3
112	Tributary to Pleasant Valley	99	99	99	partly cloudy	06/03/96	1402	random	99	99	99	99	99	99	99	0.3	0.0	99	99	0.5	2
113	Tributary to Pleasant Valley	513501	4711106	1667	sun	06/03/96	1414	Pseudacris regilla	1000	tadpole	99	99	99	99	99	99	99	99	99	99	99
114	Tributary to Pleasant Valley	514414	4708588	1708	cloudy	06/03/96	1635	Pseudacris regilla	50	tadpole	99	99	99	99	99	99	99	99	99	99	99
115	Dougal Res.	499812	4723174	1540	mostly cloudy	06/03/96	1800	Pseudacris regilla	1	adult	42	7	female	1	1	1	0.2	99	99	99	99
116	Dougal Res.	499796	4723190	1540	cloudy	06/03/96	1824	Pseudacris regilla	1	adult	38	5	female	1	1	99	99	99	99	99	99
117	Trout Cr.	99	99	99	sun	06/04/96	99	random	99	99	99	99	99	99	99	1	0.1	99	99	0.2	1
118	Trout Cr.	99	99	99	sun	06/04/96	99	random	99	99	99	99	99	99	99	2	1	99	99	0	0
119	Trout Cr.	99	99	99	sun	06/04/96	99	random	99	99	99	99	99	99	99	2.5	0.5	99	99	0	0
120	Trout Cr.	99	99	99	sun	06/04/96	1325	random	99	99	99	99	99	99	99	2	0.1	99	99	0.2	1
121	Trout Cr.	99	99	99	sun	06/04/96	1422	random	99	99	99	99	99	99	99	3	0.0	99	99	1.5	5
122	West fork of Trout Cr.	99	99	99	sun	06/04/96	1501	random	99	99	99	99	99	99	99	0.5	0.0	99	99	0.5	4
123	Duck Cr.	99	99	99	sun	06/05/96	99	random	99	99	99	99	99	99	99	2	0.3	99	99	2	7
124	East fork of Goose Cr.	99	99	99	sun	06/05/96	99	random	99	99	99	99	99	99	99	1	0.1	99	99	0.2	0
125	Duck Cr.	99	99	99	sun	06/05/96	1000	random	99	99	99	99	99	99	99	1	0.1	99	13.5	2	9
126	Duck Cr.	506373	4753466	1575	sun	06/05/96	1030	Pseudacris regilla	1	adult	33	2.5	f?	1	1	2	0.1	99	13.5	99	99
127	Duck Cr.	506373	4753466	1575	sun	06/05/96	1031	Pseudacris regilla	1	adult	30	2.5	f?	1	1	99	99	99	99	99	99
128	Duck Cr.	506400	4753438	1579	sun	06/05/96	1035	Pseudacris regilla	99	tadpole	99	99	99	99	99	99	99	99	99	99	99
129	Duck Cr.	506382	4753408	1566	sun	06/05/96	1043	Pseudacris regilla	1	adult	30	2.5	f?	1	1	99	99	99	99	99	99
130	Duck Cr.	506382	4753408	1566	sun	06/05/96	1048	Pseudacris regilla	1	adult	26	1.5	f?	1	1	99	99	99	99	99	99
131	Duck Cr.	506378	4753398	1564	sun	06/05/96	1050	Pseudacris regilla	1	adult	25	1.5	f?	1	1	99	99	99	99	99	99
132	Duck Cr.	506378	4753398	1564	sun	06/05/96	1051	Pseudacris regilla	1	adult	31	2.5	f?	1	1	99	99	99	99	99	99
133	Duck Cr.	506378	4753398	1564	sun	06/05/96	1052	Pseudacris regilla	1	adult	25	1.5	99	1	1	99	99	99	99	99	99
134	Duck Cr.	506378	4753398	1564	sun	06/05/96	1053	Pseudacris regilla	1	adult	25	1.5	99	1	1	99	99	99	99	99	99
135	Duck Cr.	506378	4753398	1564	sun	06/05/96	1054	Pseudacris regilla	1	adult	25	1.5	99	1	1	99	99	99	99	99	99
136	Duck Cr.	99	99	99	sun	06/05/96	1150	random	99	99	99	99	99	99	99	1	0.1	99	99	0.5	2
137	East fork of Goose Cr.	506345	4749754	1521	sun	06/05/96	1459	Pseudacris regilla	3	adult	30	2	99	1	1	99	99	99	99	99	99
138	East fork of Goose Cr.	506354	4749787	1552	sun	06/05/96	1510	Pseudacris regilla	5	adult	40	5	f	1	1	99	99	99	99	99	99
139	East fork of Goose Cr.	506354	4749787	1552	sun	06/05/96	1511	Pseudacris regilla	1	adult	27	1.5	f?	1	1	99	99	99	99	99	99
140	East fork of Goose Cr.	506352	4749790	1539	sun	06/05/96	1523	Pseudacris regilla	1	adult	32	2.5	99	1	1	99	99	99	99	99	99
141	East fork of Goose Cr.	506352	4749790	1539	sun	06/05/96	1526	Pseudacris regilla	1	adult	34	3	99	1	1	99	99	99	99	99	99
142	East fork of Goose Cr.	506352	4749790	1539	sun	06/05/96	1541	Pseudacris regilla	1	adult	33	2.7	99	1	1	99	99	99	99	99	99
143	East fork of Goose Cr.	505687	4750462	1550	sun	06/05/96	1639	Pseudacris regilla	200	tadpole	99	99	99	99	99	99	99	99	99	99	99
144	Duck Cr.	509628	4748281	1415	sun	06/05/96	1738	Rana luteiventris	1	adult	36	4	f?	99	99	2	0.1	99	22	2	3
145	Duck Cr.	509628	4748281	1415	sun	06/05/96	1739	Rana luteiventris	1	adult	50	12	male	99	99	2	0.1	99	22	2	3

146	Duck Cr.	509628	4748281	1415	sun	06/05/96	1740	Rana luteiventris	1	adult	u	u	u	u	99	2	0.1	99	32.5	2	3
147	Duck Cr.	509605	4748344	1413	sun	06/05/96	1800	Rana luteiventris	1	adult	45	9	female	99	99	1	0.2	99	99	0.5	0
148	Duck Cr.	509560	4748406	1413	sun	06/05/96	1812	Rana luteiventris	1	adult	47	10.5	99	99	99	1	0.8	99	22	2	6
149	Duck Cr.	509560	4748406	1413	sun	06/05/96	1813	Rana luteiventris	1	adult	45	9.5	female	99	99	1	0.8	99	22	2	6
150	Duck Cr.	509560	4748406	1413	sun	06/05/96	1814	Rana luteiventris	1	adult	45	10.5	99	99	99	1	0.8	99	22	2	6
151	Duck Cr.	509560	4748406	1413	sun	06/05/96	1815	Rana luteiventris	1	adult	43	9	male	99	99	1	0.8	99	22	2	6
152	Duck Cr.	509538	4748443	1415	sun	06/05/96	1843	Rana luteiventris	?	tadpole	99	99	99	99	99	1	0.5	99	23	1	3
153	Duck Cr.	509598	4748156	1411	sun	06/05/96	1900	Rana luteiventris	1	adult	u	u	u	u	99	0.8	0.1	99	22	1	3
154	Duck Cr.	509772	4747837	1408	sun	06/05/96	1933	Rana luteiventris	1	adult	43	8.5	male	1	1	1	0.1	99	24	2	6
155	Deer Cr.	519338	4745197	1555	sun	06/06/96	1200	Rana luteiventris	1	adult	74	51	female	99	99	40	0.5	21	21	2.5	4
156	Battle Cr.	551024	4727989	1841	sun	06/10/96	1302	Rana luteiventris	1	adult	46	10	female	1,8	99	1	0.2	99	22	1	2
157	Duck Cr.	509628	4748281	1415	sun	06/10/96	1616	Rana luteiventris	1	adult	39	5	female	1,8	99	2	0.1	99	32.5	2	3
158	Duck Cr.				sun	06/10/96	1631	Rana luteiventris	1	adult	41	6	female	1,8	99	2	0.1	99	32.5	1.5	3
159	Duck Cr.	509558	4748407	1417	sun	06/10/96	1647	Rana luteiventris	1	adult	48	10.75	female	1,8	99	1.5	0.8	99	19	99	99
160	Duck Cr.	509558	4748407	1417	sun	06/10/96	1650	Rana luteiventris	1	adult	36	6.5	female	99	99	1.5	0.8	99	19	99	99
161	Duck Cr.	509516	4748419	1416	sun	06/10/96	1659	Rana luteiventris	1	adult	42	9.5	female	1,8	99	2	0.3	99	19	2	6
162	Duck Cr.	509598	4748156	1411	sun	06/10/96	1719	Rana luteiventris	1	adult	50	12	male	99	99	0.8	0.1	99	20	1	3
163	Duck Cr.	509662	4748056	1411	sun	06/10/96	1729	Rana luteiventris	1	adult	50	13	female	1,8	99	1.5	1	99	21	1	3
164	Duck Cr.	509672	4748030	1411	sun	06/10/96	1738	Rana luteiventris	1	adult	46	12	female	99	99	0.5	0.1	28	22	1	3
165	Duck Cr.	509767	4747830	1409	sun	06/10/96	1801	Rana luteiventris	1	adult	48	10	male	1,8	99	4	0.2	99	20	1.5	4
166	Mountain Cr.	99	99	99	sun	06/11/96	1119	random	99	99	99	99	99	99	99	2	0.6	24	14.5	1	3
167	Mountain Cr.	99	99	99	sun	06/11/96	1138	random	99	99	99	99	99	99	99	2	0.1	99	99	0.3	1
168	Mountain Cr.	99	99	99	sun	06/11/96	1256	random	99	99	99	99	99	99	99	4	0.2	99	99	0.5	0
169	Mountain Cr.	513938	4742228	1541	sun	06/11/96	1318	Pseudacris regilla	1	adult	49	9	female	1,8	99	2.5	0.5	99	99	0	0
170	Mountain Cr.	513938	4742228	1541	sun	06/11/96	1323	Pseudacris regilla	1	adult	30	2	99	1,8	99	2.5	0.5	99	99	0	0
171	Tributary to Boulder Cr.	511923	4743053	1544	sun	06/11/96	1435	Pseudacris regilla	1	adult	30	1.5	99	1,8	99	1	0.1	22	27	1	4
172	Tributary to Boulder Cr.	511868	4743151	1543	sun	06/11/96	1442	Pseudacris regilla	1	adult	31	1.5	99	1,8	99	99	99	99	99	99	99
173	Old Man Cr.	510884	4740021	1608	sun	06/11/96	1605	Pseudacris regilla	1	adult	36	3.5	female	1,8	99	99	99	99	99	99	99
174	Old Man Cr.	510882	4740011	1612	sun	06/11/96	1611	Pseudacris regilla	1	adult	31	2	99	1,8	99	99	99	99	99	99	99
175	Old Man Cr.	510885	4739998	1608	sun	06/11/96	1614	Pseudacris regilla	1	adult	31	2	female	1,8	99	99	99	99	99	99	99
176	Old Man Cr.	510875	4739997	1604	sun	06/11/96	1618	Pseudacris regilla	1	adult	33	2	99	1,8	99	99	99	99	99	99	99
177	Old Man Cr.	510863	4739969	1608	sun	06/11/96	1624	Pseudacris regilla	1	adult	33	2	99	1,8	99	99	99	99	99	99	99
178	Old Man Cr.	510863	4739969	1608	sun	06/11/96	1625	Pseudacris regilla	1	adult	36	3.25	female	1,8	99	99	99	99	99	99	99
179	Old Man Cr.	510863	4739969	1608	sun	06/11/96	1626	Pseudacris regilla	1	adult	33	2.75	99	1,8	99	99	99	99	99	99	99
180	Old Man Cr.	510478	4739380	1625	sun	06/11/96	1659	Rana luteiventris	1	adult	45	9.5	female	1	1	0.6	0.1	23	24.5	1.5	3
181	Old Man Cr.	510450	4739321	1628	sun	06/11/96	1719	Rana luteiventris	1	adult	45	10.5	female	1,8	99	99	99	23	24.5	99	99
182	Old Man Cr.	510278	4738987	1639	sun	06/11/96	1743	Rana luteiventris	1	adult	34	4	female	1,8	99	2	0.2	23	24.5	1	3
183	Old Man Cr.	510162	4738666	1650	sun	06/11/96	1808	Rana luteiventris	1	adult	56	22.5	female	1,8	99	0.5	0.5	23	24	0.5	0
184	Old Man Cr.	510102	4738382	1655	sun	06/11/96	1831	Rana luteiventris	1	adult	u	u	u	u	99	1	0.1	22	18.5	1.5	3
185	Old Man Cr.	510102	4738382	1655	sun	06/11/96	1831	Rana luteiventris	1	adult	37	5	female	1,8	99	1	0.1	22	18.5	1.5	3
186	Old Man Cr.	510091	4738350	1658	sun	06/11/96	1846	Rana luteiventris	1	adult	u	u	u	u	99	5	0.1	22	18.5	1.5	4
187	Old Man Cr.	510411	4739258	1636	sun	06/11/96	1909	Rana luteiventris	1	adult	46	10.5	male	1,8	99	0.2	0.1	22	18	1	0
188	Old Man Cr.	510411	4739258	1636	sun	06/11/96	1910	Rana luteiventris	1	adult	45	10	99	1,8	99	0.2	0.1	22	18	1	0
189	Old Man Cr.	510416	4739260	1633	sun	06/11/96	1920	Rana luteiventris	1	adult	47	10	female	1,8	99	0.5	0.5	22	18	1	0
190	Old Man Cr.	99	99	99	sun	06/12/96	1016	random	99	99	99	99	99	99	99	1	0.1	20	13.5	0.5	1
191	Old Man Cr.	99	99	99	sun	06/12/96	1031	random	99	99	99	99	99	99	99	0.7	0.1	21	14	1	2
192	Rail Cr.	99	99	99	sun	06/12/96	1347	random	99	99	99	99	99	99	99	1	0.6	99	21.5	1.5	4
193	Rail Cr. Res.	507840	4737925	1635	sun	06/12/96	1824	Rana luteiventris	1	adult	74	41.5	female	1,8	99	3	1	22	20.5	1	0
194	Cattle pond on Trib. to Rail Cr.	507283	4737747	1673	sun	06/12/96	1902	Rana luteiventris	1	adult	45	10	male	1,8	99	40	0.2	22	24.5	2	4
195	Cattle pond on Trib. to Rail Cr.	507257	4737740	1673	sun	06/12/96	1907	Rana luteiventris	1	adult	50	12.5	female	99	99	40	0.2	22	24.5	2	4

196	Rail Cr. Res.	507828	4738068	1638	sun	06/12/96	2001	Rana luteiventris	1	adult	45	8	male	99	99	100	unk.	22	20.5	1	0
197	Rail Cr. Res.	507832	4738073	1638	sun	06/12/96	2021	Rana luteiventris	1	adult	u	u	u	u	99	100	unk.	22	20.5	1	0
198	Coyote Cr.	99	99	99	sun	06/13/96	99	random	99	99	99	99	99	99	99	1	0.2	99	99	2	6
199	Coyote Cr.	99	99	99	sun	06/13/96	99	random	99	99	99	99	99	99	99	0.5	0.1	99	99	2	4
200	Coyote Cr.	99	99	99	sun	06/13/96	1122	random	99	99	99	99	99	99	99	1	0.1	99	99	2	7
201	Indian Cr.	99	99	99	rain	06/13/96	1508	random	99	99	99	99	99	99	99	2	0.5	99	99	1	3
202	Bogus Cr.	519978	4729227	1906	partly cloudy	06/17/96	1809	Pseudacris regilla	1	adult	41	4.5	male	1,8	99	1	0.1	19	99	0.5	0
203	Bogus Cr.	519792	4729311	1911	partly cloudy	06/17/96	1819	Pseudacris regilla	1	adult	20	0.5	99	1,8	99	1	0.1	19	99	0.5	0
204	Bogus Cr.	99	99	99	partly cloudy	06/17/96	1915	random	99	99	99	99	99	99	99	0.75	0.1	20	18.5	1.5	13
205	Bogus Cr.	520440	4729107	1916	partly cloudy	06/17/96	1918	Pseudacris regilla	70	tadpole	99	99	99	99	99	99	99	99	99	99	99
206	Rose Cr. Res.	524638	4730154	1837	sun/wind	06/18/96	1108	Pseudacris regilla	200	tadpole	99	99	99	99	99	99	99	99	99	99	99
207	Nip and Tuck Cr.	99	99	99	sun	06/18/96	1537	Pseudacris regilla	1	adult	28	1	99	1,8	99	1	0.1	99	99	1.5	4
208	Nip and Tuck Cr.	99	99	99	sun	06/18/96	1542	Pseudacris regilla	1	adult	27	1	99	1,8	99	99	99	99	99	99	99
209	Corral Cr.	99	99	99	sun	06/19/96	1134	random	99	99	99	99	99	99	99	1	0.0	99	99	2	6
210	Corral Cr.	99	99	99	sun	06/19/96	1151	random	99	99	99	99	99	99	99	1.5	0.1	17	11	2	7
211	Corral Cr.	99	99	99	sun	06/19/96	1211	random	99	99	99	99	99	99	99	2	0.1	99	99	1.5	4
212	Corral Cr.	99	99	99	sun	06/19/96	1334	random	99	99	99	99	99	99	99	1.5	0.1	21	16	1	3
213	South fork of Castle Cr.	99	99	99	partly cloudy	06/20/96	1427	random	99	99	99	99	99	99	99	2	1	99	99	1	3
214	Pig Cr.	577504	4674824	1726	p/c wind	06/25/96	1224	Pseudacris regilla	1	adult	99	99	dead	99	99	99	99	99	99	99	99
215	Pig Cr.	99	99	99	p/c wind	06/25/96	1330	random	99	99	99	99	99	99	99	0.75	0.1	99	99	0	1
216	Pig Cr.	575455	4676553	1673	partly cloudy	06/25/96	1344	Pseudacris regilla	99	tadpole	99	99	99	99	99	99	99	99	99	99	99
217	Payne Cr.	99	99	99	sun	06/25/96	1521	random	99	99	99	99	99	99	99	1	0.5	23	17	1	3
218	Payne Cr.	575175	4678093	1662	sun	06/25/96	1818	Pseudacris regilla	200	tadpole	99	99	99	99	99	99	99	99	99	99	99
219	Little Blue Cr.	575664	4683105	1667	sun	06/26/96	1156	Rana luteiventris	1	adult	70	45.5	female	1,8	99	2.5	0.5	24	16.5	1.5	3
220	Little Blue Cr.	575681	4683090	1667	sun	06/26/96	1206	Rana luteiventris	1	adult	u	u	u	u	99	0.75	0.3	24	16.5	1.5	2
221	Little Blue Cr.	575683	4683095	1671	sun	06/26/96	1218	Rana luteiventris	1	adult	65	35.5	female	1,8	99	2	0.5	24	17	1.5	2
222	Siwell Res.	573450	4687965	1734	rain	06/26/96	1449	Pseudacris regilla	1000	tadpole	99	99	99	99	99	99	99	99	99	99	99
223	Blue Cr.	99	99	99	partly cloudy	06/27/96	1319	random	99	99	99	99	99	99	99	2	1	23	17.5	1	3
224	Blue Cr.	99	99	99	partly cloudy	06/27/96	1340	random	99	99	99	99	99	99	99	1	0.5	23	18	1	4
225	Blue Cr.	99	99	99	sun	06/27/96	1400	random	99	99	99	99	99	99	99	3	0.5	24	18	0	1
226	Blue Cr.	99	99	99	p/c sun	06/27/96	1430	random	99	99	99	99	99	99	99	4	1.5	25	19	2	6
227	Little Blue Cr.	575682	4683092	1668	sun	07/01/96	1100	Rana luteiventris	2	tadpole	99	99	99	99	99	2	0.2	27	22	1.5	3
228	Little Blue Cr.	575665	4683099	1664	sun	07/01/96	1239	Rana luteiventris	1	adult	72	37	female	1,8	99	3	0.5	27	22	1	2
229	Little Blue Cr.	575478	4683169	1666	sun	07/01/96	1258	Pseudacris regilla	70	tadpole	99	99	99	99	99	99	99	99	99	99	99
230	Shoofly Cr.	99	99	99	sun	07/02/96	99	random	99	99	99	99	99	99	99	3	0.5	30	19	2	6
231	Whites Res.	563439	4704479	1737	cloudy	07/03/96	1918	Pseudacris regilla	>1000	tadpole	99	99	99	99	99	99	99	99	99	99	99
232	Big Springs Cr.	99	99	99	sun	07/04/96	1042	random	99	99	99	99	99	99	99	1.5	0.3	26	20	0	0
233	Big Springs Cr.	99	99	99	sun	07/04/96	1102	random	99	99	99	99	99	99	99	2.5	0.3	26	20	1	2
234	Big Springs Cr.	99	99	99	sun	07/04/96	1134	random	99	99	99	99	99	99	99	2.5	0.7	30	20	1.5	3
235	Camel Cr.	530374	4708159	1588	cloudy	07/08/96	1555	Rana luteiventris	20+	tadpole	99	99	99	99	99	1	0.2	30	22	0	0
236	Camel Cr.	530364	4708282	1591	cloudy	07/08/96	1633	Rana luteiventris	20	tadpole	99	99	99	99	99	1	0.5	30	22	0	0
237	Camel Cr.	530281	4708377	1592	cloudy	07/08/96	1646	Rana luteiventris	10	tadpole	99	99	99	99	99	1	0.3	30	22	0	0
238	Camel Cr.	530378	4708086	1586	cloudy	07/08/96	1712	Rana luteiventris	10	tadpole	99	99	99	99	99	1	0.3	30	22	0	0
239	Camel Cr.	530353	4708056	1589	sun	07/08/96	1719	Rana luteiventris	10	tadpole	99	99	99	99	99	0.5	0.3	30	20	0	0
240	Camel Cr.	530339	4708033	1587	sun	07/08/96	1726	Rana luteiventris	1	tadpole	99	99	99	99	99	0.5	0.2	30	23	0	0
241	Camel Cr.	530334	4708020	1584	cloudy	07/08/96	1731	Rana luteiventris	1	tadpole	99	99	99	99	99	0.2	0.1	30	23	0	0
242	Camel Cr.	530316	4707974	1583	sun	07/08/96	1736	Rana luteiventris	1	adult	99	99	99	99	99	0.5	0.1	31	23	0	0
243	Camel Cr.	530311	4707972	1583	sun	07/08/96	1737	Rana luteiventris	1	adult	65	34.4	female	1,8	99	3	0.1	31	23	0	0
244	Camel Cr.	530255	4707850	1583	sun	07/08/96	1802	Rana luteiventris	1	tadpole	99	99	99	99	99	1	0.3	31	23	0	0
245	Camel Cr.	530249	4707833	1581	sun	07/08/96	1811	Rana luteiventris	4	tadpole	99	99	99	99	99	2	0.2	31	22	0	0

246	Camel Cr.	530244	4707820	1582	sun	07/08/96	1817	Rana luteiventris	1	adult	u	u	u	u	99	1	0.2	31	22	0	0
247	Camel Cr.	530266	4707793	1580	sun	07/08/96	1830	Rana luteiventris	1	adult	55	19.4	male	1,8	99	3	0.5	31	22	0	0
248	Camel Cr.	530298	4707684	1580	cloudy	07/08/96	1845	Rana luteiventris	1	adult	58	28.4	female	1,8	99	0.5	0.2	30	21	0	0
249	Camel Cr.	530320	4707671	1579	cloudy	07/08/96	1850	Rana luteiventris	1	adult	70	55.4	female	1,8	99	2	0.3	31	22	0	0
250	Camel Cr.	530355	4707646	1580	sun	07/08/96	1859	Rana luteiventris	1	adult	57	19.9	female	1,8	99	3	1	30	21	0	0
251	Camel Cr.	530285	4707701	1579	sun	07/09/96	922	Rana luteiventris	1	adult	61	28.4	male	1,8	99	1.5	0.2	26	13	0	0
252	Camel Cr.	530296	4707683	1580	sun	07/09/96	929	Rana luteiventris	1	adult	77	66.4	female	1,8	99	0.7	0.2	26	13	0	0
253	Camel Cr.	530296	4707683	1580	sun	07/09/96	939	Rana luteiventris	1	adult	77	63.9	female	1,8	99	0.7	0.2	26	13	0	0
254	Camel Cr.	530355	4707645	1580	sun	07/09/96	950	Rana luteiventris	1	adult	52	16.4	male	1,8	99	3	0.5	26	14	0	0
255	Camel Cr.	530458	4707518	1580	sun	07/09/96	1001	Rana luteiventris	1	adult	76	57.4	female	1,8	99	1.7	0.2	30	17	0	0
256	Camel Cr.	530285	4707701	1579	sun	07/09/96	1025	Rana luteiventris	1	adult	70	53.4	female	1,8	99	0.3	0.3	31	18	0	0
257	Pole Cr.	537581	4714466	1710	sun	07/09/96	1305	Rana luteiventris	1	adult	u	u	u	u	99	2.5	0.4	31	19	0	0
258	Pole Cr.	537602	4714473	1716	sun	07/09/96	1326	Rana luteiventris	1	adult	82	67.4	female	1,8	99	1	0.2	31	19	0	0
259	Pole Cr.	537840	4714320	1716	partly cloudy	07/09/96	1343	Rana luteiventris	1	adult	72	41.9	female	1,8	99	1	0.2	31	19	0	0
260	Pole Cr.	537845	4714319	1718	partly cloudy	07/09/96	1350	Rana luteiventris	1	adult	u	u	u	u	99	1	0.2	31	19	0	0
261	Battle Cr.	555740	4702927	1737	sun	07/10/96	1201	Rana luteiventris	1	adult	65	27	female	1,8	99	7	0.1	30	24	1	0
262	Battle Cr.	557007	4711995	1753	sun	07/10/96	1434	Rana luteiventris	1	adult	70	41	female	1,8	99	2	1	32	21	0	0
263	Battle Cr.	557010	4711991	1755	sun	07/10/96	1436	Rana luteiventris	1	adult	57	20.5	male	1,8	99	2	1	32	21	0	0
264	Battle Cr.	556775	4711996	1750	sun	07/10/96	1501	Rana luteiventris	1	adult	u	u	u	u	99	3	1	32	21	0	0
265	Battle Cr.	556661	4711886	1748	sun	07/10/96	1523	Rana luteiventris	1	adult	58	11	female	1,8	99	2.5	1	32	22	0.5	1
266	Battle Cr.	556588	4711902	1751	sun	07/10/96	1531	Rana luteiventris	1	adult	76	48	female	1,8	99	1.5	0.2	32	22	0	0
267	Battle Cr.	556365	4711930	1752	sun	07/10/96	1604	Rana luteiventris	1	adult	71	40	female	1,8	99	3	1.5	32	22	0	0
268	Battle Cr.	556746	4711861	1752	sun	07/10/96	1648	Rana luteiventris	1	adult	70	39	female	1,8	99	2.5	1	33	23	0	0
269	Battle Cr.	556747	4711868	1750	sun	07/10/96	1654	Rana luteiventris	1	adult	70	39	female	1,8	99	2.5	1	33	23	0	0
270	Johnston Res.	513618	4771805	2036	cloudy	07/15/96	1126	Rana luteiventris	1	adult	64	26.4	female	1,8	99	75	0.1	21	19	1	3
271	Johnston Res.	513602	4771811	2036	cloudy	07/15/96	1145	Rana luteiventris	1	adult	u	u	u	u	99	75	0.1	21	19	1	3
272	Johnston Res.	513602	4771811	2036	cloudy	07/15/96	1147	Rana luteiventris	1	adult	u	u	u	u	99	75	0.1	21	19	1	3
273	Johnston Res.	513585	4771808	2037	cloudy	07/15/96	1155	Rana luteiventris	1	adult	80	62.4	female	1,8	99	75	0.1	21	19	1	3
274	Johnston Res.	513578	4771808	2038	cloudy	07/15/96	1206	Rana luteiventris	1	adult	80	62.4	female	1,8	99	75	0.1	21	19	1	3
275	Johnston Res.	513578	4771808	2038	cloudy	07/15/96	1207	Rana luteiventris	1	adult	81	61.4	female	1,8	99	75	0.1	21	19	1	3
276	Johnston Res.	513564	4771806	2035	cloudy	07/15/96	1225	Rana luteiventris	1	adult	82	66.4	female	1,8	99	75	0.1	21	20	1	3
277	Johnston Res.	513564	4771806	2035	cloudy	07/15/96	1227	Rana luteiventris	1	adult	90	68.4	female	1,8	99	75	0.1	21	19	1	3
278	Johnston Res.	513504	4771846	2043	cloudy	07/15/96	1247	Rana luteiventris	1	adult	u	u	u	u	99	75	0.1	21	19	1	3
279	Johnston Res.	513504	4771846	2043	cloudy	07/15/96	1248	Rana luteiventris	1	adult	u	u	u	u	99	75	0.1	21	19	1	3
280	Johnston Res.	513504	4771846	2043	cloudy	07/15/96	1249	Rana luteiventris	1	adult	80	73.4	female	1,8	99	75	0.1	21	19	1	3
281	Johnston Res.	513504	4771846	2043	cloudy	07/15/96	1250	Rana luteiventris	1	adult	u	u	u	u	99	75	0.1	21	19	1	3
282	Johnston Res.	513557	4771906	2039	rain	07/15/96	1317	Rana luteiventris	1	adult	68	35.4	female	1,8	99	75	0.1	20	19	1	3
283	Johnston Res.	513621	4771822	2036	rain	07/15/96	1324	Rana luteiventris	1	adult	63	34.9	female	1,8	99	75	0.1	21	19	1	3
284	Johnston Ponds	513544	4771979	2028	sun	07/15/96	1607	Rana luteiventris	1	adult	67	31.4	female	1,8	99	35	0.3	27	23	0	0
285	Johnston Ponds	513514	4771910	2033	sun	07/15/96	1632	Rana luteiventris	1	adult	75	50.9	female	1,8	99	75	?	27	23	0	0
286	Johnston Res.	513469	4771810	2039	sun	07/15/96	1641	Rana luteiventris	1	adult	69	38.9	male	99	99	1	0.1	27	23	1	2
287	Johnston Ponds	513488	4771802	2039	sun	07/15/96	1645	Rana luteiventris	1	adult	60	24.9	female	1,8	99	3	1	27	23	0	0
288	Johnston Res.	513496	4771806	2038	sun	07/15/96	1652	Rana luteiventris	1	adult	70	39.9	male	1,8	99	2	1	27	23	0	0
289	Johnston Ponds	513488	4771802	2039	sun	07/15/96	1714	Rana luteiventris	1	adult	75	52.3	female	1,8	99	3	1	27	23	0	0
290	Johnston Ponds	513488	4771802	2039	sun	07/15/96	1716	Rana luteiventris	1	adult	u	u	u	u	99	3	1	27	23	0	0
291	cattle pond	516479	4776941	1732	partly cloudy	07/16/96	1430	Pseudacris regilla	>10	tadpole	99	99	99	99	99	30	>1	24	99	99	99
292	Jump Cr.	99	99	99	sun	07/23/96	1013	Pseudacris regilla	1	adult	99	0.5	99	1,8	99	1.5	0.7	32	19	1	2
293	Jump Cr.				sun	07/23/96	1025	Pseudacris regilla	>10	tadpole	99	99	99	99	99	99	99	99	99	99	99
294	Jump Cr.	503130	4809070	1176	sun	07/23/96	1032	Pseudacris regilla	>10	tadpole	99	99	99	99	99	99	99	99	99	99	99
295	Salmon Cr.	99	99	99	sun	07/24/96	1222	random	99	99	99	99	99	99	99	1	0.1	34	99	1	0

296	Salmon Cr.	518619	4789023	1191	sun	07/24/96	1230	Pseudacris regilla	15	tadpole	99	99	99	99	99	1	0.5	34	24	1.5	2
297	Salmon Cr.	519021	4788669	1172	sun	07/24/96	1300	Pseudacris regilla	4	adult	99	99	99	99	99	0.5	0.1	35	25	1	0
298	Reynolds Cr.	99	99	99	sun	07/24/96	1436	random	99	99	99	99	99	99	99	1.5	0.8	35	99	0	0

				———	———	———	bank cover	———	———	———	———					dow	lateral	bank	historical	valley		dead
trans.	watertype	frglocation	slope	willow	sage	grass	forb	duff	rock	bare	algae	other	substrate	type	gradient	cut	erosion	height	braid	type	sinuosity	willows
1	run	99	2	20	5	90	5	0	0	0	10	0	soil	stream	2	no	99	0.3	no	flatbot	1	no
2	riffle	99	3	20	0	60	10	0	0	0	0	50	99	stream	2	yes	99	2	no	trough	1	no
3	pond	99	1	0	3	50	10	0	10	40	5	0	99	eservoir	1	no	99	0	no	trough	99	no
4	riffle	99	3	30	5	50	0	0	3	19	3	0	gravel	stream	3	yes	99	0.5	yes	trough	2	no
5	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	4	no
6	run	bank	1	10	10	25	25	0	0	0	0	50	99	stream	2	no	99	0	no	boxcan	4	no
7	run	bank	2.5	5	5	60	20	3	0	5	0	80	mud	stream	3	yes	99	1.5	no	flatbot	4	no
8	sidebow	water	99	10	0	70	10	0	0	5	0	30	99	stream	1	no	99	0	no	boxcan	2	no
9	run	99	1	0	0	40	40	0	0	10	0	60	mud	stream	3	no	99	0	99	trough	4	no
10	run	99	1	0	10	70	20	0	0	5	0	20	gravel	stream	3	no	99	0	no	trough	3	no
11	run	99	1	0	20	70	20	0	0	5	0	30	99	stream	3	no	99	0	no	trough	2	no
12	riffle	99	2.5	10	0	60	10	0	0	40	0	30	99	stream	3	yes	99	2	no	trough	1.5	no
13	99	99	99	10	0	70	10	0	0	5	0	30	99	stream	1	no	99	0	no	boxcan	2	no
14	99	99	99	10	0	70	10	0	0	5	0	30	99	stream	1	no	99	0	no	boxcan	2	no
15	riffle	bank	1	20	0	80	0	0	0	0	0	80	99	stream	2	no	99	99	no	trough	2	no
16	riffle	bank	1	20	0	80	0	0	0	0	0	80	99	stream	2	no	99	99	no	trough	2	no
17	sidebow	water	1	10	15	60	10	0	0	20	0	30	99	stream	2	no	99	99	no	trough	2	no
18	riffle	99	1	5	40	40	10	0	0	5	0	80	99	stream	2	no	99	99	no	trough	2	no
19	riffle	water	1	0	5	80	5	0	0	0	0	80	99	stream	2	no	99	99	no	trough	2	no
20	pool	bank	1	35	0	40	10	0	0	0	0	20	99	stream	2	no	99	99	99	trough	99	99
21	99	99	99	10	0	70	10	0	0	5	0	30	99	stream	2	no	99	0	no	boxcan	2	no
22	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
23	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
24	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
25	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
26	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
27	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
28	sidebow	water	2	10	30	50	10	2	5	0	0	0	99	stream	1	no	99	0	no	trough	1	no
29	run	water	1	5	0	90	0	0	0	0	0	80	99	stream	2	no	99	99	no	trough	2	no
30	run	water	1	20	0	60	0	0	0	0	0	0	99	stream	2	no	99	99	no	trough	2	no
31	run	water	1	0	0	90	5	0	0	5	0	50	99	stream	2	no	99	99	no	trough	2	no
32	run	bank	2	0	0	40	30	0	0	30	0	30	99	stream	2	no	99	99	no	trough	2	no
33	sidebow	water	2	20	30	30	15	0	0	15	20	20	99	stream	2	yes	99	1.0/0	no	trough	2	no
34	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
35	run	bank	1	25	10	50	15	0	0	15	0	20	99	stream	2.5	no	99	99	no	trough	2	no
36	sidebow	bank	1	0	10	70	15	0	0	20	20	20	99	stream	2.5	yes	99	0.8	yes	trough	2	no
37	pool	bank	3	20	10	60	10	0	0	10	0	30	99	stream	2	yes	99	1.2	yes	trough	2	no
38	pool	bank	3	20	10	60	10	0	0	10	0	30	99	stream	2	yes	99	1.2	yes	trough	2	no
39	run	bank	99	30	30	30	10	0	0	20	0	40	99	stream	2	yes	99	1.3	yes	trough	2	no
40	run	bank	2	0	10	40	0	0	20	30	20	20	99	stream	3	yes	99	1.7	yes	trough	2	no
41	riffle	99	2	0	10	30	10	5	0	2	10	0	gravel	stream	3	yes	99	1.6	yes	trough	2	no
42	run	water	1	0	5	80	10	2	0	0	0	0	99	stream	2	yes	99	1.5	yes	trough	2	no
43	run	bank	1	0	20	60	10	0	0	0	0	0	99	stream	2	no	99	1.5	no	trough	2	no

44	run	99	2	10	20	40	10	0	0	0	20	0	soil	stream	2	yes	99	1.5	no	trough	2	no
45	run	99	2	5	5	70	10	0	0	0	20	0	99	stream	2	yes	99	0.5	yes	trough	2	no
46	riffle	99	1	50	10	30	30	5	50	10	0	0	99	stream	2	no	99	0	no	boxcan	2	no
47	oxbow	water	1	0	0	80	0	0	5	5	0	20	mud	stream	1	no	99	0	yes	trough	2	no
48	run	99	1	5	2	80	5	0	2	5	5	0	99	stream	2	no	99	1	yes	flatbox	4	no
49	run	99	2	0	0	80	10	0	5	10	0	0	99	stream	3	no	99	0	no	v	1.5	no
50	riffle	bank	2	5	5	60	5	0	0	10	0	0	99	stream	3	yes	99	1.5	yes	flatbot	2	no
51	riffle	bank	2	5	5	60	10	0	0	10	0	0	99	stream	3	yes	99	1.5	yes	flatbot	2	no
52	riffle	99	2.5	5	5	50	10	2	5	10	0	0	99	stream	3	yes	99	4	no	flatbot	2	no
53	riffle	99	1	0	1	60	10	0	0	10	0	0	gravel	stream	3	yes	99	0.5	yes	trough	3	no
54	riffle	99	1	0	5	20	20	0	20	10	0	0	99	stream	3	no	99	0.5	no	trough	1	no
55	pond	99	1	0	0	20	0	0	5	80	10	5	mud	tockpon	1	no	no	0/0	no	trough	99	no
56	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
57	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
58	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
59	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
60	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
61	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
62	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
63	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
64	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
65	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
66	99	99	99	0	40	50	20	0	0	0	0	80	mud	stream	2	no	no	0/0	no	trough	2	no
67	riffle	water	2	10	10	70	10	0	0	10	10	0	gravel	stream	3	yes	no	1./0	yes	flatbot	2	no
68	riffle	bank	2	10	5	70	40	0	0	5	0	0	gravel	stream	3	yes	no	2/0.5	yes	flatbot	2	no
69	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
70	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
71	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
72	run	bank	2	2	0	60	10	5	0	5	5	0	gravel	stream	2	yes	no	0.1/1	yes	flatbot	2	no
73	riffle	bank	2.5	0	5	60	40	5	5	10	10	0	gravel	stream	3	yes	no	2.5/.5	yes	flatbot	2	no
74	riffle	bank	2.5	20	0	50	10	10	0	10	20	0	silt/gravel	stream	3	yes	no	.7/2.5	yes	flatbot	2	no
75	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
76	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
77	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
78	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
79	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
80	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
81	riffle	bank	1	10	0	70	10	0	5	5	5	0	gravel	stream	3	yes	no	0.3/0.3	yes	flatbot	2	no
82	run	bank	1	80	0	40	0	0	0	0	10	0	gravel	stream	2	no	no	0/0	no	flatbot	2	no
83	run	bank	1	80	0	40	0	0	0	0	10	0	gravel	stream	2	no	no	0/0	no	flatbot	2	no
84	run	bank	1	80	0	40	0	0	0	0	10	0	gravel	stream	2	no	no	0/0	no	flatbot	2	no
85	run	bank	1	80	0	20	20	0	0	0	5	0	gravel	stream	2	yes	no	0/0	yes	flatbot	2	no
86	run	water	1	80	0	20	20	0	0	0	5	0	gravel	stream	2	no	no	0/0	yes	flatbot	2	no
87	run	bank	1	80	0	20	20	0	0	0	5	0	gravel	stream	2	no	no	0/0	yes	flatbot	2	no
88	run	bank	2	20	0	80	0	0	5	0	10	0	rock/gravel	stream	2	yes	no	0.2/0.1	yes	flatbot	2	no
89	run	bank	1	0	0	90	0	0	0	0	10	0	gravel	stream	2	no	no	0/0	no	flatbot	2	no
90	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
91	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99

92	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
93	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
94	riffle	99	1	0	0	20	20	0	20	40	0	5	gravel/cobble	stream	3	yes	no	0/0	no	v	1.5	no
95	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
96	riffle	99	2	80	0	5	40	5	5	5	0	0	gravel	stream	4	yes	yes	.5/.5	no	flatbot	2	no
97	riffle	99	2	0	10	50	30	0	0	10	0	0	gravel	stream	2	yes	yes	0/.7	yes	trouflat	3	no
98	run	99	2	0	20	70	5	0	0	10	10	0	silt	stream	3	yes	no	1/1.5	yes	trouflat	2	no
99	run	bank	1	0	0	80	20	0	0	0	5	0	silt	stream	2	no	no	0/0	no	trouflat	1	no
100	run	bank	1	0	0	80	20	0	0	0	10	0	silt	stream	2	no	no	0/0	no	trouflat	2	no
101	run	bank	1	0	0	80	20	0	0	0	10	0	silt	stream	2	no	no	0/0	no	trouflat	2	no
102	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
103	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
104	pool	bank	1	0	0	80	20	0	0	0	10	0	silt	stream	2	no	no	0/0	no	trough	2	no
105	pool	bank	1	0	0	80	20	0	0	0	10	0	silt	stream	2	no	no	0/0	no	trough	2	no
106	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
107	run	bank	1	0	20	70	20	0	0	5	5	0	silt	stream	1	no	no	0/0	no	trough	2	no
108	riffle	99	2	5	0	20	40	0	20	0	0	0	gravel	stream	3	no	no	0/0	no	flatbot	2	no
109	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
110	oxbow	99	2	0	5	60	10	10	20	5	0	0	silt	stream	1	yes	no	.5/0	yes	trough	2	no
111	oxbow	99	2	0	0	70	2	0	20	0	0	0	silt/rock	stream	1	no	no	0/0	no	trough	1	no
112	run	99	1	0	20	60	0	2	0	5	10	0	silt	stream	1	yes	no	.4/.4	yes	trough	2	no
113	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
114	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
115	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
116	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
117	riffle	99	2	20	5	80	10	5	10	5	0	0	gravel/rock	stream	4	yes	yes	1.0/0	yes	flatbot	2	y
118	riffle	99	2	80	20	40	20	20	50	0	0	0	rock	stream	5	no	no	.2/.2	no	boxcan	2	y
119	riffle	99	2	20	0	15	50	30	30	5	0	0	rock	stream	5	no	no	0.1/0	no	boxcan	2	no
120	riffle	99	1	80	10	10	5	5	10	0	0	0	rock/gravel	stream	3	no	no	0.02/0	no	flatbot	1	no
121	riffle	99	1	0	5	50	20	0	5	0	5	0	rock/gravel	stream	3	yes	no	.1/.3	yes	trough	2.5	no
122	riffle	99	1	2	30	50	10	5	0	5	20	0	gravel	stream	3.5	yes	no	0/0	yes	flatbot	1	no
123	riffle/run	99	1	0	0	50	50	0	10	0	46	0	silt/gravel	stream	3	no	no	0/0	no	trough	2.5	no
124	run	99	1	0	10	20	10	5	40	2	10	0	gravel	stream	2	no	no	0/0	no	flatbot	2.5	no
125	run	99	1	0	5	20	10	0	0	15	90	0	gravel	stream	1	yes	no	0/.1	yes	trough	1.5	no
126	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
127	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
128	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
129	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
130	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
131	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
132	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
133	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
134	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
135	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
136	riffle/run	99	1.5	50	0	20	20	30	10	0	10	0	gravel	stream	3.5	yes	no	0/.1	no	flatbot	2.5	no
137	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
138	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99

139	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
140	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
141	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
142	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
143	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
144	run	bank	99	40	0	30	5	0	0	5	10	0	silt	stream	1.5	yes	no	0/0.2	yes	trough	4	no
145	run	water	99	40	0	30	5	0	0	5	10	0	silt	stream	1.5	yes	no	0/0.3	yes	trough	4	no
146	run	water	99	40	0	30	5	0	0	5	10	0	silt	stream	1.5	yes	no	0/0.4	yes	trough	4	no
147	riffle	water	2	80	0	10	2	10	0	5	0	0	gravel/silt	stream	2	yes	no	0/0.2	yes	trough	4	yes
148	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1.0/0	yes	trough	4	yes
149	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1.0/0	yes	trough	4	yes
150	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1.0/0	yes	trough	4	yes
151	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1.0/0	yes	trough	4	yes
152	sidebow/pond	99	2	60	5	20	5	10	0	10	20	0	99	averpo	1	yes	no	1.0/0	yes	trough	4	yes
153	sidebow	bank	3	80	20	10	10	5	0	5	20	0	silt/gravel	stream	3	yes	no	1/0.1	yes	trough	1	yes
154	sidebow	water	1.5	5	5	10	15	5	0	10	20	0	silt	stream	3	yes	no	0.5/0	yes	trough	1	yes
155	pond	bank	2	5	10	30	5	5	0	10	20	0	silt	tockpon	1	no	no	0.5/0.7	yes	trough	99	no
156	run	bank	1	0	10	80	5	5	0	5	0	0	silt	stream	2	yes	no	0/1.5	yes	trough	2	no
157	run	bank	1	40	0	30	5	0	0	5	10	0	silt	stream	1.5	yes	no	0/0.2	yes	trough	4	no
158	riffle	bank	2	30	0	50	10	0	5	0	30	0	silt	stream	2	yes	no	0/0.3	yes	trough	4	yes
159	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1./0	yes	trough	4	yes
160	pool	bank	1	60	0	20	5	5	0	10	20	0	silt	stream	1.5	yes	no	1./1	yes	trough	4	yes
161	run	bank	1	80	0	20	5	20	0	20	10	0	silt/gravel	stream	1.5	yes	yes	1.0/0	yes	trough	4	yes
162	sidebow	bank	3	80	20	10	10	5	0	5	20	0	gravel/silt	stream	3	yes	no	1/0.1	yes	trough	1	yes
163	run	bank	2	50	0	30	5	2	0	3	20	0	silt	stream	1.5	yes	no	0.5/0.2	yes	trough	2	no
164	sidebow	water	2	10	15	30	5	5	0	10	0	0	silt	stream	1.5	yes	no	0.5/0.5	yes	trough	2	yes
165	pool/run	bank	1	80	0	20	0	0	0	10	20	0	silt	stream	2	no	no	0/0	yes	trough	2	no
166	riffle	99	2	50	0	10	3	20	70	20	0	50	gravel	stream	5	yes	no	0/0.5	no	flatbot	1	no
167	riffle	99	1.5	10	5	60	10	0	10	3	0	0	gravel/rock	stream	3.5	yes	no	0.5/0	no	flatbot	1	no
168	riffle	99	2	40	0	10	10	10	30	20	0	0	rock	stream	4.5	no	no	0/0	no	flatbot	1	no
169	riffle	in tree	2.5	70	10	5	0	20	50	5	0	0	rock	stream	4.5	no	no	0.5/1	no	boxcan	1	no
170	riffle	in tree	2.5	70	10	5	0	20	50	5	0	0	rock	stream	4.5	no	no	0.5/2	no	boxcan	1	no
171	run	bank	1	0	0	70	5	0	20	5	99	0	rock	stream	2	yes	no	0.2/0	yes	trough	1	no
172	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
173	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
174	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
175	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
176	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
177	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
178	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
179	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
180	run	bank	1	0	5	80	0	5	3	5	0	0	gravel	stream	2	yes	no	0.5/0.1	yes	trough	4	no
181	run	water	1	20	0	90	0	0	5	0	0	0	silt	stream	2	yes	no	0/0.1	yes	trough	2.5	no
182	pool	bank	3	2	10	90	5	0	0	5	0	0	silt	stream	3	yes	no	0.3/0.3	yes	trough	3	no
183	riffle	bank	1	0	0	90	0	0	0	10	0	0	silt	stream	4	no	no	0/0	yes	trough	2	no
184	riffle	bank	1	0	0	90	0	0	0	5	0	0	silt	stream	4	no	no	0/0	no	trough	2	no
185	riffle	bank	1	0	0	90	0	0	0	5	0	0	silt	stream	4	no	no	0/0	no	trough	2	no

186	riffle	water	1	0	0	90	0	0	0	10	0	0	silt	stream	4	no	no	0/0	no	trough	2	no
187	run	bank	1	0	5	90	0	5	0	5	0	0	silt	stream	2	yes	no	0.05/0	yes	trough	4	no
188	run	bank	1	0	5	90	0	5	0	5	0	0	silt	stream	2	yes	no	0.05/0	yes	trough	4	no
189	pool	bank	2	0	5	90	0	5	0	0	0	10	silt	stream	1.5	yes	no	0.2/0.3	yes	trough	4	no
190	riffle	99	1	0	0	70	5	0	30	5	0	0	gravel	stream	3	no	no	0/0	no	trough	1	no
191	riffle	99	1	0	0	30	5	0	40	10	0	0	gravel	stream	2.5	yes	no	0.05/0.1	no	trough	1	no
192	riffle	99	3	10	5	50	5	5	10	5	0	0	silt	stream	3.5	yes	no	0.2/0.3	yes	flatbot	2	no
193	pond	bank	1	0	0	90	0	0	0	0	40	0	mud	eservoir	1	no	no	0/0	no	trough	4	no
194	pond	bank	2	5	10	60	5	0	0	10	50	0	silt	pond	1	yes	no	0.5/0.5	no	trough	4	yes
195	pond	bank	2	5	10	60	5	0	0	10	50	0	silt	pond	1	yes	no	0.5/0.6	no	trough	4	yes
196	pond	bank	1	0	0	100	0	0	0	0	0	0	mud	pond	1	no	no	0/0	no	trough	4	no
197	pond	bank	1	0	0	100	0	0	0	0	0	0	mud	pond	1	no	no	0/1	no	trough	4	no
198	riffle	99	3	30	20	20	15	30	10	30	0	0	gravel	stream	4	yes	no	2./2	yes	trough	1	no
199	riffle	99	1	0	10	5	20	0	10	30	0	0	gravel	stream	4	yes	no	0.2/0.2	no	sidemt	1	no
200	riffle	99	2.5	20	10	30	20	10	10	10	0	0	gravel	stream	3.5	yes	no	1/0.5	yes	trough	3	no
201	run	99	2	40	5	40	5	0	0	10	40	0	silt	stream	3	yes	no	0.5/1	yes	flatbot	1	yes
202	riffle	bank	2	5	20	40	10	0	5	5	30	0	gravel	stream	3	yes	no	0.5/0.5	yes	flatbot	2	yes
203	riffle	bank	2	5	20	40	10	0	5	5	30	0	gravel	stream	3	yes	no	0.5/0.5	yes	flatbot	2	yes
204	run	99	1	5	0	90	10	0	10	5	5	5	gravel/cobble	stream	3	no	yes	0.2/0	no	trough	2	no
205	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
206	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
207	riffle	bank	1	0	10	5	5	5	10	10	30	0	gravel	stream	2	yes	no	.5/2.5	no	flatbot	2	no
208	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
209	riffle	99	3	60	40	20	5	5	5	10	20	0	gravel	stream	3	yes	yes	0.5/1	yes	flatbot	2	no
210	riffle	99	1	60	20	10	10	0	5	5	40	0	gravel/rock	stream	3	yes	no	0.2/0	yes	flatbot	2	no
211	riffle	99	2	5	10	10	10	5	20	30	0	0	rock	stream	3	yes	no	1/1.5	yes	flatbot	3	no
212	riffle	99	2	70	10	10	10	5	20	10	7	0	rock/gravel	stream	3	yes	yes	1.5/1	yes	flatbot	2	no
213	riffle	99	3	80	10	30	10	5	5	10	10	0	rock/gravel	stream	3.5	yes	yes	1/0.5	yes	v	1	no
214	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
215	run	99	1	0	0	80	10	0	0	0	20	0	silt	stream	1.5	no	no	0/0	yes	trough	3	no
216	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
217	run	99	2	40	5	50	5	5	0	0	10	0	silt	stream	2	yes	no	1/0.2	no	trough	1	no
218	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
219	run	bank	2	20	0	40	5	0	10	0	20	0	rock/silt	stream	1.5	yes	yes	0.5/1	yes	trough	2	no
220	sidebow	bank	1	5	0	30	0	0	0	10	40	0	silt	stream	1.5	yes	yes	1/0.5	yes	trough	2	no
221	run	bank	1	5	10	30	10	0	0	5	60	0	silt	stream	1.5	yes	yes	1/0.5	yes	trough	2	no
222	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
223	run	99	3	20	10	40	5	5	0	10	10	0	silt/gravel	stream	2	yes	no	1/0.5	yes	trough	2	no
224	run	99	1	0	10	80	0	0	0	0	10	0	silt	stream	2	yes	yes	1/0.2	yes	trough	2	no
225	run	99	1	20	0	60	0	0	0	10	5	0	silt	stream	2	yes	no	0.5/0	yes	trough	2	no
226	run	99	2	10	10	50	0	0	0	5	0	0	?	stream	2	yes	yes	0.5/0.1	yes	trough	2	no
227	sidebow	water	1	10	0	30	0	0	0	10	40	0	silt	stream	1.5	yes	yes	1.0/0.6	yes	trough	2	no
228	run	water	2	40	5	40	0	0	0	0	70	0	rock/silt	stream	2	yes	yes	0.5/0.5	yes	trough	2	no
229	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
230	run	99	2	0	10	40	0	0	0	10	0	0	gravel/silt	stream	2	yes	no	1.0/0.5	yes	trough	1.5	no
231	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
232	riffle	99	1	0	0	80	0	0	5	0	5	0	rock	stream	3	no	no	0/0	no	flatbot	1	no

233	run	99	1	0	0	80	0	0	5	0	15	0	rock/silt	stream	2	no	no	0/0	no	trough	1	no
234	run	99	2	0	10	80	0	0	5	0	20	0	rock/silt	stream	2	yes	no	0/0.7	no	trough	1	no
235	oxbow	99	1	0	0	30	0	0	80	20	30	0	solid rock	stream	1	no	no	0/0	yes	trough	1	no
236	oxbow/pool	99	2	20	0	10	0	0	90	0	30	0	rock/gravel	stream	1	no	no	0/0	yes	trough	2	no
237	oxbow/pool	99	2	0	10	30	0	0	50	5	20	0	rock	stream	1	no	no	0.2/0	yes	trough	2.5	no
238	oxbow/pool	99	1	0	0	20	0	0	50	50	30	0	gravel	stream	1	no	no	0/0	yes	trough	1	no
239	pool	99	1	10	0	0	0	0	20	0	30	0	rock	stream	1	no	no	0/0	no	trough	1	no
240	oxbow/pool	99	1	0	0	60	0	0	20	5	20	0	gravel	stream	1	no	no	0/0	no	trough	1	no
241	pool	99	1	0	0	80	0	0	5	0	30	0	gravel	stream	1	no	no	0/0	no	trough	1	no
242	pool	bank	1	20	0	70	0	0	0	5	80	0	gravel	stream	1	no	no	0/0	no	trough	1	no
243	pool	marsh	1	60	0	80	0	0	0	0	50	0	gravel	stream	1	yes	no	0/1.0	no	trough	2.5	no
244	pool	99	1	0	0	50	0	0	0	0	50	0	gravel	stream	1	no	no	0/0	no	trough	2.5	no
245	pool	99	1	10	0	40	0	0	40	0	30	0	gravel/rock	stream	1.5	no	no	0/0	no	trough	2.5	no
246	sidebow	water	1	0	0	90	0	0	0	0	10	0	silt	stream	1	no	no	0/0	no	trough	2.5	no
247	pool	bank	1	20	0	80	10	0	5	0	90	0	gravel	stream	1	no	no	0/0	no	flatbot	2.5	no
248	pool	water	1	80	0	20	20	0	0	0	50	0	gravel	stream	1	no	no	0/0	no	flatbot	1	no
249	pool	water	1	10	0	40	0	0	5	10	30	0	gravel	stream	1.5	no	no	0/0	no	flatbot	2.5	no
250	oxbow	water	1	0	5	10	0	0	0	10	90	0	gravel	stream	2	yes	no	0/1.0	no	flatbot	1	no
251	sidebow	bank	1	50	0	50	0	0	20	0	5	0	rock	stream	2	no	no	0/0	no	flatbot	2.5	no
252	sidebow	bank	1	70	0	50	0	5	0	0	40	0	gravel	stream	2	no	no	0/0	no	flatbot	2.5	no
253	sidebow	bank	1	70	0	50	0	5	0	0	40	0	gravel	stream	2	no	no	0/0	no	flatbot	2.5	no
254	sidebow	bank	1	10	10	5	0	0	0	20	60	0	gravel	stream	2	yes	no	0/1	no	flatbot	2.5	no
255	oxbow	bank	1	5	0	0	0	0	50	50	60	0	gravel	stream	1.5	no	no	0/0	no	boxcan	2.5	no
256	sidebow	water	2	30	0	40	30	0	10	0	20	0	rock	stream	1	no	no	0/0	no	flatbot	2.5	no
257	pool	bank	1	50	0	50	0	0	5	0	20	0	silt/rock	stream	1	no	no	0/0	no	flatbot	2.5	no
258	pool	bank	1	50	0	50	0	0	20	0	30	0	?	stream	2	no	no	0/0	no	flatbot	2.5	no
259	pool	bank	2	50	0	50	0	0	5	0	20	0	rock/silt	stream	1.5	no	no	0/0	no	flatbot	2.5	no
260	pool	bank	1	70	0	40	0	5	10	0	20	0	gravel	stream	2	no	no	0/0	no	flatbot	2.5	no
261	run	bank	1	0	0	60	0	0	5	35	30	0	silt	stream	2	yes	no	0.5/0.7	no	trough	2.5	no
262	run	bank	2	20	5	76	0	0	0	0	30	0	silt	stream	2	yes	yes	1/0.5	no	trough	2	no
263	run	bank	2	20	5	76	0	0	0	0	30	0	silt	stream	2	yes	yes	1/0.6	no	trough	2	no
264	sidebow	water	2	20	0	80	0	0	0	0	40	0	silt	stream	2	yes	yes	1/0.5	no	trough	2.5	no
265	run	bank	1	5	5	20	0	10	0	50	20	0	silt	stream	2	yes	yes	1/1.0	no	trough	2	no
266	run	water	1	0	0	80	0	0	0	5	10	0	silt	stream	2	yes	yes	0.5/0.5	no	trough	2	no
267	run	water	1	0	0	50	0	0	0	0	50	0	silt	stream	2	no	no	0/0	no	trough	1	no
268	run	bank	2	5	0	90	0	0	0	0	60	0	silt	stream	2	yes	no	1.0/0	no	trough	1	no
269	run	bank	2	5	0	90	0	0	0	0	60	0	silt	stream	2	yes	no	1.0/0	no	trough	1	no
270	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
271	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
272	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
273	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
274	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
275	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
276	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
277	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
278	pond	water	1	0	0	70	0	30	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
279	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no

280	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
281	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
282	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
283	pond	water	1	0	0	70	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
284	pond	bank	1	30	0	80	0	0	0	0	80	0	mud	pond	1	no	no	0/0	no	trough	99	no
285	pond	bank	1	0	0	50	0	0	0	0	50	0	silt	pond	1	no	no	0/0	no	trough	99	no
286	run	bank	1	0	0	80	0	0	0	0	50	0	silt	pond	1	no	no	0/0	no	trough	99	no
287	pond	bank	1	0	0	50	0	0	0	10	80	0	silt	pond	1	no	no	0/0	no	trough	99	no
288	pond	water	1	0	0	50	0	10	0	0	80	0	silt	pond	1	no	no	0/0	no	trough	99	no
289	pond	bank	1	0	0	50	0	0	0	10	80	0	silt	pond	1	no	no	0/0	no	trough	99	no
290	pond	bank	1	0	0	50	0	0	0	10	80	0	silt	pond	1	no	no	0/0	no	trough	99	no
291	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
292	pool	bank	1	0	0	30	40	0	30	0	20	0	silt	stream	1	no	no	0/0	no	flatbot	2	99
293	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
294	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99
295	run	99	1	30	20	30	10	10	10	10	50	0	rock/silt	stream	2	yes	yes	1./0	yes	trough	3	no
296	sidebow	water	1	50	10	10	20	0	15	5	50	0	silt/rock	stream	2	yes	yes	1./0	yes	trough	3	no
297	oxbow	water	1	30	10	25	20	5	0	10	50	0	silt/rock	stream	2	yes	yes	1./0	yes	flatbot	3	no
298	pool	99	3	50	5	0	0	10	50	0	30	0	rock/silt/gravel	stream	3	yes	no	1.0/1.0	no	boxcan	1	no

Appendix II. Incidental captures of amphibians and Reptiles							
Genus and Species	date	status	time	locality	UTM	UTM	elevation
Amphibians					NOTE:UTM's and elevation are Uncorrected		
Bufo boreas	06/03/96	alive	1816	Dougal Res. sidebow	499730	4723370	1497
Bufo boreas	06/03/96	alive	1820	Dougal Res. sidebow	499775	4723348	1459
Bufo boreas	06/03/96	alive	1827	Dougal Res. sidebow	499699	4723440	1528
Bufo boreas	06/03/96	alive	1837	Dougal Res. sidebow	499704	4723449	1582
Bufo boreas	06/03/96	alive	1913	Dougal Res. sidebow	499924	4723507	1463
Bufo boreas	06/03/96	alive	1913	Dougal Res. sidebow	499924	4723507	1463
Bufo boreas	06/12/96	alive	2027	Rail Creek Res.	507785	4738316	1723
Bufo boreas	06/25/96	alive	1212	Pig Creek Pond, Hwy. 51	577530	4674988	1553
Bufo boreas	06/25/96	alive	1212	Pig Creek Pond, Hwy. 51	577530	4674988	1553
Bufo boreas(tad)	06/03/96	alive	1913	Dougal Res. sidebow	499924	4723507	1463
Bufo boreas	08/01/96	alive	1037	Stoneman Creek.			
Reptiles							
Charina bottae	07/15/96	road kill	933	Silver City rd.	526278	4765445	1438
Coluber constrictor	07/04/96	alive	1034	Big Springs Creek	551565	4702875	1562
Coluber constrictor	05/30/96	alive	1734	M.F.R.	555574	4731780	1505
Coluber constrictor	06/03/96	road kill	809	Simco rd	584778	4780334	892
Coluber constrictor	06/04/96	road kill	1815	Trout ck. rd.	499699	4756574	1362
Coluber constrictor	07/01/96	alive	1308	Little Blue Creek	573286	4683381	1625
Coluber constrictor	07/02/96	alive	1817	Indian Creek in grass	575447	4668218	1724
Coluber constrictor	07/02/96	alive	1836	Indian Creek in grass	575006	4668397	1900
Coluber constrictor	07/04/96	alive	1053	Big Springs Creek on bank in	551552	4702236	1640
Coluber constrictor	07/04/96	alive	1057	Big Springs Creek on bank in	551582	4702256	1696
Coluber constrictor	07/04/96	alive	1100	Big Springs Creek on bank in	551580	4702190	1778
Coluber constrictor	07/04/96	alive	1118	Big Springs Creek on bank in	551498	4702028	1645
Coluber constrictor	07/04/96	alive	1200	Big Springs Creek on bank in	552100	4701170	1720
Coluber constrictor	07/04/96	alive	1204	Big Springs Creek on bank in	552396	4700589	1856
Coluber constrictor	07/10/96	alive	1107	in pond near battle ck.	556203	4702054	1659
Coluber constrictor	07/10/96	alive	1148	near battle ck.	555863	4702770	1787
Coluber constrictor	07/16/96	alive	1222	on bank, Reynolds ck.	519776	4777283	1275
Coluber constrictor	06/11/96	alive	1334	Mountain Creek	513884	4742021	1511
Coluber constrictor	06/11/96	alive	1340	Mountain Creek	513798	4741946	1516
Coluber constrictor	06/12/96	alive	1050	Old Man Creek	511151	4741920	1353
Coluber constrictor	06/19/96	Road kill	1835	Indian Meadows road	506323	4741051	1603
Coluber constrictor	06/25/96	Road kill	849	Mud Flat road	555976	4732118	1472
Coluber constrictor	06/25/96	alive	1237	Pig Creek Pond, Hwy. 51	577546	4675000	1713
Coluber constrictor	07/24/96	alive	945	on bank of Salmon Cr.	536197	4791523	1440
Coluber constrictor	07/25/96	alive	1438	Little Hardtrigger Cr. on bank.	516484	4799449	995
Coluber constrictor	07/30/96	road kill	953	Mud Flat road	551585	4728665	1969
Cnemidophorus tigris	07/11/96	alive	1042	M.F.R.	574237	4744829	853
Cnemidophorus tigris	07/11/96	alive	1310	M.F.R.	547441	4767689	1268
Cnemidophorus tigris	07/11/96	road kill	1754	Jordan Crater rd.	476525	4777972	1348
Cnemidophorus tigris	06/10/96	alive	1011	Fossil Butte	545632	4773111	876
Cnemidophorus tigris	06/10/96	alive	1021	Fossil Butte	545023	4772749	936
Cnemidophorus tigris	07/25/96	alive	1440	Road to Hardtrigger.	519654	4803173	979
Crotalus viridis	06/04/96	road kill	1810	Trout ck. rd.	499950	4756822	1390
Crotalus viridis	06/04/96	alive	1845	Indian Meadows rd.	506984	4748913	1635
Crotalus viridis	06/04/96	alive	2040	Jordan Valley ck.	509952	4753399	1537
Crotalus viridis	07/15/96	road kill	856	Silver City rd.	533032	4772327	1149
Crotalus viridis	07/15/96	alive	917	Silver City rd.	530908	4768395	1123
Crotalus viridis	07/16/96	alive	1143	on rocks, Reynolds ck.	520013	4778255	1178
Crotalus viridis	06/06/96	dead	2047	Simco road	584610	4781571	905
Crotalus viridis	06/10/96	dead	1548	Flint Creek	514664	4748932	1511
Crotalus viridis	07/30/96	alive	1736	Castle Cr. under sagebrush.	527564	4695524	1685
Gambelia wislizenii	06/10/96	alive	954	Fossil Butte	545090	4772730	953
Gambelia wislizenii	06/10/96	alive	1022	Fossil Butte	545023	4772749	936
Pituophis catenifer	05/30/96	alive	1802	M.F.R.	575251	4752168	566

Pituophis catenifer	05/30/96	alive	1828	M.F.R.	575349	4753566	980
Pituophis catenifer	05/30/96	alive	1831	M.F.R.	575414	4750209	811
Pituophis catenifer	05/30/96	alive	1832	M.F.R.	575355	4750144	826
Pituophis catenifer	06/03/96	alive	821	Simco rd	584644	4780334	880
Pituophis catenifer	06/03/96	alive	834	Simco rd	584072	4771753	885
Pituophis catenifer	06/03/96	road kill	905	M.F.R.	575370	4750427	745
Pituophis catenifer	06/03/96	road kill	910	M.F.R.	574777	4747531	677
Pituophis catenifer	06/04/96	alive	1049	Trout ck.	503410	4756753	1390
Pituophis catenifer	06/04/96	alive	1751	Trout ck. rd.	502997	4756354	1366
Pituophis catenifer	06/04/96	road kill	1824	Indian Meadows rd.	501723	4752344	1450
Pituophis catenifer	06/04/96	alive	1830	Indian Meadows rd.	502246	4752244	1742
Pituophis catenifer	06/04/96	alive	1806	Trout ck. rd.	500742	4757140	1012
Pituophis catenifer	07/08/96	road kill	804	Mud Flat Road	556382	4732736	1406
Pituophis catenifer	07/18/96	road kill	1040	De lamar rd.	502180	4756982	1422
Pituophis catenifer	07/18/96	alive	1215	Succor ck. on rocks	502122	4780753	1242
Pituophis catenifer	06/06/96	alive	1738	Josephine Ranch road	528994	4732726	1715
Pituophis catenifer	06/06/96	alive	1946	Mud Flat road	563113	4738726	1126
Pituophis catenifer	06/06/96	alive	2033	Simco road	584050	4772944	886
Pituophis catenifer	06/06/96	alive	2037	Simco road	584448	4775231	792
Pituophis catenifer	06/10/96	dead	1837	Triangle Road	508864	4748040	1409
Pituophis catenifer	06/10/96	dead	1845	Triangle Road	508510	4747777	1517
Pituophis catenifer	06/17/96	Road kill	1809	Corral Creek road	513303	4724367	1801
Pituophis catenifer	06/20/96	alive	1425	South fork of Castle Creek			
Pituophis catenifer	07/01/96	Road kill	827	Hwy 51	601277	4756170	741
Pituophis catenifer	07/01/96	Road kill	827	Hwy 51	601277	4756170	741
Pituophis catenifer	07/01/96	Road kill	835	Hwy 51, 1/2 mile North of Bruneau			
Pituophis catenifer	07/01/96	Road kill	858	Hwy 51	589938	4722572	1422
Pituophis catenifer	07/30/96	road kill	1020	Mud Flat road	563810	4739103	1135
Phrynosoma douglassii	07/01/96	alive	1920	Bybee Res. 10m from water	560851	4677928	1495
Phrynosoma douglassii	07/11/96	road kill	1051	M.F.R.	575331	4749656	768
Phrynosoma douglassii	06/26/96	alive	1752	Patch of short sage and bare	565557	4691812	1651
Phrynosoma platyrhinos	07/25/96	alive	1005	Hardtrigger Cr. on bank	519971	4802711	953
Sceloporus graciosus	05/28/96	alive	1816	Cottonwood creek	508590	4710790	1660
Sceloporus graciosus	05/28/96	alive	1830	Cottonwood creek	508491	4709640	1677
Sceloporus graciosus	05/28/96	alive	1842	Cottonwood creek	508433	4709209	1702
Sceloporus graciosus	05/29/96	alive	1623	Trib to Cottonwood	506321	4709233	1580
Sceloporus graciosus	05/30/96	alive	1500	Juniper mtn.	509523	4704993	1916
Sceloporus graciosus	06/03/96	alive	1146	Nickel ck.	517921	4711274	1632
Sceloporus graciosus	06/03/96	alive	1156	Nickel ck.	518110	4711079	1554
Sceloporus graciosus	06/03/96	alive	1700	Trib to Pleasant Valley ck.			
Sceloporus graciosus	06/03/96	alive	1714	M.F.R.			
Sceloporus graciosus	06/04/96	alive	1601	Trout ck.	506935	4758178	1681
Sceloporus graciosus	06/17/96	alive	1906	Corral Creek	512551	4723493	1880
Sceloporus graciosus	06/17/96	alive	1954	Corral Creek	512551	4723493	1868
Sceloporus graciosus	06/18/96	alive	1632	Noon Creek	512106	4719386	1814
Sceloporus graciosus	06/18/96	alive	1645	Noon Creek	512321	4719669	1924
Sceloporus graciosus	06/25/96	alive	1401	Pig Creek			
Sceloporus occidentalis	05/30/96	alive	1500	Juniper mtn.	509523	4704993	1916
Sceloporus occidentalis	05/30/96	alive	1500	Juniper mtn.	509523	4704993	1916
Sceloporus occidentalis	06/05/96	alive	1430	Indian Meadows rd.	506415	4749839	1502
Sceloporus occidentalis	06/05/96	alive	1454	Indian Meadows rd.	506338	4749862	1540
Sceloporus occidentalis	07/18/96	alive	1458	Mcbride ck.	504165	4790022	1436
Sceloporus occidentalis	07/18/96	alive	1623	Squaw ck. on bank	509232	4804193	973
Sceloporus occidentalis	06/10/96	alive	928	Fossil Butte	545114	4773031	1000
Sceloporus occidentalis	06/11/96	alive	1117	Mountain Creek	513548	4741246	1802
Sceloporus occidentalis	06/11/96	alive	1157	Mountain Creek	512941	4740717	1547
Sceloporus occidentalis	06/12/96	alive	1145	Old Man Creek	510420	4743487	1589
Sceloporus occidentalis	06/17/96	alive	1919	Corral Creek	512551	4723493	1870
Sceloporus occidentalis	06/17/96	alive	1919	Corral Creek	512551	4723493	1870
Sceloporus occidentalis	06/17/96	alive	1919	Corral Creek	512551	4723493	1870
Sceloporus occidentalis	06/18/96	alive	1532	Noon Creek	512912	4719635	1714

Sceloporus occidentalis	06/18/96	alive	1543	Noon Creek	512139	4719314	1783
Sceloporus occidentalis	06/18/96	dead	1602	Noon Creek	512139	4719314	1780
Sceloporus occidentalis	07/23/96	alive	1556	on log/bank Jump Cr.			
Sceloporus occidentalis	07/23/96	alive	1630	on bank Jump Cr. falls.			
Sceloporus occidentalis	07/23/96	alive	1701	on rock, Jump Cr. falls.			
Sceloporus occidentalis	07/25/96	alive	1224	Hardtrigger Cr. on bank	516294	4800902	1147
Sceloporus occidentalis	07/30/96	alive	1848	Deep Cr. on bank.	528022	4694565	1568
Thamnophis elegans	05/28/96	alive	1004	Cottonwood, spring	508560	4708247	1745
Thamnophis elegans	05/28/96	alive	1158	Cottonwood creek	508744	4709149	1653
Thamnophis elegans	05/28/96	alive	1246	Trib to Cottonwood	507977	4709247	1721
Thamnophis elegans	05/28/96	alive	1400	Cottonwood creek	508262	4709431	1691
Thamnophis elegans	05/28/96	alive	1725	Cottonwood creek	508590	4710252	1760
Thamnophis elegans	05/29/96	alive	1242	Cottonwood creek	508344	4707479	1880
Thamnophis elegans	05/29/96	alive	1557	Trib to Cottonwood	505993	4708899	1588
Thamnophis elegans	05/27/96	alive	1643	Trib to Cottonwood	505868	4709659	est.
Thamnophis elegans	05/30/96	alive	1430	Trib to Pleasant Valley ck.	509734	4705959	1784
Thamnophis elegans	06/03/96	alive	1118	Nickel ck.	517056	4711866	1738
Thamnophis elegans	06/03/96	alive	1300	in pond, T. to Pleasant Valley	514022	4711816	1797
Thamnophis elegans	06/03/96	alive	1307	in pond, T. to Pleasant Valley	513589	4711689	1737
Thamnophis elegans	06/03/96	alive	1400	in pond, T. to Pleasant Valley	513589	4711441	1569
Thamnophis elegans	06/03/96	alive	1510	Pleasant Valley ck.	511668	4712703	1687
Thamnophis elegans	06/04/96	alive	1429	Trout ck.	505300	4758692	1567
Thamnophis elegans	06/04/96	alive	1434	Trout ck.	505310	4758703	1560
Thamnophis elegans	06/04/96	alive	1436	Trout ck.	505315	4758710	1561
Thamnophis elegans	06/04/96	alive	1446	Trout ck.	505455	4759114	1421
Thamnophis elegans	06/04/96	alive	1450	Trout ck.	505472	4759092	1424
Thamnophis elegans	06/04/96	alive	1501	Trout ck.	505919	4759148	1594
Thamnophis elegans	07/02/96	alive	1806	Indian Creek in grass	575277	4668294	1800
Thamnophis elegans	07/02/96	alive	1815	Indian Creek in grass	575291	4668303	1572
Thamnophis elegans	07/04/96	alive	908	Battle Creek in sage	554209	4706059	1598
Thamnophis elegans	07/04/96	alive	1049	Big Springs Creek on bank in	551537	4702357	1465
Thamnophis elegans	07/04/96	alive	1109	Big Springs Creek on bank in	551495	4701939	1738
Thamnophis elegans	07/04/96	alive	1111	Big Springs Creek on bank in	551492	4701839	1689
Thamnophis elegans	07/04/96	alive	1115	Big Springs Creek on bank in	551503	4701775	1777
Thamnophis elegans	07/04/96	alive	1117	Big Springs Creek on bank in	551498	4702028	1645
Thamnophis elegans	07/04/96	alive	1148	Big Springs Creek on bank in	551904	4701203	1717
Thamnophis elegans	07/04/96	alive	1148	Big Springs Creek on bank in	551904	4701203	1717
Thamnophis elegans	07/04/96	alive	1154	Big Springs Creek on bank in	552040	4701158	1722
Thamnophis elegans	07/04/96	alive	1229	Big Springs Creek on bank in	552675	4700266	1632
Thamnophis elegans	07/04/96	alive	1238	Big Springs Creek on bank in	552510	4700243	1625
Thamnophis elegans	07/04/96	alive	1243	Big Springs Creek on bank in	553044	4699965	1725
Thamnophis elegans	07/08/96	alive	1550	Camel Creek	530279	4708353	1676
Thamnophis elegans	07/09/96	alive	1640	Camel Creek	530202	4708553	1618
Thamnophis elegans	07/09/96	alive	1333	on rock in water of Pole Cree	537531	4714656	1531
Thamnophis elegans	07/09/96	alive	1350	on rock in water of Pole Cree	552094	4708816	1649
Thamnophis elegans	07/10/96	alive	1107	in pond near battle ck.	556203	4702054	1659
Thamnophis elegans	07/10/96	alive	1107	in pond near battle ck.	556203	4702054	1659
Thamnophis elegans	07/10/96	alive	1155	in battle ck.	555661	4703037	1759
Thamnophis elegans	07/15/96	alive	1156	Johnston res.	513565	4772045	2022
Thamnophis elegans	07/15/96	alive	1235	Johnston res.	513506	4771967	1995
Thamnophis elegans	07/15/96	alive	1600	Johnston res.	513528	4772161	1879
Thamnophis elegans	07/15/96	alive	1818	in H2O, cattle pond	516587	4768182	1998
Thamnophis elegans	07/16/96	alive	1417	Trib. to Succor ck.	516428	4777000	1820
Thamnophis elegans	07/16/96	alive	1459	Succor ck. in water	516131	4776074	1569
Thamnophis elegans	07/16/96	alive	1517	Succor ck. in water	515943	4775592	1721
Thamnophis elegans	07/16/96	alive	1530	Succor ck. in water	515820	4775441	1714
Thamnophis elegans	07/16/96	alive	1753	Succor ck. in water	514507	4777702	1544
Thamnophis elegans	07/17/96	alive	1507	Jordan ck. on bank	516334	4763959	1613
Thamnophis elegans	07/17/96	alive	1528	Jordan ck. on bank	516623	4764200	1712
Thamnophis elegans	07/17/96	alive	1535	Jordan ck. on bank	516621	4764226	1632
Thamnophis elegans	07/17/96	alive	1537	Jordan ck. on bank	516537	4764248	1645

Thamnophis elegans	07/17/96	alive	1545	Jordan ck. on bank	516713	4764458	1735
Thamnophis elegans	07/17/96	alive	1552	Jordan ck. on bank	516891	4764551	1710
Thamnophis elegans	07/17/96	alive	1914	Jordan ck. in water	512223	4763886	1690
Thamnophis elegans	07/18/96	alive	1434	Mcbride ck. on rocks.	504306	4789736	1338
Thamnophis elegans	07/18/96	alive	1635	Squaw ck. on bank	509000	4804097	1087
Thamnophis elegans	06/10/96	alive	1531	Deer Creek pond	519352	4745369	1699
Thamnophis elegans	06/10/96	alive	1531	Deer Creek pond	519352	4745369	1699
Thamnophis elegans	06/10/96	alive	1531	Deer Creek pond	519352	4745369	1699
Thamnophis elegans	06/10/96	alive	1531	Deer Creek pond	519352	4745369	1699
Thamnophis elegans	06/12/96	alive	1347	Rail Creek	508722	4741779	1531
Thamnophis elegans	06/12/96	alive	1401	Rail Creek	508802	4742101	1607
Thamnophis elegans	06/17/96	alive	2009	Bogus Creek	519226	4729804	1669
Thamnophis elegans	06/19/96	alive	1210	Corral Creek	511265	4722489	1718
Thamnophis elegans	06/19/96	alive	1358	Corral Creek	512081	4724168	1753
Thamnophis elegans	06/19/96	alive	1833	Indian Meadows road	506610	4740617	1667
Thamnophis elegans	06/25/96	alive	1220	Pig Creek Pond, Hwy. 51	577410	4675038	1823
Thamnophis elegans	06/25/96	alive	1220	Pig Creek Pond, Hwy. 51	577410	4675038	1823
Thamnophis elegans	06/26/96	alive	1100	Little Blue Creek Res.	573719	4683440	1494
Thamnophis elegans	06/27/96	alive	1209	In sage of Blue Creek	566310	4687265	1585
Thamnophis elegans	07/24/96	alive	1452	Reynolds Cr. in water.	520199	4790464	1105
Thamnophis elegans	07/29/96	road kill	1210	Mud Flat road	507594	4708591	1626
Thamnophis elegans	07/30/96	road kill	1039	Mud Flat road	575283	4751476	765
Thamnophis elegans	07/30/96	alive	1821	Deep Cr. on bank.	528611	4694534	1252
Thamnophis elegans	05/20/96	alive	1355	Cottonwood creek			
Thamnophis elegans	07/31/96	alive	1212	Rock Creek in willows.	537948	4728368	1727
Thamnophis elegans	07/31/96	alive	1310	Rock Creek in willows.			
Thamnophis elegans	07/31/96	alive	1320	Rock Creek in willows.	538376	4727837	1549
Thamnophis elegans	07/31/96	alive	1321	Rock Creek in willows.	538403	4727738	1727
Thamnophis elegans	07/31/96	alive	1338	Rock Creek in willows.	538497	4727900	1769
Thamnophis elegans	07/31/96	alive	1347	Rock Creek in willows.	538514	4727606	1645
Thamnophis elegans	07/31/96	alive	1357	Rock Creek in willows.	538506	4727483	1631
Thamnophis elegans	07/31/96	alive		Rock Creek in willows.	538352	4727165	1703
Thamnophis elegans	07/31/96	alive		Rock Creek in willows.			
Thamnophis elegans	08/01/96	alive	957	Stoneman Creek.	520766	4712785	1587
Thamnophis elegans	08/01/96	alive	957	Stoneman Creek.	520766	4712785	1587
Thamnophis elegans	08/01/96	alive	1007	Stoneman Creek.	520776	4712860	1552
					520917	4713093	1659
Thamnophis elegans	08/01/96	alive	1040	Stoneman Creek.	520957	4713030	1542
Thamnophis elegans	08/01/96	alive	1120	Stoneman Creek.			
Thamnophis elegans	08/01/96	alive	1120	Stoneman Creek.			
Thamnophis elegans	08/01/96	alive	1140	Stoneman Creek.			
Thamnophis elegans	08/01/96	alive	1202	Stoneman Creek.			
Thamnophis elegans	08/18/96	alive	1205	Stoneman Creek.			

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