Biological Condition Index Development for the Lower Truckee River and Eastern Sierra Nevada Rivers: Fish Assemblage

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Executive Summary

We developed a fish assemblage IBI for western Nevada rivers and applied it to the Truckee River. Available state and federal fish assemblage data from the Carson, Walker, and upper Truckee rivers were analyzed to select and score metrics. Selected metrics included number of native species, % sculpin individuals, % mountain whitefish individuals, evidence of sculpin and whitefish reproduction, % cutthroat trout individuals, % sensitive individuals, % mountain sucker individuals, % omnivorous individuals, % highly tolerant individuals, % alien individuals, and % external anomalies. Metrics were scored continuously from 0-1 and the IBI was scored from 0-10 by summing the metrics. Those metrics and scoring criteria were then applied to existing fish assemblage data for the lower Truckee River. The IBI declined from the Nevada border to Wadsworth, with sharp declines at river miles 57 (Oxbow), 69 (Mustang), and 87 (Painted Rock). Revisits to the same sites indicated that IBI scores may vary by 1.0 as a result of temporal and sampling variation. We consider median IBI scores >7.5 as acceptable, 5.0-7.4 as marginally damaged, and <5.0 as damaged. However, these are only guidelines and 2.0 changes in IBI scores over space or time are probably biologically significant.

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Introduction

The Truckee River of western Nevada begins near Lake Tahoe in the Sierra Nevada and flows through the Great Basin ecoregion to Pyramid Lake. Like many USA rivers, the Truckee River has a history of intensive and ecologically inconsiderate use since 1860, including mining, logging, milling, grazing, agriculture, and urbanization, all of which involved water removal and discharge of untreated wastes to the river. The worst of the early abuses no longer occur. However, the Truckee River's flow regime is controlled by ten dams, five hydropower stations, and 12 named diversions (Horton 1977). It receives the municipal wastewater of Reno-Sparks, a metropolitan area of 247, 000 people. The Lahontan cutthroat trout *Oncorhynchus clarki henshawi* from Pyramid Lake (up to 27 kg and 1200 mm long) was extirpated by 1944 mostly as a result of dams that precluded its migrations through the Truckee River to California spawning streams. Different strains of Lahontan cutthroat trout were introduced to Pyramid Lake from Independence, Heenan, Summit, and Walker Lake in the 1950s (Coleman and Johnson 1988), but it was listed as threatened by the federal government in 1970. The cui-ui *Chasmistes cujus* from Pyramid Lake (up to 3 kg and 600 mm long), which spawns in the lower Truckee River, was listed as federally endangered in 1967.

Listings of threatened or endangered species are indicators of fundamental ecosystem alteration, but they are late signals, similar to a human's residence in the intensive care unit of a hospital. Earlier indicators, similar to those obtained from annual physical exams, are needed for aquatic ecosystems to avoid serious problems and the great expenses of rehabilitation. Quantitative biological assessment of USA surface waters began receiving increased attention a decade after passage of the 1972 Clean Water Act, with its objective of restoring and maintaining biological integrity. As Karr and Dudley (1981) explained, biological assemblages differ in space and time as a result of differences in flow regime, physical habitat structure, water quality, energy sources, and biological interactions. Bryce et al. (1999) demonstrated conceptually that many typical human land and water uses affect those environmental factors. Therefore, by developing quantitative biological indicators and regularly monitoring those indicators through use of appropriate study designs, biologists and managers can directly assess biological condition. This information, along with landscape and physical and chemical habitat data, can be used to determine the stressors and human disturbances

that limit aquatic biota (Yoder and Rankin 1994; Yoder and Smith 1998). These stressors can then be effectively regulated to benefit aquatic communities.

Fish and game agencies monitored game fish populations, and ichthyologists determined the ranges or presence of fish species throughout the preceding century. But increased interest in the proportionate abundances of all species in an assemblage led to additional assessment tools, such as multivariate analyses and diversity indices. Although these tools yielded valuable ecological insights, they treated all species the same. The index of biotic integrity (IBI) was first proposed by Karr (1981) to synthesize various aspects of fish assemblage condition into a single, easily understood number. Fish IBIs typically sum standardized scores of multiple metrics representing species richness; general tolerance; relative abundance; anomalies; and trophic, habitat, and reproductive guilds. Following many applications in the midwestern USA, Karr et al. (1986) produced a detailed rationale and methodology for developing IBIs.

IBIs have been widely applied since 1986, and the USEPA recommended their use in state bioassessments soon afterwards (Plafkin et al. 1989). Fish IBIs have been employed throughout the USA (Miller et al. 1988; Simon and Lyons 1994) and on all six continents with rivers (Hughes and Oberdorff 1998). Various IBIs have also been used to assess benthic macroinvertebrates (Kerans and Karr 1994; Klemm et al. 2003), terrestrial invertebrates (Karr and Kimberling 2003), algae (Hill et al. 2000; Fore et al. 2003), and riparian birds (Bryce et al. 2002; Bryce In Press). The IBI is not commonly used for fish assemblages in the western USA because western assemblages have low species richness, but Hughes and Gammon (1987) and Mebane et al. (2003) developed IBIs for Pacific Northwest rivers, and Hughes et al. (1998; 2004) developed IBIs to assess wadeable Oregon streams. Fish IBIs were used by the USEPA to assess all wadeable streams in the Mid-Appalachian Highlands (USEPA 2000; McCormick et al. 2001) and all wadeable streams and unwadeable rivers in the western USA (Stoddard et al. 2005; Whittier et al. In Review).

Although an IBI likely can be developed for any assemblage, fish assemblages offer several advantages (Hughes and Oberdorff 1998; Matthews 1998; Schiemer 2000; Rinne et al. 2005). Fish assemblages normally include local benthic species like sculpins and dace that can indicate local conditions, as well as mobile and wide-ranging species like salmonids and suckers that can indicate riverine connectivity or fragmentation. Many salmonid and sucker

species are long-lived so they can be used to assess chronic stressors and bioaccumulation of chemicals (Peterson et al. 2002; In Review). Because of a century of study, fish ecologists know the life histories and autecologies (migrations, trophic requirements, habitat preferences, reproductive strategies, and general tolerances to stressors) of each fish species. Most fish species can be readily identified in the field by competent biologists, so data are available the day of collection, allowing rapid bioassessment and response. Historical fish data are often available, thereby facilitating historical fish assemblage assessments (Rinne et al. 2005). In addition, humans are interested in fishes for sport, food, as water quality indicators, or because they are listed under the Endangered Species Act.

Fish assemblage IBIs have been used elsewhere for assessing the major disturbances of rivers: dams, diversions, and municipal effluents. Hughes and Gammon (1987) and Mebane et al. (2003) observed that IBI scores in the Willamette River, Oregon, decreased below urban outfalls, especially in the Portland reach. Fish assemblage IBI scores showed classical sags and recovery from untreated point source pollution in the Khan and Kshipra Rivers, India (Ganasan and Hughes 1998), and the Rio Paraiba do Sul, Brazil (Araujo et al. 2003; Pinto et al. 2006). Yoder and Smith (1998) and Yoder et al. (2005) also reported lower IBI scores below urban outfalls in Ohio rivers, however they also documented that improved waste treatment over the past decade reduced or removed those urban effects. Increased urbanization of streams was associated with substantial decreases in IBI scores once catchment urbanization exceeded 5% in high gradient West Virginia streams (Snyder et al. 2003), 10% in Wisconsin streams (Wang et al. 1997; 2000), 20% in Oregon streams (Bryce and Hughes 2002), 20% in Ontario streams (Steedman 1988), and 40% in Maryland streams (Klauda et al. 1998). Lyons et al. (2001) found that dams and reservoirs on the Wisconsin River, Wisconsin, were associated with lower IBI scores. Mebane et al. (2003) concluded that once irrigated agriculture land reached 15% of the Snake River, Idaho basin, IBI scores were significantly lower than those in reference sites. They concluded the lower scores resulted from multiple water diversions and untreated agricultural return flows that increased nutrient, sediment, and biocide loads. Contreras-Balderas et al. (2005) found that dams and diversions in the Rio Nazas, Durango, Mexico, were associated with markedly lower IBI scores as the native fish fauna was either extirpated or replaced by nonnative fishes. Lyons et al (1995) also found that altered flow regimes in Mexican streams produced markedly lower IBI scores.

Our objective for this project was to develop a fish assemblage IBI for Eastern Sierra Nevada Rivers and to apply it to the Truckee River considering the most recent research in fish IBI development.

Methods

Data Acquisition and Species Characterization

Initially, we obtained a list of fish species likely to occur in the arid West, particularly the Truckee River, from the Western Pilot of the U. S. Environmental Protection Agency's Environmental Monitoring and Assessment Program (EMAP) and Kim Tisdale, Nevada Department of Wildlife (NDOW), respectively. With the aid of Karen Vargas,Nevada Division of Environmental Protection (NDEP), we acquired published fish assemblage data from the California Department of Fish and Game (McEwan et al. 1986) and the U. S. Geological Survey (Lawrence and Seiler 2002). In addition, Karen Vargas and Glen Gentry (NDEP) helped us procure raw fish assemblage data from Kim Tisdale and Pat Sollberger of the Nevada Department of Wildlife.. These data, collected over multiple years, included location, sampling effort, date, and counts and size ranges for all fish species captured (Appendix A).

We characterized the autecologies of the listed fish species through use of several publications (La Rivers 1962; Bond 1963; Minckley 1973; Moyle 1976, 2002; Lee et al. 1980; Simpson and Wallace 1982; Sigler and Sigler 1987; 1996; Simon 1998; Zaroban et al. 1999). Each fish species was described by its adult habitat, thermal requirements, trophic level, reproductive strategy, and native range (Table 1). We employed weighted average calibration (Line et al. 1994) and bubble plots (Whittier and Hughes 1998) on the Western EMAP Pilot Project data to determine general tolerance (to excess nutrients, sediments, temperature, and flow and channel alteration) relative to other fishes in the arid West. Those publications and a Reno workshop held in October 2002 aided us in developing a conceptual model of the fishes expected in the Truckee River and how they might change with anthropogenic disturbance, as suggested by Davies and Jackson (In Press).

<u>Table 1.</u> Guilds of Truckee River Fish Species. B = benthic, WC = water column; H = herbivore, O = omnivore I = invertivore, P = piscivore, IP = invertivore/piscivore; T = tolerant, S = sensitive, I = intermediate; N = native, A = alien.

Common Name	Habitat	Trophic	Tolerance	Residence
Mountain sucker	B	H	I	N
Tahoe sucker	B	O	I	N
Cui-ui	B	I	I	N
Sacramento perch	WC	IP	T	A
Green sunfish	WC	IP	T	A
Smallmouth bass	WC	P	I	A
Largemouth bass	WC	P	T	A
Paiute sculpin	B	I	S	N
Common carp	B	O	T	A
Tui chub	WC	O	T	N
Sacramento blackfish	WC	O	T	A
Fathead minnow	WC	O	T	A
Speckled dace	B	O	I	N
Lahontan redside	WC	I	I	N
Black bullhead	B	IP	T	A
White bass	WC	P	I	A
Yellow perch	WC	IP	I	A
Western mosquitofish	WC	I	T	A
Cutthroat trout	WC	IP	S	N
Rainbow trout	WC	IP	S	A
Mountain whitefish	B	I	S	N
Brown trout	WC	IP	I	A
Brook trout	WC	IP	S	A

Metric Screening and Calibration

Following the rationale of Karr et al. (1986) and Davies and Jackson (In Press), we sought metrics representing various aspects of fish assemblage structure and function. As appropriate, each candidate was calculated as percent and number of species and individuals. We examined Western EMAP data that included independently selected least- and most-disturbed sites to aid in metric development and selection. We focused on whether candidate metrics appeared responsive to site-scale stressors and catchment-level disturbances, as well as whether the candidate had an adequate range of expression. The initial screening of candidate metrics also helped insure that metrics would have the highest potential for widespread use throughout the arid western USA (Whittier et al. In Press). Out of 210 candidate metrics, 15 were most appropriate for rivers draining arid western catchments.

We used data from the upper Truckee and East and West Fork Carson Rivers in California and Nevada, the East and West Fork Walker River in Nevada, and the main stem Carson and Truckee Rivers in Nevada (Lawrence and Seiler 2002) to select, calibrate, and score final IBI metrics. Raw metric values were calculated for 36 calibration sites visited 1-5 years. Patterns in these values were examined visually for responsiveness to apparent disturbances, range in value, redundancy with other candidate metrics, and annual variability (Hughes et al. 1998). Candidates with the greatest responsiveness and range, but the least redundancy and variability were retained. Calibration sites with the highest and lowest values, plus species ranges and habitats from Sigler and Sigler (1987) were used in setting metric scoring ranges. We examined the selected metrics against perceived disturbance gradients in the calibration data to set tentative metric scoring ranges, scoring all but one metric continuously from zero to one as recommended by Minns et al. (1994), Ganasan and Hughes (1998), and Hughes et al. (1998). In two iterations, we arrived at ten metrics and their scoring criteria as described below.

Number of native species.—Species richness is a commonly used IBI metric (Karr et al. 1986; Simon and Lyons 1994; Hughes and Oberdorff 1998), because species represent the basic building blocks of a fish assemblage, and are a key component of diversity. In naturally similar sites, species richness is expected to decline with environmental degradation. Hughes and Gammon (1987) and Mebane et al. (2003) favored native richness because they found

that total species richness often increased with degradation in western USA rivers, but Whittier et al. (In Review) did not include a species richness metric in their xeric IBI. The core species in the Truckee River are Paiute sculpin *Cottus beldingi*, mountain whitefish *Prosopium williamsoni*, Lahontan cutthroat trout *Oncorhynchus clarki henshawi*, Tahoe sucker *Catostomus tahoensis*, mountain sucker *Catostomus platyrhynchus*, cui-ui *Chasmistes cujus*, tui chub *Gila bicolor*, speckled dace *Rhinichthys osculus*, and Lahontan redside *Richardsonius egregius*. Cui-ui and tui chub are mostly restricted to Pyramid Lake, all seven of the remaining species were never collected at the same site, and most sites supported three to four native species. To provide sufficient discrimination among sites, the scoring criterion was set as 0-≥5 native species for a score of 0-1.

Percent Paiute sculpin individuals.—Many small benthic fishes are sensitive to degradation from sedimentation, reduced dissolved oxygen, and eutrophication because of their requirements for feeding and reproducing on and in benthic habitats. Some sort of benthic species metric is used in most fish assemblage IBIs (Karr et al. 1986; Simon and Lyons 1994; Hughes and Oberdorff 1998;). The two small benthic fishes native to the Truckee River are Paiute sculpin and speckled dace, however, speckled dace is not sensitive to sedimentation or excess algae. Hughes and Gammon (1987) used number of sculpin species, however, the number of sculpin species had insufficient range in the Truckee River. Whittier et al. (In Review) used percent sensitive rheophilic individuals, which includes most salmonids and some sculpins. We followed Mebane et al. (2003) and used percent sculpin individuals. The scoring criterion was set as 0-≥10% for a score of 0-1.

Percent mountain whitefish individuals.—Initially, we sought a metric based on fish species requiring gravel substrates for spawning, but that metric included mountain sucker, Tahoe sucker, mountain whitefish, and Lahontan cutthroat trout. In the first analyses of the calibration data, we found that the salmonids increased as the suckers decreased and vice versa, leading to an insensitive metric. In addition, the four species differed in their trophic, habitat, and tolerance guilds. Therefore, we decided to use each species in separate metrics to increase sensitivity. Mebane et al. (2003) also separated mountain whitefish from their salmonid metrics, and Whittier et al. (In Review) used percent sensitive spawning individuals. Mountain whitefish broadcast spawns on the gravel surface, versus burying eggs in the gravel like other salmonids, thus it is less sensitive to sedimentation than salmon and trout (Northcote

and Ennis 1994). Also mountain whitefish reproduces naturally in the Truckee River, whereas the calibration data indicated that many of the trout were stocked, thereby offering indefinite insights on habitat suitability for their reproduction. The scoring criterion was 0-≥10% for a score of 0-1.

Evidence of reproduction by Paiute sculpin and mountain whitefish.—Reproduction is a critical and very sensitive process. It was reproductive failure that led to the demise of the Pyramid Lake population of Lahontan cutthroat trout. Thus, we included a metric assessing reproduction of the two commonly-occurring yet sensitive Truckee River species, Paiute sculpin and mountain whitefish. Mebane et al. (2003) and Hughes et al. (2004) also included size class metrics for salmonids and sculpins to assess reproduction. Unlike the scoring for the other metrics, a score of 0.5 was added to the sculpin or whitefish metric when size range at a site suggested reproduction, rearing, and maturation.

Percent Lahontan cutthroat trout individuals.—Due to their wide distribution and threatened status, Lahontan cutthroat trout are the major species of concern in the Truckee River. Sigler et al. (1983) reported that adult Lahontan cutthroat from Pyramid Lake once migrated through the river from October to April to spawn in California, and the descent of the juveniles occurred with high flows over the same period. The current subspecies of Lahontan cutthroat trout tolerates temperatures of 22-24C (Dickerson and Vinyard 1999). Thus, it is possible that salmonids (and sculpins) were once present throughout the river in the summer, but at low abundance and found only near areas of hyporheic inflows or in deep pools. Karr et al. (1986) cautioned against using listed species in IBI metrics, however they were dealing with species rich fish assemblages in streams where listed species were typically local endemics, as opposed to once widespread and commercially important salmonids in western USA rivers. Davies and Jackson (In Press) also favored including sensitive rare taxa in biological assessments. However, to avoid a stocking bias, trout that are stocked should not be included in the calculations. The scoring criterion was 0-≥10% for a score of 0-1.

Percent individuals that are sensitive species.—Sensitive species are generally the first to disappear as temperatures, sediments, turbidity, nutrients, and biochemical oxygen demand increase. This is another metric common to nearly all fish assemblage IBIs (Karr et al. 1986; Simon and Lyons 1994; Hughes and Oberdorff 1998). Whittier et al. (In Review) used percent nontolerant invertivore-piscivore species. Paiute sculpin, Lahontan cutthroat trout, mountain

whitefish, rainbow trout *Oncorhynchus mykiss*, and brook trout *Salvelinus fontinalis* were determined to be sensitive in the initial Western EMAP analyses. As above, to avoid a stocking bias, trout that are clearly stocked should not be included in the calculations. Due to the greater number of species considered in this metric, the scoring criterion was 0-≥20% for a score of 0-1.

Percent mountain sucker individuals.—Trophic guilds are common to most IBIs, and percent invertivore metrics are common in the species rich midwestern and eastern USA. However, in western North America, species are fewer and most are invertivores making this an insensitive metric. Mountain sucker is herbivorous, with a cartilaginous plate on its lower jaw ideal for scraping algae from rocks. Although mountain sucker is the only herbivorous fish in the Truckee River, it is commonly occurring, and the calibration data indicated that it became very abundant at some sites when excess nutrients and sunlight stimulated excess algal growth. Ganasan and Hughes (1998) also used percent herbivorous individuals. Because mountain sucker was common and increased with disturbance, the scoring criterion was ≥20-0% for a score of 0-1. This is just the opposite of the preceding metrics where higher percentages led to higher scores, however this and the following metrics receive lower scores as the percentages increase because they respond positively to disturbance.

Percent individuals that are omnivorous as adults.—Omnivores consistently include substantial proportions of both plant and animal foods in their diets. Although commonly occurring in natural conditions, they tend to increase at disturbed sites where a disrupted food base favors opportunistic feeders. This metric or minor variants of it is common to nearly all fish assemblage IBIs (Karr et al. 1986; Simon and Lyons 1994; Hughes and Oberdorff 1998). Truckee River omnivores include Tahoe sucker, common carp *Cyprinus carpio*, tui chub, Sacramento blackfish *Orthodon microlepidotus*, fathead minnow *Pimephales promelas*, and speckled dace. Like the preceding metric, the scoring criterion was ≥20-0% for a score of 0-1.

Percent individuals that are generally and highly tolerant.—Karr (1981) and Karr et al. (1986) originally suggested a single tolerant species, green sunfish *Lepomis cyanellus*, for this metric, but percent highly tolerant individuals is used more frequently (Simon and Lyons 1994; Hughes and Oberdorff 1998; Whittier et al. In Review). Species listed for the Truckee River that were deemed highly tolerant in the Western EMAP analyses are Sacramento perch *Archoplites interruptus*, green sunfish, largemouth bass *Micropterus salmoides*, common carp,

tui chub, Sacramento blackfish, and fathead minnow. Highly tolerant species such as these are typically incidental or rare in natural rivers, and they differ from intermediate species like Lahontan redside, speckled dace, and Tahoe sucker. When highly tolerant species begin to appear consistently, even in small numbers, it indicates the beginning of fundamental ecosystem change and serious concern. Due to their normal rarity, the scoring criterion was ≥5-0% for a score of 0-1.

Percent individuals that are alien to the Truckee River.--Alien species indicate biological pollution and a serious diversion from natural conditions, especially when they constitute a substantial percentage of the assemblage, and including when they are deliberately introduced. Alien species are strongly associated with species extinctions (Miller et al. 1989) and species extirpations in western rivers (Taylor et al. 1984; Rinne et al. 2005). Truckee River aliens include Sacramento perch, green sunfish, largemouth bass, smallmouth bass *Micropterus dolomieu*, common carp, Sacramento blackfish, fathead minnow, black bullhead *Ameiurus melas*, white bass *Morone chrysops*, yellow perch *Perca flavescens*, western mosquitofish *Gambusia affinis*, brown trout *Salmo trutta*, rainbow trout, and brook trout. Brown trout has replaced cutthroat trout in large rivers (Behnke 1992) and Lake Tahoe (McAffee 1966). Rainbow trout hybridizes with Lahontan cutthroat trout contributing to their decline and replacement (Behnke 1992; McAffee 1966). Alien black bullhead, yellow perch, green sunfish, white bass, smallmouth bass, and largemouth bass may sufficiently predate populations of small native fish to result in their extirpation (Minckley 1973; Dill and Cordone 1997; Fuller et al. 1999). Common carp is regarded as a nuisance because it destroys aquatic macrophytes and increases turbidity in its feeding (Fuller et al. 1999). Western mosquitofish is aggressive and displaces or eliminates small native fishes (Courtenay and Meffe 1989). Although not initially proposed by Karr et al. (1986), an alien metric is now frequently used in western USA IBIs (Simon and Lyons 1994; Whittier et al. In Review) and internationally (Hughes and Oberdorff 1998). Davies and Jackson (In Press) recommended not considering aliens detrimental until they constitute a substantial proportion of an assemblage. However some aliens, like rainbow trout and brook trout, are considered sensitive and they are stocked as highly desirable game fish. To deemphasize trout stocking and to emphasize substantial alien abundances, we set the scoring criterion at ≥25-0% for a score of 0-1.

Percent individuals with external anomalies.—Anomalies include easily observed skeletal deformities, eroded/missing organs, lesions/ulcerous sores, tumors, excess mucous, fungus, bleeding, or discoloration. Sites with severe chemical or organic degradation in water or sediments have increased numbers of individuals with anomalies and it is a commonly used metric (Karr et al. 1986; Simon and Lyons 1994; Hughes and Oberdorff 1998). But Whittier et al. (In Review) did not include it in their xeric IBI. The NDOW data did not include anomaly counts, however Lawrence and Seiler (2002) did determine percent anomalies and we recommend its collection in future NDOW surveys. Based on Hughes and Gammon (1987), Sanders et al. (1998), and Mebane et al. (2003), a scoring criterion of ≥5-0% for a score of 0-1 seems appropriate.

IBI Scoring and Application

Kim Tisdale, NDOW, provided us with an independent Truckee River data base to which we applied the final ten IBI metrics. The NDOW data, collected for 3-20 years and 1-3 seasons from 14 sites (Figure 1, Table 2), included location, sampling effort, date, and counts and size ranges for all fish species captured (Appendix B). Such data enabled us to apply an IBI that had been independently developed from the other data sets, thereby avoiding the circularity inherent with developing and applying an IBI from the same data. For each unique site and visit, the raw values for the ten metrics were converted to scores of 0-1, and these were added to produce a potential IBI score of 0-10.

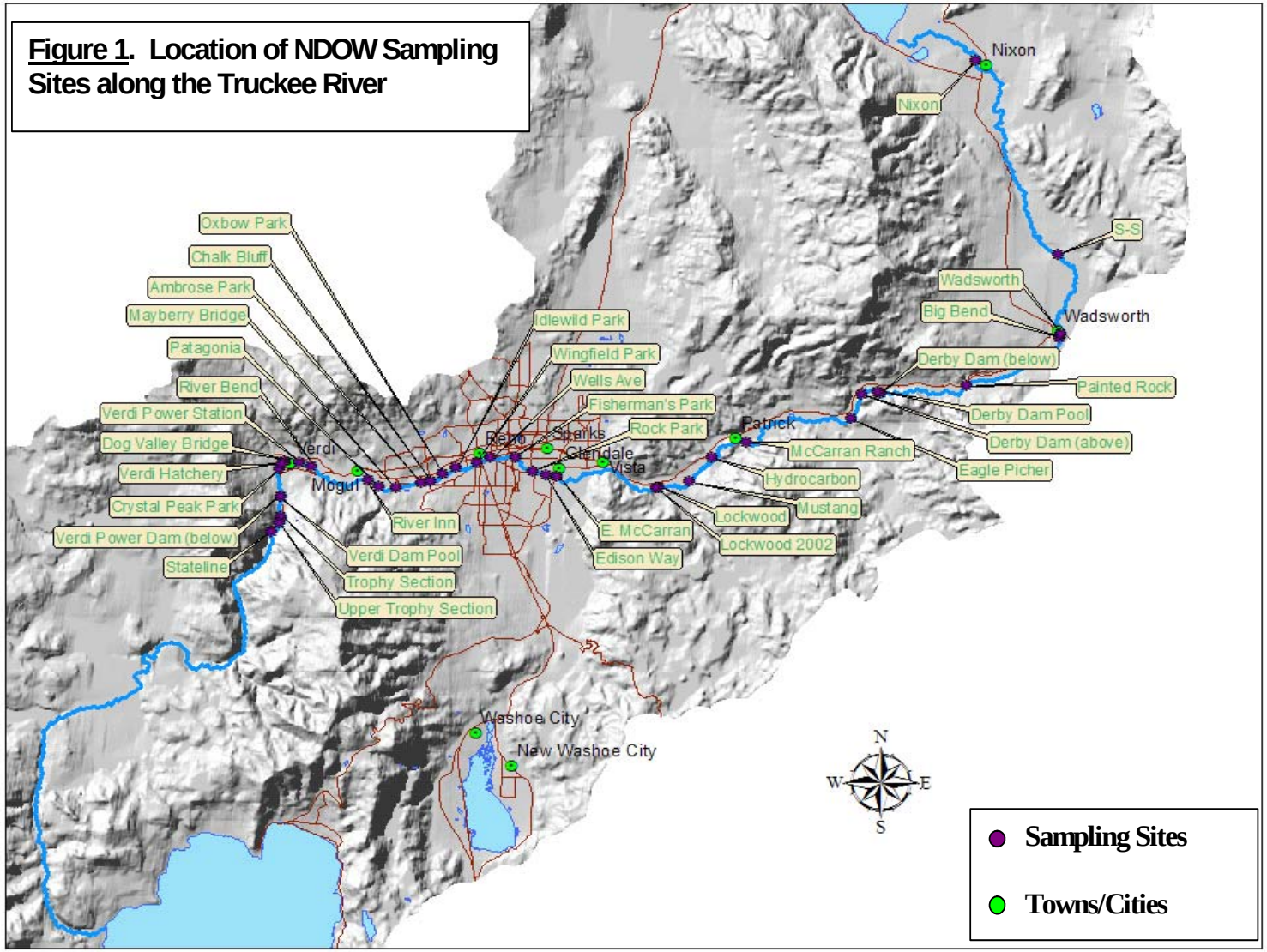


Figure 1. Location of NDOW Sampling Sites along the Truckee River

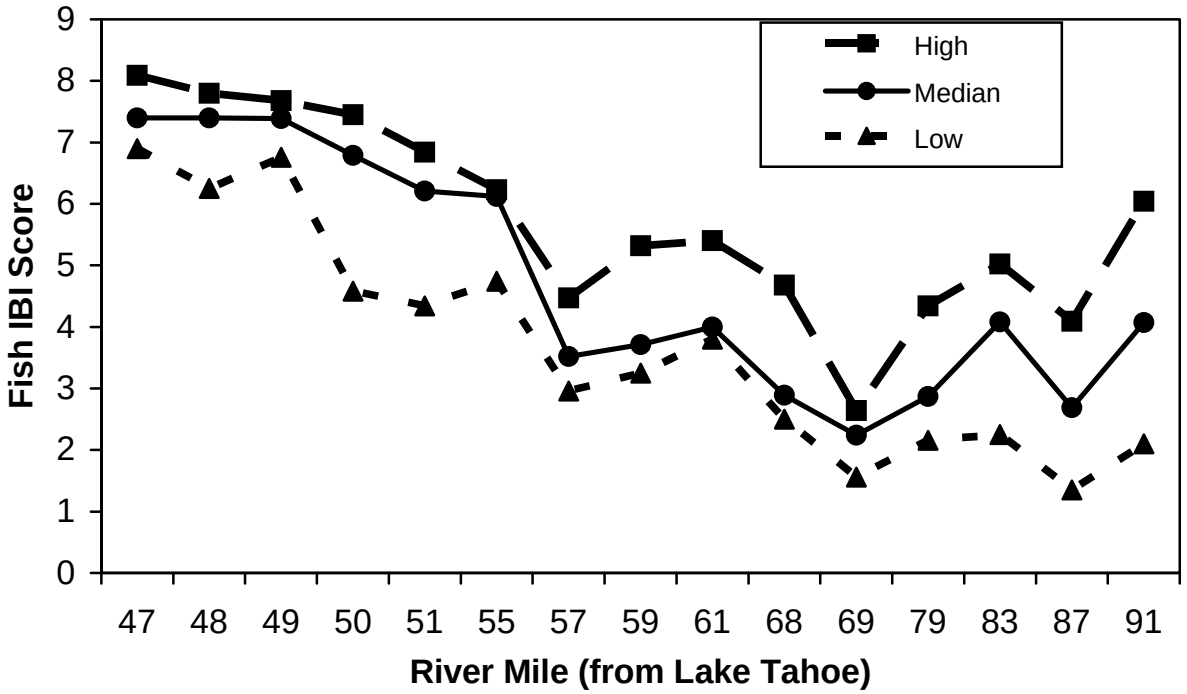
Table 2. Sampling Site Name, General Location, and River Mile from Lake Tahoe
(upriver to downriver)

River Mile	Sampling Site	General Location
47	Stateline	Below the California/Nevada Border
48	Trophy	Above Verdi
49	Verdi Pool	Above Verdi
50	Crystal Peak Park	Verdi
51	River Bend	Lower Verdi area
55	Patagonia/River Inn	River entry into the Cities of Reno and Sparks
57	Oxbow	Within the City of Reno
59	Wells	Within the City of Reno
61	Edison/Rock Park	Within the Cities of Reno and Sparks
68	Lockwood	Below the Cities of Reno/Sparks, Steamboat Creek entry and the Waste Water Treatment Plant
69	Mustang	Exit off of Interstate 80
79	Eagle Picher	Below Tracy/Clark Power Plant
83	Below Derby Dam	Below Major Truckee River Diversion Point
87	Painted Rock	Exit off of Interstate 80
91	Wadsworth	Pyramid Lake Paiute Tribal Reservation

Results and Discussion

The IBI declined from the upper Truckee River to Wadsworth, with sharp declines at river miles 57 (Oxbow) and 69 (Mustang) (Figure 2). The maximum range in IBI scores at a site was 3.9 at river mile 91 (Wadsworth), with the lowest score occurring in November. Variation in IBI scores as low as 0.9-1.19 occurred at river miles 47 (Stateline), 49 (Verdi Pool) , and 69 (Mustang) . The lowest score calculated in the data was 1.34 at river mile 87

(Painted Rock) in October 1984, and the highest score was 8.09 at river mile 47 (Stateline) in September 1996 (Figure 2; Table 3). The gradual decline in median IBI scores with river mile is likely related to changes in elevation, channel slope, and human disturbance (Figure 3). However, the marked dips in IBI scores occurring at river miles 57 (Oxbow), 69 (Mustang), and 87 (Painted Rock) are presumed to result from anthropogenic alterations producing low quality physical and chemical habitat at those sites. Rosen et al. (In Press) also found high levels of organic contaminants at Truckee River miles 56-69. Because we found no data from minimally-disturbed or natural reference sites, we lack quantitative estimates of reference conditions for the Truckee River. Following Bozzetti and Schulz (2004), Hughes (1994), and Hughes et al. (1998), we suggest interpreting median IBI scores >7.5 as acceptable, 5.0-7.4 as marginally damaged, and <5.0 as damaged. However, these are only guidelines and 2.0 changes in IBI scores over space or time are likely biologically significant.



<u>Figure 2:</u> Median and Extreme Fish Assemblage IBI Scores for the Lower Truckee River.

<u>Table 3.</u> Metric Raw Values and Scores (bold italic) for those Truckee River Sites with the Highest and Lowest IBI Scores. [a]A score of 0.5 was added for evidence of reproduction.

Site	No. Fish	No. Native Species	% Scul-pin	% White-fish	% Cut-throat	% Sensi-tive	% Herbi-vore	% Omni-vore	% Tolerant	% Alien	IBI
Mile 47 Stateline	27	3	15	59	3.7	81	0	0	0	22	
		0.6	***1.5***[a]	***1.5***[a]	***.37***	***1***	***1***	***1***	***1***	***0.12***	***8.09***
Mile 87 Painted Rock	191	3	0	0	0	0	30	53	9.9	10	
		0.6	***0***	***0***	***0***	***0***	***0***	***0***	***0***	***0.74***	***1.34***

Recommendations

There was no consistent pattern between number of individuals collected, year, or season and the IBI scores, but often scores were lower in the 1980s than the 2000s and in summer versus autumn. Higher individual counts increase confidence in sampling adequacy, at least for species richness and proportionate abundance estimates (Hughes et al. 2002; Reynolds et al. 2003). Therefore, we recommend setting a minimum number of individuals collected, or a sampling distance of 40 times the mean wetted channel width (Reynolds et al. 2003; Hughes et al. 2002; Hughes and Herlihy In Review) to reduce the noise in sampling effort. This might also require reducing the number of sampling sites to Stateline, Verdi Pool, Patagonia, Oxbow, Mustang, Painted Rock, Wadsworth, and Nixon. Others have determined that IBI has minimal among-year and within-season temporal variability (Fore et al. 1994; Hughes et al. 1998; McCormick et al. 2001). Bozzetti and Schulz (2004), sampling six sites in four seasons of one year, concluded that seasonal fluctuations in species composition (as shown by significant differences in Shannon-Wiener scores) did not affect general IBI results. However, their most consistent results occurred during the base low flow season, and this season coincides with the clearest detection of the effects of anthropogenic stressors. Rosen

et al. (In Press) also reported that summer base flows in the Truckee River yielded higher toxicity than spring flows as indicated by a pyrene index. Consequently, we recommend sampling during late summer low flows, as recommended by Plafkin et al. (1989), Meador et al. (1993), and Peck et al. (2004).

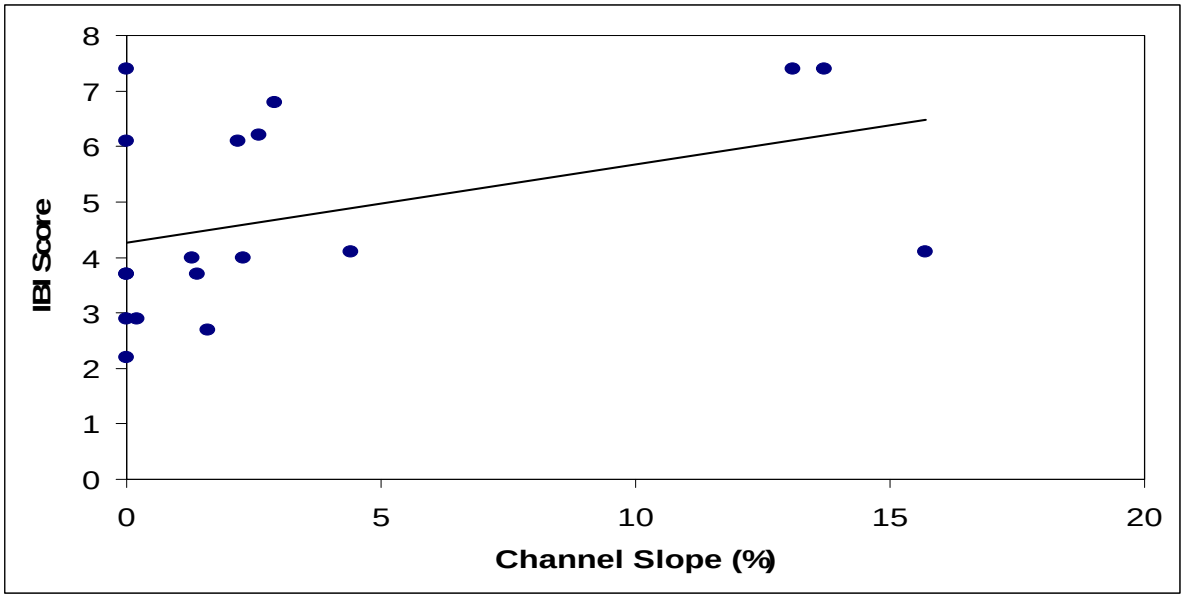


Figure 3. Relationship between Channel Slope and IBI Score.

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Appendix A. Calibration Data Set from Truckee, Carson, and Walker Rivers.

Site (RM)	Year	Species	Count	%ANOMALIES
CA15MARTIS	1983	ONCOCLAR	19	
CA15MARTIS	1983	SALMTRUT	102	
CA15MARTIS	1983	ONCOMYKI	1	
CA15MARTIS	1983	RHINOSCU	11	
CA15MARTIS	1983	RICHEGRE	1	
CA15MARTIS	1983	CATOPLAT	6	
CA15MARTIS	1983	CATOTAHO	21	
CA15MARTIS	1983	COTTBELD	3	
CA09LTRUC	1983	SALMTRUT	15	
CA09LTRUC	1983	ONCOMYKI	15	
CA09LTRUC	1983	PROSWILL	4	
CA09LTRUC	1983	RICHEGRE	54	
CA09LTRUC	1983	CATOPLAT	1	
CA09LTRUC	1983	CATOTAHO	4	
CA09LTRUC	1983	COTTBELD	34	
CA13LTRUC	1983	SALMTRUT	30	
CA13LTRUC	1983	ONCOMYKI	190	
CA13LTRUC	1983	PROSWILL	1	
CA13LTRUC	1983	RICHEGRE	5	
CA13LTRUC	1983	CATOPLAT	9	
CA13LTRUC	1983	CATOTAHO	29	
CA13LTRUC	1983	COTTBELD	174	
CA10ECAR	1980	ONCOCLAR	1	
CA10ECAR	1980	SALMTRUT	43	
CA10ECAR	1980	ONCOMYKI	47	
CA10ECAR	1980	PROSWILL	29	
CA10ECAR	1980	COTTBELD	2	
CA11ECAR	1980	SALMTRUT	25	
CA11ECAR	1980	ONCOMYKI	12	
CA11ECAR	1980	PROSWILL	16	
CA11ECAR	1980	COTTBELD	1	
CA12ECAR	1980	SALMTRUT	5	
CA12ECAR	1980	ONCOMYKI	17	
CA12ECAR	1980	PROSWILL	15	
CA22ECAR	1983	SALMTRUT	19	
CA22ECAR	1983	ONCOMYKI	62	
CA22ECAR	1983	PROSWILL	12	
CA22ECAR	1983	RHINOSCU	1	
CA22ECAR	1983	CATOPLAT	3	
CA22ECAR	1983	COTTBELD	13	
CA25ECAR	1983	ONCOMYKI	4	
CA25ECAR	1983	PROSWILL	2	
CA25ECAR	1983	RHINOSCU	1	
CA25ECAR	1983	CATOPLAT	1	
CA25ECAR	1983	COTTBELD	1	
GS47ECAR	1993	CATOPLAT	28	0
GS47ECAR	1993	CATOTAHO	9	0
GS47ECAR	1993	RHINOSCU	83	2
GS47ECAR	1993	RICHEGRE	74	3
GS47ECAR	1994	RICHEGRE	32	6
GS47ECAR	1994	SALMTRUT	2	0

Site (RM)	Year	Species	Count	%ANOMALIES
GS47ECAR	1995	CATOPLAT	29	14
GS47ECAR	1995	CATOTAHO	2	0
GS47ECAR	1995	RHINOSCU	121	2
GS47ECAR	1995	RICHEGRE	70	3
GS47ECAR	1995	SALMTRUT	9	0
GS47ECAR	1996	CATOPLAT	20	0
GS47ECAR	1996	CATOTAHO	4	0
GS47ECAR	1996	RHINOSCU	37	0
GS47ECAR	1996	RICHEGRE	38	0
GS47ECAR	1996	SALMTRUT	11	0
GS70CAR	1993	AMEIMELA	1	100
GS70CAR	1993	CATOPLAT	3	0
GS70CAR	1993	CATOTAHO	5	20
GS70CAR	1993	CYPRCARP	2	0
GS70CAR	1993	LEPOCYAN	16	12
GS70CAR	1993	MICRDOLO	12	0
GS70CAR	1993	MICRSALM	5	20
GS70CAR	1993	RHINOSCU	1	0
GS95CARA	1993	CATOTAHO	9	10
GS95CARA	1993	CYPRCARP	65	0
GS95CARA	1993	MOROCHRY	1	0
GS95CARA	1993	PIMEPROM	16	0
GS95CARA	1993	RHINOSCU	11	0
GS95CARA	1993	RICHEGRE	449	1
GS95CARB	1993	CATOPLAT	44	7
GS95CARB	1993	CATOTAHO	78	3
GS95CARB	1993	CYPRCARP	43	0
GS95CARB	1993	LEPOCYAN	2	0
GS95CARB	1993	PIMEPROM	69	0
GS95CARB	1993	RHINOSCU	86	0
GS95CARB	1993	RICHEGRE	168	1
GS95CARB	1993	ORTHMICR	5	0
GS95CARB	1994	CATOPLAT	17	18
GS95CARB	1994	CATOTAHO	10	20
GS95CARB	1994	CYPRCARP	13	31
GS95CARB	1994	GAMBAFFI	1	0
GS95CARB	1994	ORTHMICR	7	14
GS95CARB	1994	PIMEPROM	57	2
GS95CARB	1994	RHINOSCU	97	1
GS95CARB	1995	CATOPLAT	29	10
GS95CARB	1995	CATOTAHO	21	29
GS95CARB	1995	CYPRCARP	202	4
GS95CARB	1995	LEPOCYAN	11	0
GS95CARB	1995	MICRDOLO	2	0
GS95CARB	1995	ORTHMICR	19	0
GS95CARB	1995	PIMEPROM	18	0
GS95CARB	1995	RHINOSCU	30	0
GS95CARB	1995	RICHEGRE	3	0
GS95CARB	1996	CATOPLAT	68	2
GS95CARB	1996	CATOTAHO	20	40
GS95CARB	1996	CYPRCARP	11	18
GS95CARB	1996	MICRDOLO	1	0
GS95CARB	1996	MOROCHRY	1	0

Site (RM)	Year	Species	Count	%ANOMALIES
GS95CARB	1996	ORTHMICR	4	0
GS95CARB	1996	LEPOCYAN	7	0
GS95CARB	1996	PERCFLAV	1	0
GS95CARB	1996	PIMEPROM	78	1
GS95CARB	1996	RHINOSCU	98	0
GS95CARB	1996	RICHEGRE	5	0
GS95CARC	1993	CATOPLAT	29	0
GS95CARC	1993	CATOTAHO	108	1
GS95CARC	1993	CYPRCARP	72	0
GS95CARC	1993	LEPOCYAN	5	0
GS95CARC	1993	PIMEPROM	30	0
GS95CARC	1993	RHINOSCU	48	0
GS95CARC	1993	RICHEGRE	162	0
GS11TRUC	1993	CATOPLAT	2	0
GS11TRUC	1993	CATOTAHO	13	8
GS11TRUC	1993	COTTBELD	1	0
GS11TRUC	1993	ONCOMYKI	4	0
GS11TRUC	1993	RHINOSCU	79	0
GS11TRUC	1993	RICHEGRE	25	0
GS11TRUC	1993	SALMTRUT	10	0
GS42TRUCA	1993	CATOPLAT	1	0
GS42TRUCA	1993	COTTBELD	19	0
GS42TRUCA	1993	ONCOMYKI	1	0
GS42TRUCA	1993	RHINOSCU	7	0
GS42TRUCA	1993	SALMTRUT	3	0
GS42TRUCA	1994	CATOPLAT	1	0
GS42TRUCA	1994	COTTBELD	62	0
GS42TRUCA	1994	ONCOMYKI	1	0
GS42TRUCA	1994	RHINOSCU	1	0
GS42TRUCA	1995	COTTBELD	75	0
GS42TRUCA	1995	ONCOMYKI	4	0
GS42TRUCA	1996	COTTBELD	89	0
GS42TRUCA	1996	ONCOMYKI	2	0
GS42TRUCA	1996	RHINOSCU	1	0
GS42TRUCA	1996	SALMTRUT	6	0
GS42TRUCB	1993	COTTBELD	22	0
GS42TUCB	1993	ONCOMYKI	1	0
GS42TUCB	1993	RHINOSCU	1	0
GS42TRUCC	1993	COTTBELD	34	0
GS42TRUCC	1993	ONCOMYKI	3	0
GS42TRUCC	1993	SALMTRUT	2	0
GS63TRUC	1993	CATOPLAT	163	0
GS63TRUC	1993	CATOTAHO	4	0
GS63TRUC	1993	LEPOCYAN	1	0
GS63TRUC	1993	ONCOMYKI	1	0
GS63TRUC	1993	RHINOSCU	1	0
GS63TRUC	1993	RICHEGRE	38	0
GS80TRUCA	1993	CATOPLAT	16	6
GS80TRUCA	1993	CATOTAHO	61	15
GS80TRUCA	1993	CYPRCARP	7	14
GS80TRUCA	1993	LEPOCYAN	3	0
GS80TRUCA	1993	PIMEPROM	24	17
GS80TRUCA	1993	RHINOSCU	36	0

Site (RM)	Year	Species	Count	%ANOMALIES
GS80TRUCA	1993	RICHEGRE	56	7
GS80TRUCB	1993	CATOPLAT	14	14
GS80TRUCB	1993	CATOTAHO	21	14
GS80TRUCB	1993	PIMEPROM	5	0
GS80TRUCB	1993	RHINOSCU	40	8
GS80TRUCB	1993	RICHEGRE	1	0
GS80TRUCC	1993	CATOTAHO	47	43
GS80TRUCC	1993	PIMEPROM	7	0
GS80TRUCC	1993	RHINOSCU	14	0
GS80TRUCC	1993	RICHEGRE	48	4
GS80TRUCC	1994	CATOPLAT	8	0
GS80TRUCC	1994	CATOTAHO	21	5
GS80TRUCC	1994	CYPRCARP	20	5
GS80TRUCC	1994	GAMBAFFI	1	0
GS80TRUCC	1994	RHINOSCU	12	8
GS80TRUCC	1994	RICHEGRE	105	1
GS80TRUCC	1994	SALMTRUT	1	100
GS80TRUCC	1995	CATOTAHO	27	22
GS80TRUCC	1995	LEPOCYAN	1	0
GS80TRUCC	1995	PIMEPROM	1	0
GS80TRUCC	1995	RHINOSCU	11	0
GS80TRUCC	1995	RICHEGRE	114	1
GS80TRUCC	1995	SALMTRUT	2	0
GS80TRUCC	1996	CATOTAHO	62	11
GS80TRUCC	1996	CATOPLAT	38	3
GS80TRUCC	1996	LEPOCYAN	1	0
GS80TRUCC	1996	RHINOSCU	7	0
GS80TRUCC	1996	RICHEGRE	157	1
GS80TRUCC	1997	CATOPLAT	87	2
GS80TRUCC	1997	CATOTAHO	1521	9
GS80TRUCC	1997	CYPRCARP	13	0
GS80TRUCC	1997	ONCOCLAR	1	0
GS80TRUCC	1997	RHINOSCU	11	0
GS80TRUCC	1997	RICHEGRE	111	0
GS80TRUCC	1997	SALMTRUT	2	0
GS100TRUC	1993	CATOPLAT	2	50
GS100TRUC	1993	CATOTAHO	39	18
GS100TRUC	1993	GAMBAFFI	1	0
GS100TRUC	1993	PIMEPROM	9	11
GS100TRUC	1993	RICHEGRE	15	0
NV67CAR	1995	SALMTRUT	44	
NV67CAR	1995	ONCOMYKI	24	
NV67CAR	1995	LEPOCYAN	2	
NV67CAR	1995	CATOTAHO	2	
NV67CAR	1997	SALMTRUT	23	
NV67CAR	1997	ONCOMYKI	3	
NV67CAR	1997	RHINOSCU	1	
NV67CAR	1997	CATOPLAT	11	
NV67CAR	1997	CYPRCARP	12	
NV67CAR	1996	SALMTRUT	39	
NV67CAR	1996	MICROSALM	1	
NV67CAR	1996	CATOTAHO	29	
NV67CAR	1996	RICHEGRE	1	

Site (RM)	Year	Species	Count	%ANOMALIES
NV67CAR	1996	CYPRCARP	1	
NV67CAR	1994	MICROSALM	2	
NV67CAR	1994	MICRODOLO	7	
NV67CAR	1994	LEPOCYAN	63	
NV67CAR	1994	CATOPLAT	22	
NV67CAR	1994	CATOTAHO	33	
NV67CAR	1994	GAMBAFFI	6	
NV67CAR	1994	CYPRCARP	1	
NV67CAR	1993	ONCOMYKI	2	
NV67CAR	1993	SALMTRUT	3	
NV67CAR	1993	MICRODOLO	30	
NV67CAR	1993	MICROSALM	2	
NV67CAR	1993	LEPOCYAN	41	
NV67CAR	1993	RHINOSCU	4	
NV67CAR	1993	CATOTAHO	25	
NV67CAR	1993	CATOPLAT	14	
NV67CAR	1993	CYPRCARP	18	28
NV71CAR	1996	SALMTRUT	25	
NV71CAR	1996	ONCOMYKI	3	
NV71CAR	1996	LEPOCYAN	12	
NV71CAR	1996	CATOTAHO	8	
NV71CAR	1996	CATOPLAT	16	
NV71CAR	1996	MICRODOLO	7	
NV71CAR	1995	SALMTRUT	4	
NV71CAR	1995	ONCOMYKI	20	
NV71CAR	1995	LEPOCYAN	1	
NV71CAR	1995	CATOTAHO	4	
NV71CAR	1995	CATOPLAT	5	
NV71CAR	1995	RHINOSCU	3	
NV71CAR	1995	CYPRCARP	1	
NV72CAR	1994	MICRODOLO	3	
NV72CAR	1994	LEPOCYAN	10	
NV72CAR	1994	CATOPLAT	21	
NV72CAR	1994	CATOTAHO	2	
NV72CAR	1994	RHINOSCU	8	
NV72CAR	1994	CYPRCARP	8	
NV75CAR	1997	SALMTRUT	3	
NV75CAR	1997	ONCOMYKI	1	
NV75CAR	1997	LEPOCYAN	7	
NV75CAR	1997	CATOTAHO	9	
NV75CAR	1997	CATOPLAT	215	
NV75CAR	1997	RICHEGRE	7	
NV75CAR	1997	MICRODOLO	4	
NV75CAR	1996	SALMTRUT	12	
NV75CAR	1996	ONCOMYKI	1	
NV75CAR	1996	LEPOCYAN	42	
NV75CAR	1996	CATOTAHO	139	
NV75CAR	1996	CATOPLAT	112	
NV75CAR	1996	RHINOSCU	50	
NV75CAR	1995	SALMTRUT	3	
NV75CAR	1995	ONCOMYKI	2	
NV75CAR	1995	LEPOCYAN	6	
NV75CAR	1995	CATOTAHO	1	

Site (RM)	Year	Species	Count	%ANOMALIES
NV75CAR	1994	LEPOCYAN	54	
NV75CAR	1994	CATOPLAT	46	
NV75CAR	1994	CATOTAHO	99	
NV75CAR	1994	RHINOSCU	56	
NV75CAR	1993	SALMTRUT	3	
NV75CAR	1993	LEPOCYAN	23	
NV75CAR	1993	AMEIMELA	1	
NV75CAR	1993	RICHEGRE	9	
NV75CAR	1993	RHINOSCU	36	
NV75CAR	1993	CATOTAHO	49	
NV75CAR	1993	CATOPLAT	17	
NV75CAR	1993	CYPRCARP	3	
NV39ECAR	2001	ONCOMYKI	5	
NV39ECAR	2001	SALMTRUT	11	
NV39ECAR	2001	PROSWILL	57	
NV39ECAR	2001	CATOPLAT	17	
NV39ECAR	2001	RHINOSCU	16	
NV39ECAR	1999	ONCOMYKI	6	
NV39ECAR	1999	SALMTRUT	12	
NV39ECAR	1999	PROSWILL	14	
NV39ECAR	1999	CATOPLAT	50	
NV39ECAR	1999	RHINOSCU	61	
NV39ECAR	1998	ONCOMYKI	4	
NV39ECAR	1998	SALMTRUT	2	
NV39ECAR	1998	PROSWILL	9	
NV39ECAR	1998	CATOPLAT	29	
NV39ECAR	1998	RHINOSCU	36	
NV41ECAR	2001	ONCOMYKI	12	
NV41ECAR	2001	SALMTRUT	7	
NV41ECAR	2001	PROSWILL	28	
NV41ECAR	2001	CATOPLAT	31	
NV41ECAR	2001	RICHEGRE	21	
NV41ECAR	1999	ONCOMYKI	13	
NV41ECAR	1999	SALMTRUT	14	
NV41ECAR	1999	PROSWILL	21	
NV41ECAR	1999	CATOPLAT	52	
NV41ECAR	1999	RICHEGRE	2	
NV41ECAR	1999	RHINOSCU	21	
NV41ECAR	1998	SALMTRUT	4	
NV41ECAR	1998	PROSWILL	2	
NV41ECAR	1998	CATOPLAT	21	
NV41ECAR	1998	RHINOSCU	20	
NV41ECAR	1997	ONCOMYKI	1	
NV41ECAR	1997	SALMTRUT	4	
NV41ECAR	1997	PROSWILL	1	
NV41ECAR	1997	CATOPLAT	5	
NV41ECAR	1997	RHINOSCU	3	
NV41ECAR	1996	ONCOMYKI	1	
NV41ECAR	1996	SALMTRUT	11	
NV41ECAR	1996	PROSWILL	1	
NV41ECAR	1996	CATOPLAT	16	
NV41ECAR	1996	RHINOSCU	16	
NV41ECAR	1995	ONCOMYKI	1	

Site (RM)	Year	Species	Count	%ANOMALIES
NV41ECAR	1995	SALMTRUT	13	
NV41ECAR	1995	PROSWILL	4	
NV41ECAR	1995	CATOPLAT	9	
NV41ECAR	1995	RHINOSCU	3	
NV41ECAR	1994	ONCOMYKI	5	
NV41ECAR	1994	SALMTRUT	21	
NV41ECAR	1994	PROSWILL	1	
NV41ECAR	1994	CATOPLAT	30	
NV41ECAR	1994	RICHEGRE	1	
NV41ECAR	1994	RHINOSCU	12	
NV41ECAR	1994	CATOTAHO	3	
NV41ECAR	1993	SALMTRUT	8	
NV41ECAR	1993	PROSWILL	3	
NV41ECAR	1993	CATOPLAT	21	
NV41ECAR	1993	RICHEGRE	12	
NV41ECAR	1993	RHINOSCU	5	
NV41ECAR	1993	CATOTAHO	1	
NV43ECAR	2001	ONCOMYKI	1	
NV43ECAR	2001	SALMTRUT	11	
NV43ECAR	2001	PROSWILL	19	
NV43ECAR	2001	CATOPLAT	29	
NV43ECAR	2001	COTTBELD	1	
NV43ECAR	1999	ONCOMYKI	6	
NV43ECAR	1999	SALMTRUT	42	
NV43ECAR	1999	PROSWILL	6	
NV43ECAR	1999	CATOPLAT	39	
NV43ECAR	1999	COTTBELD	1	
NV43ECAR	1999	RHINOSCU	64	
NV43ECAR	1999	ONCOCLAR	16	
NV47ECAR	2001	ONCOMYKI	25	
NV47ECAR	2001	SALMTRUT	22	
NV47ECAR	2001	PROSWILL	227	
NV47ECAR	2001	CATOPLAT	77	
NV47ECAR	2001	RICHEGRE	10	
NV47ECAR	2001	RHINOSCU	23	
NV47ECAR	1999	ONCOMYKI	4	
NV47ECAR	1999	SALMTRUT	25	
NV47ECAR	1999	PROSWILL	20	
NV47ECAR	1999	CATOPLAT	145	
NV47ECAR	1999	RICHEGRE	10	
NV47ECAR	1999	RHINOSCU	11	
NV47ECAR	1997	ONCOMYKI	13	
NV47ECAR	1997	SALMTRUT	10	
NV47ECAR	1997	PROSWILL	5	
NV47ECAR	1997	CATOPLAT	6	
NV47ECAR	1997	ONCOCLAR	2	
NV47ECAR	1997	RHINOSCU	8	
NV47ECAR	1996	ONCOMYKI	4	
NV47ECAR	1996	SALMTRUT	8	
NV47ECAR	1996	PROSWILL	28	
NV47ECAR	1996	CATOPLAT	27	
NV47ECAR	1996	RHINOSCU	8	
NV47ECAR	1995	ONCOMYKI	2	

Site (RM)	Year	Species	Count	%ANOMALIES
NV47ECAR	1995	SALMTRUT	14	
NV47ECAR	1995	PROSWILL	6	
NV47ECAR	1995	CATOPLAT	10	
NV47ECAR	1995	RHINOSCU	2	
NV47ECAR	1994	ONCOMYKI	8	
NV47ECAR	1994	SALMTRUT	13	
NV47ECAR	1994	PROSWILL	7	
NV47ECAR	1994	CATOPLAT	89	
NV47ECAR	1994	RHINOSCU	31	
NV47ECAR	1994	CATOTAHO	6	
NV47ECAR	1994	RICHEGRE	20	
NV47ECAR	1994	ONCOMYKI	1	
NV47ECAR	1994	SALMTRUT	1	
NV47ECAR	1994	CATOPLAT	2	
NV47ECAR	1994	RHINOSCU	9	
NV47ECAR	1994	CATOTAHO	8	
NV47ECAR	1994	RICHEGRE	55	
NV39ECAR	2003	ONCOMYKI	5	
NV39ECAR	2003	SALMTRUT	2	
NV39ECAR	2003	PROSWILL	14	
NV39ECAR	2003	CATOPLAT	48	
NV39ECAR	2003	RHINOSCU	29	
NV41ECAR	2003	ONCOMYKI	8	
NV41ECAR	2003	SALMTRUT	24	
NV41ECAR	2003	PROSWILL	11	
NV41ECAR	2003	CATOPLAT	87	
NV41ECAR	2003	RICHEGRE	9	
NV41ECAR	2003	RHINOSCU	38	
NV43ECAR	2003	ONCOMYKI	2	
NV43ECAR	2003	SALMTRUT	17	
NV43ECAR	2003	PROSWILL	36	
NV43ECAR	2003	CATOPLAT	88	
NV43ECAR	2003	RICHEGRE	1	
NV43ECAR	2003	RHINOSCU	44	
NV44WWAL	1997	SALMTRUT	19	
NV44WWAL	1997	ONCOMYKI	6	
NV44WWAL	1997	PROSWILL	3	
NV44WWAL	1997	RICHEGRE	34	
NV44WWAL	1997	CATOTAHO	3	
NV44WWAL	1997	CATOPLAT	2	
NV44WWAL	1995	SALMTRUT	42	
NV44WWAL	1995	ONCOMYKI	1	
NV44WWAL	1995	PROSWILL	11	
NV44WWAL	1995	RICHEGRE	66	
NV44WWAL	1995	CATOTAHO	19	
NV44WWAL	1995	CATOPLAT	1	
NV44WWAL	1995	RHINOSCU	3	
NV44WWAL	1995	GILABICO	12	
NV44WWAL	1994	SALMTRUT	41	
NV44WWAL	1994	ONCOMYKI	3	
NV44WWAL	1994	PROSWILL	7	
NV44WWAL	1994	MICRSALM	3	
NV44WWAL	1994	CATOTAHO	2	

Site (RM)	Year	Species	Count	%ANOMALIES
NV44WWAL	1994	CATOPLAT	2	
NV44WWAL	1994	RHINOSCU	1	
NV44WWAL	1994	GILABICO	22	
NV44WWAL	1994	CYPRCARP	2	
NV44WWAL	1993	SALMTRUT	5	
NV44WWAL	1993	ONCOMYKI	5	
NV44WWAL	1993	PROSWILL	13	
NV44WWAL	1993	RICHEGRE	14	
NV44WWAL	1993	CATOTAHO	5	
NV44WWAL	1993	CATOPLAT	3	
NV44WWAL	1993	RHINOSCU	10	
NV44WWAL	1993	CYPRCARP	2	
NV59WWAL	1997	SALMTRUT	23	
NV59WWAL	1997	ONCOMYKI	13	
NV59WWAL	1997	PROSWILL	11	
NV59WWAL	1997	CATOTAHO	3	
NV59WWAL	1997	CATOPLAT	9	
NV59WWAL	1997	RHINOSCU	1	
NV59WWAL	1994	SALMTRUT	7	
NV59WWAL	1994	RICHEGRE	2	
NV59WWAL	1994	GILABICO	2	
NV59WWAL	1994	CATOTAHO	34	
NV59WWAL	1994	CATOPLAT	69	
NV59WWAL	1994	RHINOSCU	2	
NV59WWAL	1993	SALMTRUT	12	
NV59WWAL	1993	RICHEGRE	5	
NV59WWAL	1993	ONCOMYKI	3	
NV59WWAL	1993	CATOTAHO	13	
NV59WWAL	1993	RHINOSCU	8	
NV58WWAL	1993	CYPRCARP	1	
NV58WWAL	1993	SALMTRUT	1	
NV58WWAL	1993	ONCOMYKI	1	
NV58WWAL	1993	RICHEGRE	12	
NV58WWAL	1993	CATOTAHO	4	
NV58WWAL	1993	CATOPLAT	3	
NV58WWAL	1993	RHINOSCU	66	
NV33EWAL	2003	SALMTRUT	106	
NV33EWAL	2003	ONCOMYKI	10	
NV33EWAL	2003	PROSWILL	20	
NV33EWAL	2003	RICHEGRE	16	
NV33EWAL	2003	CATOTAHO	15	
NV33EWAL	2003	CATOPLAT	8	
NV33EWAL	2003	RHINOSCU	4	
NV33EWAL	2003	CYPRCARP	1	
NV33EWAL	2002	SALMTRUT	104	
NV33EWAL	2002	ONCOMYKI	11	
NV33EWAL	2002	PROSWILL	28	
NV33EWAL	2002	RICHEGRE	28	
NV33EWAL	2002	CATOTAHO	62	
NV33EWAL	2002	RHINOSCU	3	
NV33EWAL	2001	SALMTRUT	27	
NV33EWAL	2001	ONCOMYKI	6	
NV33EWAL	2001	PROSWILL	6	

Site (RM)	Year	Species	Count	%ANOMALIES
NV33EWAL	2001	RICHEGRE	6	
NV33EWAL	2001	CATOTAHO	8	
NV33EWAL	2001	CATOPLAT	1	

Appendix B. IBI Application Data Set from the Truckee River.

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
47	Stateline	9/16/1981	Rainbow Trout	16.00	3	
	Stateline	9/16/1981	Brown Trout	9.00	3.67	
	Stateline	9/16/1981	Mountain Whitefish	32.00	5.28	
	Stateline	9/16/1981	Paiute Sculpin	72.00	2.43	
	Stateline	10/22/1981	Rainbow Trout	19.00	3.07	
	Stateline	10/22/1981	Brown Trout	6.00	4.16	
	Stateline	10/22/1981	Mountain Whitefish	10.00	6.25	
	Stateline	10/22/1981	Paiute Sculpin	44.00	2.82	
	Stateline	10/8/1993	Brown Trout	9.00	9.14	8.2-9.9
	Stateline	10/8/1993	Rainbow Trout	4.00	11.58	10.7-12.9
	Stateline	10/8/1993	Mountain Whitefish	27.00	5.5	4.4-6.1
	Stateline	10/8/1993	Paiute Sculpin	3.00	3.56	2.1-4.5
	Stateline	10/8/1993	Tahoe Sucker	2.00	4.5	3.8-5.2
	Stateline	10/20/1991	Rainbow Trout	31.00	7.16	2.6-14.3
	Stateline	10/20/1991	Brown Trout	7.00	7	3.4-11.2
	Stateline	10/20/1991	Mountain Whitefish	37.00	6.11	3.9-11.3
	Stateline	10/20/1991	Paiute Sculpin	8.00	3.48	3.0-4.5
	Stateline	10/20/1991	Tahoe Sucker	8.00	5.96	4.9-7.8
	Stateline	10/20/1991	Lahontan Mountain Sucker	3.00	4.9	4.2-5.4
48	Upper Trophy Section	8/8/1990	Rainbow Trout	15.00	7.46	3.2-9.8
	Upper Trophy Section	8/8/1990	Brown Trout	9.00	7.61	3.4-12.0
	Upper Trophy Section	8/8/1990	Mountain Whitefish	34.00	4.76	3.8-15.0
	Upper Trophy Section	8/8/1990	Paiute Sculpin	9.00	3.29	2.8-3.6
	Upper Trophy Section	10/28/1989	Brown Trout	13.00	10.69	3.9-21.3
	Upper Trophy	10/28/1989	Rainbow Trout	12.00	8.31	3.2-15.6

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Section					
	Upper Trophy Section	10/28/1989	Mountain Whitefish	4.00	10.73	5.7-16.5
	Upper Trophy Section	10/28/1989	Paiute Sculpin	3.00	3.9	3.5-4.5
	Upper Trophy Section	9/28/1996	Brown Trout	4.00	8.68	4.0-11.2
	Upper Trophy Section	9/28/1996	Rainbow Trout	2.00	7.7	2.8-12.6
	Upper Trophy Section	9/28/1996	Lahontan Cutthroat Trout	1.00	7.2	--
	Upper Trophy Section	9/28/1996	Mountain Whitefish	16.00	8.7	5.4-12.3
	Upper Trophy Section	9/28/1996	Paiute Sculpin	4.00	2.9	1.5-3.6
	Upper Trophy Section	10/7/1995	Rainbow Trout	6.00	8.67	3.3-10.5
	Upper Trophy Section	10/7/1995	Brown Trout	1.00	9.5	--
	Upper Trophy Section	10/7/1995	Mountain Whitefish	12.00	5.7	4.8-10.2
	Upper Trophy Section	10/7/1995	Paiute Sculpin	15.00	3.48	3.0-4.3
	Upper Trophy Section	10/7/1995	Lahontan Mountain Sucker	3.00	4.57	3.3-5.2
48	Trophy Section	10/1/1983	Rainbow Trout	15.00	8.43	2.8-10.4
	Trophy Section	10/1/1983	Brown Trout	17.00	6.25	3.7-11.4
	Trophy Section	10/1/1983	Mountain Whitefish	21.00	7.56	5.2-13.6
	Trophy Section	10/1/1983	Paiute Sculpin	15.00	3.34	2.9-4.2
	Trophy Section	10/1/1984	Rainbow Trout	74.00	6.74	2.7-13.5
	Trophy Section	10/1/1985	Brown Trout	35.00	7.71	3.3-14.1
	Trophy Section	10/1/1985	Mountain Whitefish	34.00	8.72	4.3-13.6
	Trophy Section	10/1/1985	Brook Trout	1.00	3.5	--
	Trophy Section	10/1/1985	Lahontan Cutthroat Trout	1.00	12.4	--
	Trophy Section	10/1/1985	Paiute Sculpin	72.00	2.31	1.5-3.9

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Trophy Section	10/1/1985	Tahoe Sucker	2.00	1.9	1.8-2.0
	Trophy Section	10/1/1985	Rainbow Trout	43.00	7.66	2.5-13.4
	Trophy Section	10/1/1985	Brown Trout	16.00	7.2	3.9-12.7
	Trophy Section	10/1/1985	Mountain Whitefish	12.00	5.98	4.5-14.1
	Trophy Section	10/1/1985	Paiute Sculpin	58.00	3.24	1.9-4.7
	Trophy Section	10/1/1985	Tahoe Sucker	1.00	7.3	--
	Trophy Section	10/1/1986	Rainbow Trout	14.00	6.3	2.7-9.4
	Trophy Section	10/1/1986	Mountain Whitefish	8.00	11.1	9.1-14.1
	Trophy Section	10/1/1986	Brown Trout	5.00	9	7.3-14.5
	Trophy Section	10/1/1986	Paiute Sculpin	6.00	3.27	1.8-3.9
	Trophy Section	10/1/1987	Rainbow Trout	30.00	8.09	2.4-11.7
	Trophy Section	10/1/1987	Brown Trout	11.00	6.92	3.2-13.0
	Trophy Section	10/1/1987	Mountain Whitefish	37.00	7.55	4.0-15.9
	Trophy Section	10/1/1987	Paiute Sculpin	11.00	3.4	3.0-4.2
	Trophy Section	10/1/1987	Tahoe Sucker	1.00	6.9	--
	Trophy Section	8/17/1998	Rainbow Trout	34.00	3.61	1.8-8.5
	Trophy Section	8/17/1998	Brown Trout	29.00	4.26	2.3-13.5
	Trophy Section	8/17/1998	Mountain Whitefish	2.00	3.4	3.2-3.6
	Trophy Section	8/17/1998	Paiute Sculpin	33.00	2.74	0.8-4.3
	Trophy Section	8/17/1998	Tahoe Sucker	4.00	3.93	2.9-6.7
	Trophy Section	8/17/1998	Lahontan Mountain Sucker	1.00	8	--
	Trophy Section	6/9/1988	Brown Trout	6.00	5.92	5.4-6.5
	Trophy Section	6/9/1988	Rainbow Trout	4.00	4.8	4.3-5.4
	Trophy Section	6/9/1988	Mountain Whitefish	1.00	2.1	--
	Trophy Section	6/9/1988	Paiute Sculpin	7.00	2.91	2.5-3.3
	Trophy Section	10/14/1988	Rainbow Trout	17.00	8.29	3.6-10.8
	Trophy Section	10/14/1988	Brown Trout	6.00	6.9	5.3-8.3
	Trophy Section	10/14/1988	Mountain Whitefish	2.00	4.7	4.4-5.0
	Trophy Section	10/18/1988	Paiute Sculpin	26.00	3.13	2.4-3.8
50	Crystal Peak Park	10/16/2002	Brown Trout	10.00	7.36	3.39-10.1
	Crystal Peak Park	10/16/2002	Rainbow Trout	5.00	6.56	3.7-10.9
	Crystal Peak Park	10/16/2002	Mountain Whitefish	1.00	4.56	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Crystal Peak Park	10/16/2002	Paiute Sculpin	5.00	3.52	3.27-3.7
	Crystal Peak Park	10/16/2002	Tahoe Sucker	7.00	2.84	1.81-3.39
	Crystal Peak Park	10/12/2000	Brown Trout	4.00	8.6	8.0-9.5
	Crystal Peak Park	10/12/2000	Rainbow Trout	5.00	6.9	3.8-12.5
	Crystal Peak Park	10/12/2000	Mountain Whitefish	14.00	6	5.2-7.0
	Crystal Peak Park	10/12/2000	Paiute Sculpin	5.00	2.7	1.2-3.6
	Crystal Peak Park	10/12/2000	Lahontan Mountain Sucker	2.00	3.7	3.6-3.8
	Crystal Peak Park	10/12/2000	Crayfish	1.00	3	--
	Crystal Peak Park	10/27/1999	Brown Trout	10.00	6.4	2.8-15.1
	Crystal Peak Park	10/27/1999	Rainbow Trout	4.00	6.8	3.3-15.5
	Crystal Peak Park	10/27/1999	Mountain Whitefish	5.00	5.4	4.4-6.2
	Crystal Peak Park	10/27/1999	Paiute Sculpin	14.00	2.7	1.5-3.7
	Crystal Peak Park	10/27/1999	Tahoe Sucker	1.00	4.2	--
	Crystal Peak Park	8/7/1997	Brown Trout	24.00	4.4	2.7-6.2
	Crystal Peak Park	8/7/1997	Lahontan Cutthroat Trout	10.00	6.93	6.0-8.2
	Crystal Peak Park	8/7/1997	Rainbow Trout	3.00	8.47	6.5-11.2
	Crystal Peak Park	8/7/1997	Paiute Sculpin	4.00	2.45	1.2-3.4
	Crystal Peak Park	8/7/1997	Tahoe Sucker	2.00	6.95	6.1-7.8
	Crystal Peak Park	8/7/1997	Lahontan Mountain Sucker	2.00	4.85	4.2-5.5
	Crystal Peak Park	11/6/2001	Brown Trout	6.00	4.7	3.5-8.2
	Crystal Peak Park	11/6/2001	Rainbow Trout	5.00	4.5	3.5-5.5
	Crystal Peak Park	11/6/2001	Paiute Sculpin	21.00	3.2	2.4-3.9
	Crystal Peak Park	11/6/2001	Lahontan Mountain Sucker	10.00	3.7	3.1-4.6
	Crystal Peak Park	11/6/2001	Tahoe Sucker	4.00	4.3	3.7-5.0
51	Verdi Hatchery	10/12/1998	Brown Trout	10.00	8.65	3.9-15.4
	Verdi Hatchery	10/12/1998	Rainbow Trout	5.00	7.16	5.3-9.9
	Verdi Hatchery	10/12/1998	Mountain Whitefish	1.00	12	--
	Verdi Hatchery	10/12/1998	Paiute Sculpin	1.00	1.2	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Verdi Hatchery	10/12/1998	Lahontan Mountain Sucker	1.00	7	--
	Verdi Hatchery	10/18/1997	Rainbow Trout	23.00	8.77	3.3-12.9
	Verdi Hatchery	10/18/1997	Brown Trout	11.00	7.64	3.5-12.6
	Verdi Hatchery	10/18/1997	Lahontan Cutthroat Trout	3.00	8.7	7.8-9.5
	Verdi Hatchery	10/18/1997	Paiute Sculpin	11.00	2.53	1.9-3.6
	Verdi Hatchery	9/28/1996	Rainbow Trout	21.00	7.7	4.1-10.0
	Verdi Hatchery	9/28/1996	Brown Trout	12.00	6.32	3.6-12.9
	Verdi Hatchery	9/28/1996	Lahontan Cutthroat Trout	1.00	11.2	--
	Verdi Hatchery	9/28/1996	Mountain Whitefish	23.00	4.95	4.4-5.7
	Verdi Hatchery	9/28/1996	Lahontan Mountain Sucker	6.00	4.58	3.8-5.3
	Verdi Hatchery	9/28/1996	Tahoe Sucker	2.00	4.95	4.8-5.1
	Verdi Hatchery	9/28/1996	Redside Shiner	2.00	3.3	3.2-3.4
	Verdi Hatchery	9/28/1996	Paiute Sculpin	1.00	4.5	--
	Verdi Hatchery	10/28/1996	Mountain Whitefish	100.00	5.78	3.2-11.2
	Verdi Hatchery	9/28/1998	Paiute Sculpin	7.00	3.59	2.6-4.5
	Verdi Hatchery	9/28/1996	Tahoe Sucker	2.00	5	5.0-5.0
	Verdi Hatchery	10/7/1995	Rainbow Trout	5.00	6.34	3.2-9.6
	Verdi Hatchery	10/7/1995	Brown Trout	3.00	8	6.5-10.2
	Verdi Hatchery	10/7/1995	Mountain Whitefish	8.00	4.75	4.0-5.2
	Verdi Hatchery	10/7/1995	Lahontan Mountain Sucker	2.00	2.85	2.8-2.9
	Verdi Hatchery	10/7/1995	Tahoe Sucker	1.00	6.9	--
	Verdi Hatchery	9/30/1994	Brown Trout	19.00	6.64	4.2-10.6
	Verdi Hatchery	9/30/1994	Rainbow Trout	8.00	7.66	6.2-8.7
	Verdi Hatchery	9/30/1994	Lahontan Cutthroat Trout	2.00	9.4	8.5-10.3
	Verdi Hatchery	9/30/1994	Mountain Whitefish	49.00	5.44	4.8-6.2
	Verdi Hatchery	9/30/1994	Tahoe Sucker	56.00	4.05	1.5-5.6

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Verdi Hatchery	9/30/1994	Speckled Dace	21.00	2.23	1.7-2.7
	Verdi Hatchery	9/30/1994	Lahontan Mountain Sucker	18.00	2.47	1.4-4.8
	Verdi Hatchery	9/30/1994	Paiute Sculpin	3.00	2.4	1.9-3.0
	Verdi Hatchery	10/8/1993	Rainbow Trout	8.00	8.93	7.3-10.3
	Verdi Hatchery	10/8/1993	Lahontan Cutthroat Trout	3.00	8.4	7.2-9.2
	Verdi Hatchery	10/8/1993	Mountain Whitefish	21.00	5.4	4.2-6.1
	Verdi Hatchery	10/8/1993	Lahontan Mountain Sucker	6.00	3.77	2.7-4.4
	Verdi Hatchery	10/8/1993	Speckled Dace	1.00	2.7	--
	Verdi Hatchery	10/8/1993	Tahoe Sucker	1.00	3.8	--
	Verdi Hatchery	6/25/1992	Rainbow Trout	26.00	7.86	6.2-10.2
	Verdi Hatchery	6/25/1992	Brown Trout	16.00	4.81	3.8-7.7
	Verdi Hatchery	6/25/1992	Mountain Whitefish	6.00	3.52	3.3-3.8
	Verdi Hatchery	6/25/1992	Paiute Sculpin	3.00	3.83	3.6-4.2
	Verdi Hatchery	6/25/1992	Tahoe Sucker	1.00	5.5	--
	Verdi Hatchery	6/25/1992	Lahontan Mountain Sucker	1.00	2.9	--
	Verdi Hatchery	9/4/1992	Rainbow Trout	22.00	8.17	5.9-11.5
	Verdi Hatchery	9/4/1992	Brown Trout	16.00	5.63	4.8-6.3
	Verdi Hatchery	9/4/1992	Mountain Whitefish	32.00	4.92	4.6-5.5
	Verdi Hatchery	9/4/1992	Lahontan Mountain Sucker	11.00	3.5	3.1-4.2
	Verdi Hatchery	9/4/1992	Paiute Sculpin	2.00	3.7	3.4-4.0
	Verdi Hatchery	9/4/1992	Tahoe Sucker	1.00	3.6	--
	Verdi Hatchery	8/20/1991	Brown Trout	8.00	7.76	6.7-8.8
	Verdi Hatchery	8/20/1991	Rainbow Trout	7.00	7.44	5.7-10.8
	Verdi Hatchery	8/30/1991	Mountain Whitefish	38.00	4.18	3.7-4.5
	Verdi Hatchery	8/20/1991	Paiute Sculpin	18.00	3.2	2.7-4.1
	Verdi Hatchery	8/20/1991	Lahontan Mountain Sucker	10.00	4.42	3.5-5.2
	Verdi Hatchery	8/20/1991	Tahoe Sucker	6.00	5.8	3.8-7.6
	Verdi Hatchery	8/8/1990	Brown Trout	25.00	7.67	3.1-10.4

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Verdi Hatchery	8/8/1990	Rainbow Trout	18.00	7.47	5.1-9.9
	Verdi Hatchery	8/8/1990	Mountain Whitefish	34.00	3.93	3.3-4.5
	Verdi Hatchery	8/8/1990	Paiute Sculpin	24.00	3.02	2.4-4.2
	Verdi Hatchery	8/8/1990	Lahontan Mountain Sucker	13.00	3.86	2.7-5.0
	Verdi Hatchery	8/8/1990	Tahoe Sucker	4.00	4.38	2.9-5.9
	Verdi Hatchery	10/25/1989	Brown Trout	26.00	5.07	2.8-12.2
	Verdi Hatchery	10/25/1989	Rainbow Trout	29.00	3.66	2.5-9.5
	Verdi Hatchery	10/28/1989	Tahoe Sucker	19.00	3.48	2.2-4.2
	Verdi Hatchery	10/25/1989	Lahontan Mountain Sucker	4.00	3.03	2.8-3.4
	Verdi Hatchery	10/25/1989	Paiute Sculpin	3.00	3.2	2.1-4.0
	Verdi Hatchery	10/25/1989	Speckled Dace	3.00	2.43	2.3-2.6
	Verdi Hatchery	6/9/1988	Rainbow Trout	9.00	5.83	4.3-8.8
	Verdi Hatchery	6/9/1988	Brown Trout	5.00	6.6	5.5-8.5
	Verdi Hatchery	6/9/1988	Mountain Whitefish	5.00	2.18	2.1-2.2
	Verdi Hatchery	6/9/1988	Paiute Sculpin	31.00	2.81	2.1-3.5
	Verdi Hatchery	6/9/1988	Tahoe Sucker	5.00	4.18	3.8-4.5
	Verdi Hatchery	10/14/1988	Rainbow Trout	21.00	8.1	4.5-10.7
	Verdi Hatchery	10/14/1988	Mountain Whitefish	14.00	5.29	4.4-6.3
	Verdi Hatchery	10/14/1988	Brown Trout	5.00	7.52	4.9-11.1
	Verdi Hatchery	10/14/1988	Paiute Sculpin	8.00	3.21	2.3-4.0
	Verdi Hatchery	10/14/1988	Lahontan Mountain Sucker	1.00	5.8	--
	Verdi Hatchery	10/1/1987	Brown Trout	15.00	5.73	3.2-9.0
	Verdi Hatchery	10/1/1987	Rainbow Trout	9.00	6.17	5.8-9.5
	Verdi Hatchery	10/1/1987	Mountain Whitefish	5.00	4	3.7-4.2
	Verdi Hatchery	10/1/1987	Paiute Sculpin	7.00	3.24	2.6-3.9
	Verdi Hatchery	10/1/1987	Lahontan Mountain Sucker	2.00	5.65	5.6-5.7
	Verdi Hatchery	10/1/1986	Rainbow Trout	12.00	5.68	3.6-9.1
	Verdi Hatchery	10/1/1986	Brown Trout	8.00	7.4	4.4-8.8
	Verdi Hatchery	10/1/1986	Paiute Sculpin	13.00	3.35	2.7-4.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Verdi Hatchery	10/1/1986	Lahontan Mountain Sucker	1.00	5.1	--
	Verdi Hatchery	10/1/1984	Mountain Whitefish	101.00	8.52	4.0-15.2
	Verdi Hatchery	10/1/1985	Rainbow Trout	46.00	7.58	3.1-12.6
	Verdi Hatchery	10/1/1984	Brown Trout	36.00	9.6	3.8-15.3
	Verdi Hatchery	10/1/1984	Paiute Sculpin	100.00	3.25	1.8-4.1
	Verdi Hatchery	10/1/1985	Tahoe Sucker	1.00	8.9	--
	Verdi Hatchery	10/1/1983	Brook Trout	1.00	11.8	--
	Verdi Hatchery	10/1/1983	Rainbow Trout	15.00	6.63	3.6-8.5
	Verdi Hatchery	10/1/1983	Brown Trout	2.00	5.8	4.3-7.3
	Verdi Hatchery	10/1/1983	Mountain Whitefish	2.00	4.75	4.3-5.2
	Verdi Hatchery	10/1/1983	Lahontan Mountain Sucker	3.00	5.47	4.5-6.2
	Verdi Hatchery	10/1/1983	Tahoe Sucker	3.00	6.53	4.5-8.2
	Verdi Hatchery	10/1/1983	Paiute Sculpin	16.00	2.93	1.8-3.6
	Verdi Hatchery	9/15/1981	Lahontan Cutthroat Trout	2.00	4.5	
	Verdi Hatchery	9/15/1981	Mountain Whitefish	1.00	4.2	
	Verdi Hatchery	9/15/1981	Tahoe Sucker	6.00	5.85	
	Verdi Hatchery	9/15/1981	Lahontan Mountain Sucker	4.00	4.8	
	Verdi Hatchery	9/15/1981	Redside Shiner	1.00	3.2	
	Verdi Hatchery	9/15/1981	Paiute Sculpin	1.00	3.2	
	Verdi Hatchery	10/23/1981	Rainbow Trout	16.00	4.05	
	Verdi Hatchery	10/23/1981	Brown Trout	3.00	4.67	
	Verdi Hatchery	10/23/1981	Lahontan Cutthroat Trout	2.00	5.78	
	Verdi Hatchery	10/23/1981	Brook Trout	1.00	3.9	
	Verdi Hatchery	10/23/1981	Tahoe Sucker	10.00	2.64	
	Verdi Hatchery	10/23/1981	Speckled Dace	20.00	2.34	
	Verdi Hatchery	10/23/1981	Redside Shiner	5.00	3.03	
	Verdi Hatchery	10/23/1981	Speckled Dace	2.00	3.43	
49	Below Verdi Power Dam	10/28/1989	Brown Trout	8.00	10	8.4-15.4

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam	10/28/1989	Rainbow Trout	7.00	9.06	3.1-15.9
	Below Verdi Power Dam	10/28/1989	Mountain Whitefish	39.00	9.01	5.0-15.4
49	Verdi Power Dam Pool	11/6/2001	Brown Trout	82.00	5.8	3.0-13.2
	Verdi Power Dam Pool	11/6/2001	Rainbow Trout	63.00	9.2	2.5-17.9
	Verdi Power Dam Pool	11/6/2001	Mountain Whitefish	12.00	6	5.2-7.0
	Verdi Power Dam Pool	11/6/2001	Tahoe Sucker	9.00	4.7	3.4-6.6
	Verdi Power Dam Pool	11/6/2001	Lahontan Mountain Sucker	7.00	4	2.6-5.2
	Verdi Power Dam Pool	11/6/2001	Redside Shiner	2.00	3.4	2.9-3.8
	Verdi Power Dam Pool	11/6/2001	Speckled Dace	3.00	2.3	1.6-3.7
49	Below Verdi Power Dam	11/6/2001	Brown Trout	11.00	8	4.6-12.2
	Below Verdi Power Dam	11/6/2001	Rainbow Trout	11.00	9.6	3.4-12.7
	Below Verdi Power Dam	11/6/2001	Mountain Whitefish	11.00	11.9	4.0-16.0
	Below Verdi Power Dam	11/6/2001	Paiute Sculpin	23.00	3.2	2.4-3.9
	Below Verdi Power Dam	11/6/2001	Lahontan Mountain Sucker	5.00	4.1	3.7-4.9
	Below Verdi Power Dam	10/16/2002	Brown Trout	7.00	8.8	4.06-17.5
	Below Verdi Power Dam	10/16/2002	Rainbow Trout	3.00	9.08	3.46-12.6
	Below Verdi Power Dam	10/16/2002	Mountain Whitefish	8.00	5	4.29-5.51

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam	10/16/2002	Paiute Sculpin	11.00	3.76	3.19-5.04
	Below Verdi Power Dam	10/16/2002	Lahontan Mountain Sucker	2.00	4.52	4.37-4.49
	Below Verdi Power Dam Pool	10/17/2002	Brown Trout	41.00	9.84	4.65-14.6
	Below Verdi Power Dam Pool	10/17/2002	Rainbow Trout	23.00	10.32	3.54-18.4
	Below Verdi Power Dam Pool	10/17/2002	Mountain Whitefish	7.00	15.04	10.1-16.1
	Below Verdi Power Dam Pool	10/17/2002	Tahoe Sucker	2.00	4.6	3.78-5.28
	Below Verdi Power Dam	10/1/1983	Rainbow Trout	20.00	7.84	5.5-12.8
	Below Verdi Power Dam	10/1/1983	Brown Trout	9.00	8.88	4.5-12.6
	Below Verdi Power Dam	10/1/1983	Mountain Whitefish	25.00	7.09	4.5-12.2
	Below Verdi Power Dam	10/1/1983	Lahontan Mountain Sucker	1.00	5	--
	Below Verdi Power Dam	10/1/1983	Tahoe Sucker	1.00	6.1	--
	Below Verdi Power Dam	10/1/1983	Paiute Sculpin	37.00	3.46	2.7-3.9
	Below Verdi Power Dam	10/12/2000	Brown Trout	17.00	7.9	3.8-12.0
	Below Verdi Power Dam	10/12/2000	Rainbow Trout	22.00	10.3	6.5-16.1
	Below Verdi Power Dam	10/12/2000	Mountain Whitefish	16.00	7.3	4.4-13.6
	Below Verdi Power Dam	10/12/2000	Paiute Sculpin	11.00	3	1.6-3.9
	Below Verdi Power Dam	10/12/2000	Lahontan Mountain Sucker	1.00	5.5	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam Pool	10/12/2000	Brown Trout	16.00	10.6	3.9-23.0
	Below Verdi Power Dam Pool	10/12/2000	Rainbow Trout	10.00	8.9	3.9-12.2
	Below Verdi Power Dam	10/12/2002	Lahontan Cutthroat Trout	1.00	10	--
	Below Verdi Power Dam	10/25/1999	Brown Trout	3.00	9.2	4.1-19.1
	Below Verdi Power Dam	10/27/1999	Rainbow Trout	18.00	9.9	3.6-14.6
	Below Verdi Power Dam	10/27/1999	Mountain Whitefish	25.00	9.8	4.9-14.4
	Below Verdi Power Dam	10/27/1999	Paiute Sculpin	15.00	2.8	1.4-3.5
	Below Verdi Power Dam Pool	10/27/1999	Brown Trout	2.00	22.7	20.2-25.2
	Below Verdi Power Dam Pool	10/27/1999	Rainbow Trout	6.00	10.4	9.3-11.8
	Below Verdi Power Dam Pool	10/27/1999	Lahontan Cutthroat Trout	1.00	8.9	--
	Below Verdi Power Dam Pool	10/27/1999	Mountain Whitefish	1.00	9.3	--
	Below Verdi Power Dam	10/12/1998	Rainbow Trout	7.00	4.61	3.1-8.2
	Below Verdi Power Dam	10/12/1998	Brown Trout	5.00	7.54	3.2-12.0
	Below Verdi Power Dam	10/12/1998	Mountain Whitefish	22.00	4.91	4.3-5.5
	Below Verdi Power Dam	10/12/1998	Paiute Sculpin	12.00	2.79	1.5-3.4
	Below Verdi Power Dam	10/12/1998	Lahontan Mountain Sucker	2.00	4.65	3.8-5.5
	Below Verdi Power Dam Pool	8/7/1997	Lahontan Cutthroat Trout	4.00	8.53	7.3-9.7

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam Pool	8/7/1997	Brown Trout	3.00	15.7	5.6-23.5
	Below Verdi Power Dam Pool	8/7/1997	Rainbow Trout	1.00	12.7	--
	Below Verdi Power Dam Pool	8/7/1997	Lahontan Mountain Sucker	8.00	5.8	3.1-7.2
	Below Verdi Power Dam Pool	8/7/1997	Tahoe Sucker	1.00	6.1	--
	Below Verdi Power Dam Pool	8/7/1997	Paiute Sculpin	1.00	3.2	--
	Below Verdi Power Dam Pool	8/7/1997	Speckled Dace	1.00	2.8	--
	Below Verdi Power Dam	8/7/1997	Lahontan Cutthroat Trout	6.00	8.2	6.8-9.2
	Below Verdi Power Dam	8/7/1997	Rainbow Trout	6.00	8.83	3.2-10.6
	Below Verdi Power Dam	8/7/1997	Brown Trout	2.00	5.2	4.6-5.8
	Below Verdi Power Dam	8/7/1997	Mountain Whitefish	5.00	9.66	8.9-11.6
	Below Verdi Power Dam	8/7/1997	Paiute Sculpin	22.00	2.95	2.6-3.8
	Below Verdi Power Dam	8/7/1997	Lahontan Mountain Sucker	3.00	5.5	4.4-6.4
51	Verdi Power Station	8/7/1997	Rainbow Trout	5.00	3.04	2.9-3.3
	Verdi Power Station	8/7/1997	Lahontan Cutthroat Trout	1.00	8.1	--
	Verdi Power Station	8/7/1997	Paiute Sculpin	4.00	3.15	3.1-3.2
	Verdi Power Station	8/7/1997	Tahoe Sucker	2.00	4.05	3.4-4.7
	Verdi Power Station	8/7/1997	Lahontan Mountain Sucker	1.00	4.9	--
49	Below Verdi Power Dam Pool	10/18/1997	Rainbow Trout	12.00	10.5	8.4-13.9

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam Pool	10/18/1997	Brown Trout	10.00	12.5	6.9-20.7
	Below Verdi Power Dam Pool	10/18/1997	Lahontan Cutthroat Trout	10.00	9.68	8.9-11.4
	Below Verdi Power Dam	10/18/1997	Rainbow Trout	55.00	8.86	3.5-12.4
	Below Verdi Power Dam	10/18/1997	Brown Trout	10.00	10.77	7.1-14.2
	Below Verdi Power Dam	10/18/1997	Lahontan Cutthroat Trout	5.00	9.42	8.5-10.4
	Below Verdi Power Dam	10/18/1997	Paiute Sculpin	14.00	2.96	2.6-4.0
	Below Verdi Power Dam	10/18/1997	Lahontan Mountain Sucker	1.00	4.5	--
	Below Verdi Power Dam	10/18/1997	Tahoe Sucker	1.00	6.2	--
51	Verdi Power Station	9/24/1996	Rainbow Trout	8.00	8.13	6.2-12.5
	Verdi Power Station	9/24/1996	Brown Trout	6.00	7.87	5.9-12.8
	Verdi Power Station	9/24/1996	Lahontan Cutthroat Trout	1.00	9.8	--
	Verdi Power Station	9/24/1996	Mountain Whitefish	4.00	5.85	5.4-6.2
	Verdi Power Station	9/24/1996	Tahoe Sucker	5.00	4.06	3.6-4.9
	Verdi Power Station	9/24/1996	Paiute Sculpin	4.00	4.4	3.6-4.8
	Verdi Power Station	9/24/1996	Speckled Dace	4.00	2.85	2.5-3.4
	Verdi Power Station	9/24/1996	Lahontan Mountain Sucker	1.00	4.8	--
49	Below Verdi Power Dam	9/28/1996	Rainbow Trout	12.00	8.01	5.5-11.7
	Below Verdi Power Dam	9/28/1996	Lahontan Cutthroat Trout	6.00	10.32	9.1-11.3
	Below Verdi Power Dam	9/28/1996	Brown Trout	4.00	7.15	6.0-8.2
	Below Verdi Power Dam	9/28/1996	Lahontan Cutthroat Trout	15.00	9.69	8.0-11.6

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam	9/28/1996	Rainbow Trout	9.00	7.8	5.3-10.7
	Below Verdi Power Dam	9/28/1996	Brown Trout	8.00	11.2	6.4-26.0
	Below Verdi Power Dam	9/28/1996	Mountain Whitefish	29.00	13.48	12.5-15.8
	Below Verdi Power Dam	9/28/1996	Paiute Sculpin	2.00	3.95	3.7-4.2
	Below Verdi Power Dam	10/7/1995	Rainbow Trout	22.00	10.44	3.7-13.9
	Below Verdi Power Dam	10/7/1995	Brown Trout	7.00	8.41	4.0-13.9
	Below Verdi Power Dam	10/7/1995	Lahontan Cutthroat Trout	1.00	10.8	--
	Below Verdi Power Dam	10/7/1995	Mountain Whitefish	33.00	8.45	4.4-11.8
	Below Verdi Power Dam	10/7/1995	Paiute Sculpin	33.00	4.1	4.0-4.2
	Below Verdi Power Dam	10/7/1995	Lahontan Mountain Sucker	24.00	6.05	5.0-7.1
	Below Verdi Power Dam	10/7/1995	Tahoe Sucker	23.00	6.95	6.0-7.8
	Below Verdi Power Dam Pool	10/7/1995	Rainbow Trout	77.00	9.4	3.8-14.0
	Below Verdi Power Dam Pool	10/7/1995	Brown Trout	39.00	8.86	3.9-19.7
	Below Verdi Power Dam Pool	10/7/1995	Lahontan Cutthroat Trout	15.00	9.75	6.5-12.0
	Below Verdi Power Dam Pool	10/7/1995	Mountain Whitefish	78.00	8.9	6.5-9.7
	Below Verdi Power Dam Pool	10/7/1995	Tahoe Sucker	2.00	5.4	3.8-7.0
51	Verdi Power Station	10/11/1995	Rainbow Trout	18.00	7.82	3.7-11.1
	Verdi Power Station	10/11/1995	Brown Trout	9.00	8.2	4.6-13.9

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Verdi Power Station	10/11/1995	Lahontan Cutthroat Trout	1.00	10	--
	Verdi Power Station	10/11/1995	Lahontan Mountain Sucker	19.00	3.21	2.4-5.0
	Verdi Power Station	10/11/1995	Tahoe Sucker	8.00	3.74	2.2-6.3
	Verdi Power Station	10/11/1995	Speckled Dace	1.00	2.1	--
49	Below Verdi Power Dam Pool	10/8/1993	Rainbow Trout	46.00	9.09	3.6-17.7
	Below Verdi Power Dam Pool	10/8/1993	Brown Trout	18.00	10.09	4.1-21.0
	Below Verdi Power Dam Pool	10/8/1993	Lahontan Cutthroat Trout	15.00	9.15	8.1-11.3
	Below Verdi Power Dam Pool	10/8/1993	Mountain Whitefish	46.00	10.51	5.3-16.5
	Below Verdi Power Dam Pool	10/8/1993	Tahoe Sucker	14.00	4.77	3.8-5.2
	Below Verdi Power Dam Pool	10/8/1993	Lahontan Mountain Sucker	7.00	3.68	2.5-4.6
	Below Verdi Power Dam Pool	10/8/1993	Paiute Sculpin	2.00	3.75	3.6-3.9
	Below Verdi Power Dam Pool	10/8/1993	Tui Chub	1.00	4.7	--
51	Verdi Power Station	10/8/1993	Rainbow Trout	26.00	9.26	3.4-11.7
	Verdi Power Station	10/8/1993	Lahontan Cutthroat Trout	3.00	8.83	8.0-10.1
	Verdi Power Station	10/8/1993	Mountain Whitefish	57.00	6.22	4.7-12.8
	Verdi Power Station	10/8/1993	Tahoe Sucker	2.00	4.6	3.8-5.4
	Verdi Power Station	10/8/1993	Paiute Sculpin	1.00	3.8	--
49	Below Verdi Power Dam	9/15/1981	Rainbow Trout	18.00	2.58	
	Below Verdi Power Dam	9/15/1981	Brown Trout	17.00	6.43	
	Below Verdi Power Dam	9/15/1981	Mountain Whitefish	5.00	6.03	

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam	9/15/1981	Lahontan Mountain Sucker	1.00	4.8	
	Below Verdi Power Dam	9/15/1981	Paiute Sculpin	80.00	2.74	
	Below Verdi Power Dam	10/22/1981	Rainbow Trout	11.00	3.47	
	Below Verdi Power Dam	10/22/1981	Brown Trout	19.00	4.61	
	Below Verdi Power Dam	10/22/1981	Mountain Whitefish	50.00	9.14	
	Below Verdi Power Dam	10/22/1981	Tahoe Sucker	12.00	3.63	
	Below Verdi Power Dam	10/22/1981	Lahontan Mountain Sucker	1.00	3.8	
	Below Verdi Power Dam	10/22/1981	Speckled Dace	3.00	1.73	
	Below Verdi Power Dam	10/22/1981	Paiute Sculpin	39.00	2.47	
49	Below Verdi Power Dam Pool	10/17/2002	Brown Trout	41.00	9.84	4.6-14.7
	Below Verdi Power Dam Pool	10/17/2002	Rainbow Trout	23.00	10.32	3.5-18.4
	Below Verdi Power Dam Pool	10/17/2002	Mountain Whitefish	7.00	15.04	10.4-16.1
	Below Verdi Power Dam Pool	10/17/2002	Tahoe Sucker	2.00	4.6	3.8-5.3
	Below Verdi Power Dam	6/9/1988	Mountain Whitefish	40.00	11.88	2.2-16.6
	Below Verdi Power Dam	6/9/1988	Rainbow Trout	39.00	8.49	4.5-14.4
	Below Verdi Power Dam	6/9/1988	Brown Trout	18.00	9.54	2.2-17.7
	Below Verdi Power Dam	6/9/1988	Brook Trout	1.00	8.7	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam	6/9/1988	Paiute Sculpin	30.00	2.43	2.5-3.8
	Below Verdi Power Dam	6/9/1988	Lahontan Mountain Sucker	3.00	4.6	3.5-5.3
	Below Verdi Power Dam	6/9/1988	Tahoe Sucker	1.00	5.8	--
	Below Verdi Power Dam	10/14/1988	Rainbow Trout	27.00	10.5	6.5-16.0
	Below Verdi Power Dam	10/14/1988	Brown Trout	21.00	13.9	8.1-21.0
	Below Verdi Power Dam	10/14/1988	Mountain Whitefish	19.00	11.19	5.2-15.0
	Below Verdi Power Dam	9/30/1994	Rainbow Trout	14.00	9.66	3.7-13.3
	Below Verdi Power Dam	9/30/1994	Lahontan Cutthroat Trout	13.00	10.08	8.7-12.3
	Below Verdi Power Dam	9/30/1994	Brown Trout	13.00	9.72	4.4-17.8
	Below Verdi Power Dam	9/30/1994	Mountain Whitefish	22.00	6.62	4.5-9.6
	Below Verdi Power Dam	9/30/1994	Paiute Sculpin	18.00	2.86	1.8-3.9
	Below Verdi Power Dam	9/30/1994	Lahontan Mountain Sucker	15.00	3.76	1.8-5.7
	Below Verdi Power Dam	9/30/1994	Tahoe Sucker	13.00	5	3.3-9.5
	Below Verdi Power Dam Pool	9/30/1994	Brown Trout	36.00	8.36	4.2-11.2
	Below Verdi Power Dam Pool	9/30/1994	Lahontan Cutthroat Trout	25.00	9.91	8.4-12.2
	Below Verdi Power Dam Pool	9/30/1994	Rainbow Trout	19.00	8.95	3.7-11.0
	Below Verdi Power Dam Pool	9/30/1994	Mountain Whitefish	22.00	5.15	4.2-8.7

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam Pool	9/30/1994	Green Sunfish	1.00	4.8	--
	Below Verdi Power Dam Pool	9/30/1994	Tahoe Sucker	6.00	1.63	1.5-1.8
	Below Verdi Power Dam Pool	9/30/1994	Speckled Dace	2.00	1.85	1.8-1.9
49	Below Verdi Power Dam	9/4/1992	Rainbow Trout	30.00	8.51	3.5-12.2
	Below Verdi Power Dam	9/4/1992	Brown Trout	10.00	8.75	5.5-18.2
	Below Verdi Power Dam	9/4/1992	Mountain Whitefish	82.00	5.17	3.8-11.6
	Below Verdi Power Dam	9/4/1992	Tahoe Sucker	14.00	4.61	3.4-7.8
	Below Verdi Power Dam	9/4/1992	Lahontan Mountain Sucker	10.00	4.14	3.4-5.2
	Below Verdi Power Dam	9/4/1992	Paiute Sculpin	3.00	3.1	2.6-3.5
	Below Verdi Power Dam	9/4/1992	Speckled Dace	2.00	2.2	2.1-2.3
	Below Verdi Power Dam Pool	9/4/1992	Rainbow Trout	15.00	8.69	6.2-13.1
	Below Verdi Power Dam Pool	9/4/1992	Brown Trout	12.00	6.5	3.7-11.9
	Below Verdi Power Dam Pool	9/4/1992	Mountain Whitefish	21.00	4.73	4.0-10.2
	Below Verdi Power Dam Pool	9/4/1992	Tahoe Sucker	8.00	4.34	3.3-5.7
	Below Verdi Power Dam Pool	9/4/1992	Lahontan Mountain Sucker	4.00	4.03	2.8-5.7
	Below Verdi Power Dam Pool	9/4/1992	Redside Shiner	1.00	3.1	--
	Below Verdi Power Dam Pool	9/4/1992	Speckled Dace	1.00	2.5	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Verdi Power Dam Pool	9/4/1992	Paiute Sculpin	1.00	2.9	--
	Below Verdi Power Dam	6/25/1992	Rainbow Trout	38.00	8.58	5.6-14.4
	Below Verdi Power Dam	6/25/1992	Brown Trout	20.00	7.23	4.4-12.2
	Below Verdi Power Dam	6/25/1992	Mountain Whitefish	19.00	4.88	3.0-8.2
	Below Verdi Power Dam	6/25/1992	Lahontan Mountain Sucker	7.00	3.47	2.7-4.6
	Below Verdi Power Dam	6/25/1992	Paiute Sculpin	2.00	3.25	3.0-3.5
	Below Verdi Power Dam	6/25/1992	Tahoe Sucker	1.00	4.7	--
	Below Verdi Power Dam	6/25/1992	Speckled Dace	1.00	2.3	--
	Below Verdi Power Dam	10/20/1991	Brown Trout	18.00	10.16	3.4-20.6
	Below Verdi Power Dam	10/20/1991	Rainbow Trout	16.00	7.88	2.7-12.3
	Below Verdi Power Dam	10/20/1991	Mountain Whitefish	48.00	6.47	4.2-9.5
	Below Verdi Power Dam	10/20/1991	Tahoe Sucker	12.00	4.96	4.3-6.1
	Below Verdi Power Dam	10/20/1991	Paiute Sculpin	10.00	2.93	2.4-3.6
	Below Verdi Power Dam	10/20/1991	Lahontan Mountain Sucker	9.00	4.18	2.7-5.9
	Below Verdi Power Dam	10/20/1991	Redside Shiner	1.00	3.5	--
57	Ambrose Park	9/24/1996	Brown Trout	16.00	5.65	3.6-7.5
	Ambrose Park	9/24/1996	Rainbow Trout	7.00	3.79	2.7-4.7
	Ambrose Park	9/24/1996	Mountain Whitefish	1.00	6.2	--
	Ambrose Park	9/24/1996	Redside Shiner	77.00	3.5	2.9-4.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Ambrose Park	9/24/1996	Tahoe Sucker	29.00	7.56	6.4-8.7
	Ambrose Park	9/24/1996	Lahontan Mountain Sucker	4.00	4.98	4.3-5.6
	Ambrose Park	9/24/1996	Speckled Dace	1.00	2.7	--
	Ambrose Park	10/11/1995	Brown Trout	1.00	7.5	--
	Ambrose Park	10/11/1995	Lahontan Mountain Sucker	5.00	3.24	2.6-3.9
	Ambrose Park	10/11/1995	Speckled Dace	1.00	2.2	--
55	Patagonia	11/6/2001	Brown Trout	7.00	9	4.0-18.3
	Patagonia	11/6/2001	Rainbow Trout	9.00	10.8	3.8-18.2
	Patagonia	11/6/2001	Mountain Whitefish	13.00	12.5	6.7-16.5
	Patagonia	10/16/2002	Brown Trout	15.00	6.32	3.31-14.1
	Patagonia	10/16/2002	Rainbow Trout	9.00	4.2	2.64-9.33
	Patagonia	10/16/2002	Mountain Whitefish	12.00	11.36	6.18-13.4
	Patagonia	10/16/2002	Paiute Sculpin	1.00	3.48	--
	Patagonia	10/16/2002	Lahontan Mountain Sucker	1.00	3.92	--
	Patagonia	10/12/2000	Brown Trout	37.00	6.5	3.5-12.3
	Patagonia	10/12/2000	Rainbow Trout	23.00	8.7	2.4-14.6
	Patagonia	10/12/2000	Mountain Whitefish	18.00	10.4	9.5-13.1
	Patagonia	10/12/2000	Paiute Sculpin	1.00	5	--
	Patagonia	10/12/2000	Speckled Dace	2.00	1.1	1.0-1.2
	Patagonia	10/12/2000	Lahontan Mountain Sucker	3.00	2.4	1.2-4.0
	Patagonia	10/25/1999	Brown Trout	31.00	5.4	3.3-19.0
	Patagonia	10/25/1999	Rainbow Trout	25.00	5.2	2.6-10.5
	Patagonia	10/25/1999	Lahontan Cutthroat Trout	1.00	9.5	--
	Patagonia	10/25/1999	Mountain Whitefish	1.00	10.4	--
56	Mayberry Bridge	10/19/1991	Brown Trout	3.00	7.23	3.1-10.3
	Mayberry Bridge	10/19/1991	Rainbow Trout	2.00	7.4	6.6-8.2
	Mayberry Bridge	10/19/1991	Mountain Whitefish	1.00	2.2	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Mayberry Bridge	10/19/1991	Lahontan Mountain Sucker	61.00	4.64	3.1-6.1
	Mayberry Bridge	10/19/1991	Redside Shiner	10.00	2.66	2.3-3.5
	Mayberry Bridge	10/19/1991	Tahoe Sucker	2.00	4.1	3.6-4.6
	Mayberry Bridge	7/25/1990	Brown Trout	58.00	7.4	3.0-9.7
	Mayberry Bridge	7/25/1990	Rainbow Trout	16.00	8.31	2.2-14.8
	Mayberry Bridge	7/25/1990	Mountain Whitefish	8.00	7.71	3.2-16.2
	Mayberry Bridge	7/25/1990	Green Sunfish	1.00	2.1	--
	Mayberry Bridge	7/25/1990	Lahontan Mountain Sucker	8.00	5.25	4.2-6.6
	Mayberry Bridge	7/25/1990	Tahoe Sucker	3.00	4.33	3.0-5.1
	Mayberry Bridge	7/25/1990	Paiute Sculpin	2.00	3.6	3.6-3.6
	Mayberry Bridge	10/15/1997	Rainbow Trout	6.00	7.07	4.2-10.6
	Mayberry Bridge	10/15/1997	Brown Trout	1.00	6.5	--
57	Oxbow Park	10/1/1993	Rainbow Trout	17.00	9.64	7.7-11.7
	Oxbow Park	10/1/1993	Brown Trout	5.00	7.52	4.5-10.4
	Oxbow Park	10/1/1993	Lahontan Mountain Sucker	6.00	3.39	3.2-5.6
	Oxbow Park	10/1/1993	Tahoe Sucker	3.00	1.3	1.0-1.5
	Oxbow Park	10/19/1991	Rainbow Trout	16.00	8.01	2.3-13.2
	Oxbow Park	10/19/1991	Brown Trout	9.00	9.94	3.8-24.0
	Oxbow Park	10/19/1991	Mountain Whitefish	1.00	4.2	--
	Oxbow Park	10/19/1991	Tahoe Sucker	15.00	4.82	3.3-8.8
	Oxbow Park	10/19/1991	Lahontan Mountain Sucker	14.00	5.28	2.4-7.0
	Oxbow Park	10/18/1991	Redside Shiner	12.00	3.31	2.7-3.8
	Oxbow Park	10/19/1991	Paiute Sculpin	3.00	3.7	3.1-4.3
58	Idlewild Park	10/16/2002	Brown Trout	7.00	11.68	4.72-17.7
	Idlewild Park	10/16/2002	Rainbow Trout	9.00	8.72	3.58-17.0
	Idlewild Park	10/16/2002	Mountain Whitefish	10.00	6.72	5.12-10.7
	Idlewild Park	10/16/2002	Lahontan Mountain Sucker	3.00	2.48	2.2-2.87
	Idlewild Park	8/6/1997	Lahontan Cutthroat Trout	6.00	8.84	7.4-10.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Idlewild Park	8/6/1997	Mountain Whitefish	1.00	9.6	--
	Idlewild Park	8/6/1997	Lahontan Mountain Sucker	2.00	5.1	4.9-5.3
60	Fisherman's Park	8/6/1997	Brown Trout	10.00	5.37	3.4-9.2
	Fisherman's Park	8/6/1997	Lahontan Cutthroat Trout	7.00	3.69	3.2-4.7
	Fisherman's Park	8/6/1997	Green Sunfish	1.00	9	--
	Fisherman's Park	8/6/1997	Lahontan Mountain Sucker	4.00	3.13	2.5-3.7
	Fisherman's Park	8/6/1997	Tahoe Sucker	14.00	5.73	5.3-6.2
	Fisherman's Park	8/6/1997	Redside Shiner	6.00	6.52	4.0-5.3
62	Edison Way	6/24/1992	Rainbow Trout	11.00	8.55	6.2-10.7
	Edison Way	6/24/1992	Brown Trout	5.00	12.68	9.8-15.8
	Edison Way	6/24/1992	Mountain Whitefish	1.00	3.2	--
	Edison Way	6/24/1992	Green Sunfish	4.00	3.78	3.2-4.4
	Edison Way	6/24/1992	Redside Shiner	96.00	2.96	2.4-3.4
	Edison Way	6/24/1992	Tahoe Sucker	51.00	3.58	2.1-8.7
	Edison Way	6/24/1992	Mosquitofish	4.00	1.95	1.0-2.5
	Edison Way	6/24/1992	Fathead Minnow	2.00	2.75	2.5-3.0
	Edison Way	6/24/1992	Lahontan Mountain Sucker	2.00	3.2	2.8-3.6
	Edison Way	6/24/1992	Speckled Dace	1.00	1.7	--
68	Lockwood	10/15/2002	Brown Trout	5.00	9.28	4.49-19.3
	Lockwood	10/15/2002	Rainbow Trout	5.00	7.56	4.92-11.0
	Lockwood	10/15/2002	Redside Shiner	1.00	2.24	--
	Lockwood	10/15/2002	Tahoe Sucker	6.00	4.48	2.32-9.96
	Lockwood	10/15/2002	Lahontan Mountain Sucker	14.00	2.68	2.09-4.29
	Lockwood	10/10/2000	Brown Trout	2.00	8	5.9-10.0
	Lockwood	10/10/2000	Rainbow Trout	6.00	11.6	7.0-16.5
	Lockwood	10/10/2000	Redside Shiner	30.00	2.8	2.3-3.4
	Lockwood	10/10/2000	Speckled Dace	2.00	2.5	2.4-2.5
	Lockwood	10/10/2000	Lahontan Mountain Sucker	13.00	3.5	2.2-4.6

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Lockwood	10/10/2000	Tahoe Sucker	18.00	4.1	2.4-8.6
	Lockwood	10/10/2000	Crayfish	1.00	3	--
	Lockwood	8/5/1997	Brown Trout	12.00	5.78	4.2-11.9
	Lockwood	8/5/1997	Rainbow Trout	3.00	3.67	3.2-4.0
	Lockwood	8/5/1997	Lahontan Cutthroat Trout	2.00	7.75	7.1-8.4
	Lockwood	8/5/1997	Lahontan Mountain Sucker	63.00	5.59	3.6-7.3
	Lockwood	8/5/1997	Tahoe Sucker	50.00	7.71	5.4-9.6
	Lockwood	8/5/1997	Redside Shiner	10.00	3.56	3.1-4.0
	Lockwood	10/14/1997	Rainbow Trout	6.00	10.07	7.2-11.9
	Lockwood	10/14/1997	Brown Trout	5.00	7.22	6.3-7.7
	Lockwood	10/14/1997	Lahontan Cutthroat Trout	2.00	9.15	8.6-9.7
	Lockwood	10/14/1997	Redside Shiner	9.00	3.37	3.2-3.7
	Lockwood	10/14/1997	Tahoe Sucker	8.00	3.11	2.1-9.5
	Lockwood	10/14/1997	Lahontan Mountain Sucker	4.00	4.1	2.5-5.3
	Lockwood	10/14/1997	Fathead Minnow	2.00	2.3	1.9-2.7
	Lockwood	10/14/1997	Speckled Dace	1.00	2.6	--
	Lockwood	9/23/1996	Brown Trout	7.00	9	7.0-11.6
	Lockwood	9/23/1996	Mountain Whitefish	2.00	6.55	6.5-6.6
	Lockwood	9/23/1996	Redside Shiner	76.00	3.33	2.6-4.0
	Lockwood	9/23/1996	Tahoe Sucker	35.00	7.59	6.2-8.6
	Lockwood	9/23/1996	Lahontan Mountain Sucker	7.00	4.87	1.9-6.8
	Lockwood	9/23/1996	Fathead Minnow	5.00	2.54	1.7-2.9
	Lockwood	10/12/1993	Brown Trout	5.00	10.6	9.6-11.6
	Lockwood	10/12/1993	Rainbow Trout	2.00	10.05	8.6-11.5
	Lockwood	10/12/1993	Tahoe Sucker	15.00	2.82	1.9-6.2
	Lockwood	10/12/1993	Fathead Minnow	3.00	2.47	2.2-2.8
	Lockwood	10/12/1993	Redside Shiner	2.00	1.95	1.6-2.3
	Lockwood	10/12/1993	Speckled Dace	1.00	2.2	--
	Lockwood	10/12/1993	Green Sunfish	1.00	2.8	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Lockwood	9/8/1992	Redside Shiner	258.00	2.82	1.8-3.2
	Lockwood	9/8/1992	Tahoe Sucker	83.00	5.22	2.5-7.8
	Lockwood	9/8/1992	Lahontan Mountain Sucker	12.00	4.31	2.6-5.6
	Lockwood	9/8/1992	Speckled Dace	3.00	2.37	2.1-2.5
	Lockwood	9/8/1992	Carp	2.00	3.9	2.8-5.0
	Lockwood	10/10/1995	Rainbow Trout	7.00	9.1	7.5-11.5
	Lockwood	10/10/1995	Brown Trout	7.00	8.24	7.6-8.9
	Lockwood	10/10/1995	Tahoe Sucker	20.00	6.32	5.7-7.0
	Lockwood	10/10/1995	Redside Shiner	18.00	3.22	2.9-3.5
	Lockwood	10/10/1995	Lahontan Mountain Sucker	2.00	4.55	4.1-5.0
	Lockwood	9/27/1994	Redside Shiner	725.00	2.67	2.3-3.0
	Lockwood	9/27/1994	Tahoe Sucker	107.00	3.84	2.3-4.4
	Lockwood	9/27/1994	Fathead Minnow	6.00	2.35	2.0-2.7
	Lockwood	9/27/1994	Carp	3.00	3.8	2.8-4.8
	Lockwood	9/27/1994	Lahontan Mountain Sucker	1.00	3.6	--
	Lockwood	6/23/1992	Brown Trout	10.00	5.67	3.6-10.3
	Lockwood	6/23/1992	Rainbow Trout	2.00	8.9	8.2-9.6
	Lockwood	6/23/1992	Redside Shiner	135.00	2.87	2.3-4.4
	Lockwood	6/23/1992	Tahoe Sucker	63.00	6.81	5.4-9.0
	Lockwood	6/23/1992	Lahontan Mountain Sucker	14.00	3.94	3.2-5.2
	Lockwood	6/23/1992	Speckled Dace	1.00	2.6	--
	Lockwood	10/4/1991	Brown Trout	3.00	7	5.4-9.5
	Lockwood	10/4/1991	Tahoe Sucker	148.00	6.15	4.4-8.0
	Lockwood	10/4/1991	Redside Shiner	132.00	3.3	2.2-3.8
	Lockwood	10/4/1991	Lahontan Mountain Sucker	4.00	5.13	4.2-6.1
	Lockwood	8/7/1990	Brown Trout	3.00	7.3	2.9-10.8
	Lockwood	8/7/1990	Tahoe Sucker	79.00	4.63	3.3-8.2
	Lockwood	8/7/1990	Redside Shiner	40.00	2.53	2.1-2.9

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Lockwood	8/7/1990	Lahontan Mountain Sucker	6.00	3.82	3.0-6.1
	Lockwood	8/7/1990	Fathead Minnow	2.00	2.95	2.3-3.6
	Lockwood	10/18/1989	Brown Trout	4.00	6.2	5.3-6.9
	Lockwood	10/18/1989	Rainbow Trout	4.00	4.8	4.3-5.8
	Lockwood	10/18/1989	Tahoe Sucker	31.00	3.39	1.7-8.4
	Lockwood	10/18/1989	Lahontan Mountain Sucker	1.00	2.3	--
	Lockwood	10/14/1989	Redside Shiner	3.00	1.67	1.6-1.7
	Lockwood	8/17/1988	Brown Trout	4.00	4.3	3.8-5.0
	Lockwood	8/17/1988	Tahoe Sucker	27.00	5.64	2.7-8.6
	Lockwood	8/17/1988	Lahontan Mountain Sucker	7.00	4.23	3.2-5.4
	Lockwood	8/17/1988	Redside Shiner	11.00	2.86	2.5-3.3
	Lockwood	8/17/1988	Carp	1.00	21.2	--
	Lockwood	10/1/1988	Brown Trout	4.00	6.68	3.0-9.2
	Lockwood	10/1/1988	Green Sunfish	1.00	2.9	--
	Lockwood	10/1/1988	Tahoe Sucker	42.00	4.61	2.5-8.1
	Lockwood	10/1/1988	Lahontan Mountain Sucker	14.00	3.99	2.1-5.4
	Lockwood	10/1/1988	Redside Shiner	12.00	2.67	1.5-3.1
	Lockwood	10/1/1987	Brown Trout	17.00	6.25	3.1-10.6
	Lockwood	10/1/1987	Rainbow Trout	3.00	7.57	3.8-10.0
	Lockwood	10/1/1987	Tahoe Sucker	152.00	6.55	2.5-10.2
	Lockwood	10/1/1987	Redside Shiner	38.00	2.99	2.3-4.0
	Lockwood	10/1/1987	Lahontan Mountain Sucker	31.00	5.06	3.1-6.7
	Lockwood	10/1/1987	Speckled Dace	4.00	2.43	2.3-2.6
	Lockwood	10/1/1986	Brown Trout	13.00	4.52	3.4-6.8
	Lockwood	10/1/1986	Mountain Whitefish	2.00	8.25	4.7-11.8
	Lockwood	10/1/1986	Rainbow Trout	2.00	7.8	--
	Lockwood	10/1/1986	Tahoe Sucker	73.00	6.69	4.0-11.2
	Lockwood	10/1/1986	Redside Shiner	37.00	3.17	2.7-3.6

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Lockwood	10/1/1986	Lahontan Mountain Sucker	26.00	4.96	4.3-5.7
	Lockwood	10/1/1986	Carp	1.00	19.6	--
	Lockwood	10/1/1985	Brown Trout	7.00	7.66	4.7-9.2
	Lockwood	10/1/1985	Mountain Whitefish	1.00	10.6	--
	Lockwood	10/1/1985	Rainbow Trout	2.00	11.65	11.4-11.9
	Lockwood	10/1/1985	Redside Shiner	17.00	3.22	2.7-4.0
	Lockwood	10/1/1985	Lahontan Mountain Sucker	7.00	4.39	3.3-5.8
	Lockwood	10/1/1985	Tahoe Sucker	20.00	4.02	2.5-5.4
	Lockwood	10/1/1984	Brown Trout	3.00	10.93	8.7-12.5
	Lockwood	10/1/1984	Mountain Whitefish	3.00	8.23	5.8-11.6
	Lockwood	10/1/1984	Speckled Dace	75.00	1.6	1.0-2.2
	Lockwood	10/1/1984	Lahontan Mountain Sucker	13.00	5.15	3.1-6.4
	Lockwood	10/1/1984	Redside Shiner	6.00	3.22	2.9-3.6
	Lockwood	10/1/1984	Tahoe Sucker	5.00	8.04	6.9-9.4
	Lockwood	10/1/1984	Carp	1.00	19.5	--
	Lockwood	11/5/2001	Brown Trout	1.00	7.6	--
	Lockwood	11/5/2001	Rainbow Trout	1.00	17.8	--
	Lockwood	11/5/2001	Mountain Whitefish	1.00	7.8	--
	Lockwood	11/5/2001	Carp	1.00	22.3	--
	Lockwood	11/5/2001	Tahoe Sucker	4.00	3.2	2.2-4.1
69	Mustang	10/8/1998	Brown Trout	2.00	4.85	3.5-6.2
	Mustang	10/8/1998	Green Sunfish	1.00	2.5	--
	Mustang	10/8/1998	Tahoe Sucker	47.00	2.55	1.4-9.5
	Mustang	10/8/1998	Fathead Minnow	10.00	2.08	1.8-2.5
	Mustang	10/8/1998	Lahontan Mountain Sucker	7.00	3.26	1.8-4.1
	Mustang	10/8/1998	Redside Shiner	7.00	2.69	2.2-3.4
	Mustang	10/8/1998	Speckled Dace	4.00	2.38	2.1-3.0
71	Hydrocarbon	10/16/1995	Lahontan Cutthroat Trout	1.00	11.8	--
	Hydrocarbon	10/16/1995	Redside Shiner	44.00	2.93	1.4-3.5

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Hydrocarbon	10/16/1995	Tahoe Sucker	31.00	4.6	3.6-6.8
	Hydrocarbon	10/16/1995	Fathead Minnow	4.00	2.13	1.8-2.4
	Hydrocarbon	10/16/1995	Carp	1.00	16.4	--
59	Wells Avenue	10/12/1998	Brown Trout	3.00	5.27	4.3-6.2
	Wells Avenue	10/12/1998	Rainbow Trout	1.00	4.3	--
	Wells Avenue	10/12/1998	Mountain Whitefish	1.00	6.4	--
	Wells Avenue	10/12/1998	Green Sunfish	1.00	2.9	--
	Wells Avenue	10/12/1998	Speckled Dace	16.00	2.07	1.0-2.9
	Wells Avenue	10/12/1998	Fathead Minnow	9.00	1.9	1.6-2.5
	Wells Avenue	10/12/1998	Lahontan Mountain Sucker	1.00	3.1	--
	Wells Avenue	10/15/1997	Brown Trout	6.00	8.33	6.5-10.3
	Wells Avenue	10/15/1997	Rainbow Trout	3.00	7.03	6.1-8.4
	Wells Avenue	10/15/1997	Green Sunfish	3.00	3.1	2.7-3.6
	Wells Avenue	10/15/1997	Lahontan Mountain Sucker	6.00	4.65	3.8-5.6
	Wells Avenue	10/15/1997	Tahoe Sucker	4.00	2.5	1.5-4.6
	Wells Avenue	10/15/1997	Speckled Dace	2.00	2.8	2.5-3.1
	Wells Avenue	10/15/1997	Redside Shiner	1.00	3.7	--
	Wells Avenue	9/24/1996	Rainbow Trout	2.00	11.25	10.7-11.8
	Wells Avenue	9/24/1996	Brown Trout	2.00	11.65	11.4-11.9
	Wells Avenue	9/24/1996	Mountain Whitefish	5.00	6.62	6.1-7.1
	Wells Avenue	9/24/1996	Green Sunfish	3.00	2.93	2.6-3.2
	Wells Avenue	9/24/1996	Speckled Dace	5.00	2.7	2.3-3.5
	Wells Avenue	9/24/1996	Redside Shiner	1.00	3.1	--
	Wells Avenue	9/24/1996	Lahontan Mountain Sucker	1.00	4.4	--
	Wells Avenue	10/11/1995	Rainbow Trout	4.00	10.4	10.0-10.7
	Wells Avenue	10/11/1995	Lahontan Cutthroat Trout	2.00	9.75	9.2-10.3
	Wells Avenue	10/11/1995	Brown Trout	1.00	10.2	--
	Wells Avenue	10/11/1995	Mountain Whitefish	1.00	6.4	--
	Wells Avenue	10/11/1995	Tahoe Sucker	4.00	4.65	3.4-6.0

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Wells Avenue	10/11/1995	Lahontan Mountain Sucker	4.00	4	3.4-4.8
	Wells Avenue	10/11/1995	Speckled Dace	1.00	3	--
	Wells Avenue	10/11/2000	Brown Trout	7.00	7	5.7-10.0
	Wells Avenue	10/11/2000	Rainbow Trout	6.00	6.4	3.6-11.7
	Wells Avenue	10/11/2000	Mountain Whitefish	2.00	5.9	4.9-6.9
	Wells Avenue	10/11/2000	Lahontan Mountain Sucker	5.00	3.7	2.0-5.9
	Wells Avenue	10/11/2000	Tahoe Sucker	3.00	6	5.6-6.3
	Wells Avenue	10/24/1994	Tahoe Sucker	26.00	5.33	2.0-7.3
	Wells Avenue	10/24/1994	Lahontan Mountain Sucker	8.00	4.66	2.6-6.5
	Wells Avenue	10/24/1994	Redside Shiner	3.00	2.43	2.3-2.5
	Wells Avenue	10/1/1993	Rainbow Trout	29.00	9.11	4.5-10.8
	Wells Avenue	10/1/1993	Mountain Whitefish	1.00	6.3	--
	Wells Avenue	10/1/1993	Lahontan Mountain Sucker	32.00	6.27	4.2-8.6
	Wells Avenue	10/1/1993	Tahoe Sucker	16.00	5.43	3.2-7.5
	Wells Avenue	10/1/1993	Redside Shiner	2.00	3.5	3.2-3.9
	Wells Avenue	9/4/1992	Rainbow Trout	1.00	6.3	--
	Wells Avenue	9/4/1992	Brown Trout	1.00	8.2	--
	Wells Avenue	9/4/1992	Lahontan Mountain Sucker	27.00	4.46	3.4-5.2
	Wells Avenue	9/4/1992	Lahontan Mountain Sucker	25.00	6.25	1.7-9.8
	Wells Avenue	9/4/1992	Redside Shiner	7.00	2.69	1.7-3.6
	Wells Avenue	6/24/1992	Rainbow Trout	8.00	7.98	5.3-9.8
	Wells Avenue	6/25/1992	Brown Trout	1.00	8.9	--
	Wells Avenue	6/25/1992	Tahoe Sucker	22.00	4.39	2.3-6.7
	Wells Avenue	6/25/1992	Redside Shiner	18.00	2.97	2.2-4.2
	Wells Avenue	6/25/1992	Lahontan Mountain Sucker	3.00	3.53	2.2-5.4
	Wells Avenue	6/25/1992	Speckled Dace	1.00	2.5	--
	Wells Avenue	8/19/1991	Rainbow Trout	9.00	7.27	2.5-12.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Wells Avenue	8/19/1991	Brown Trout	6.00	11.63	7.9-20.8
	Wells Avenue	8/19/1991	Mountain Whitefish	9.00	4.37	4.0-4.6
	Wells Avenue	8/19/1991	Lahontan Mountain Sucker	94.00	6.16	4.8-6.9
	Wells Avenue	8/19/1991	Redside Shiner	42.00	3.42	3.0-3.7
	Wells Avenue	8/19/1991	Tahoe Sucker	35.00	6.31	3.8-7.7
	Wells Avenue	8/19/1991	Speckled Dace	1.00	1.5	--
	Wells Avenue	7/25/1990	Rainbow Trout	22.00	8.22	6.3-10.1
	Wells Avenue	7/25/1990	Brown Trout	6.00	10.1	3.2-22.0
	Wells Avenue	7/25/1990	Redside Shiner	42.00	3.16	2.5-5.3
	Wells Avenue	7/25/1990	Lahontan Mountain Sucker	29.00	4.63	2.7-5.9
	Wells Avenue	7/25/1990	Tahoe Sucker	12.00	5.4	2.9-9.9
	Wells Avenue	7/25/1990	Speckled Dace	2.00	2.8	2.4-3.2
	Wells Avenue	10/16/2002	Brown Trout	7.00	6.4	4.37-12.6
	Wells Avenue	10/16/2002	Rainbow Trout	18.00	4.56	2.87-11.6
	Wells Avenue	10/16/2002	Mountain Whitefish	7.00	6.72	4.45-12.5
	Wells Avenue	10/16/2002	Green Sunfish	4.00	2.6	1.61-3.75
	Wells Avenue	10/16/2002	Speckled Dace	1.00	2.84	--
	Wells Avenue	10/16/2002	Lahontan Mountain Sucker	6.00	3.72	2.48-4.29
	Wells Avenue	10/16/2002	Tahoe Sucker	71.00	3.16	0.91-4.92
	Wells Avenue	11/6/2001	Brown Trout	3.00	6.2	4.5-9.3
	Wells Avenue	11/6/2001	Rainbow Trout	7.00	7.1	3.4-17.6
	Wells Avenue	11/6/2001	Mountain Whitefish	2.00	5.8	5.6-6.0
	Wells Avenue	11/6/2001	Green Sunfish	1.00	4	--
	Wells Avenue	11/6/2001	Tahoe Sucker	3.00	2.7	1.4-4.1
	Wells Avenue	11/6/2001	Speckled Dace	1.00	3.1	--
	Wells Avenue	11/6/2001	Redside Shiner	2.00	3.4	2.0-4.7
79	Eagle Picher	10/4/1991	Tahoe Sucker	13.00	2.78	2.2-3.9
	Eagle Picher	10/4/1991	Fathead Minnow	10.00	2.05	1.7-2.5
	Eagle Picher	10/4/1991	Brown Trout	1.00	10.5	--
	Eagle Picher	10/4/1991	Redside Shiner	46.00	3.03	2.4-3.6
	Eagle Picher	10/4/1991	Tahoe Sucker	17.00	5.82	3.9-9.7

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Eagle Picher	10/4/1991	Lahontan Mountain Sucker	4.00	4.23	3.8-5.1
	Eagle Picher	6/23/1992	Brown Trout	13.00	5.65	3.7-8.9
	Eagle Picher	6/23/1992	Rainbow Trout	3.00	8.73	8.0-10.0
	Eagle Picher	6/23/1992	Redside Shiner	74.00	3.15	2.0-4.6
	Eagle Picher	6/23/1992	Tahoe Sucker	23.00	4.72	2.5-7.9
	Eagle Picher	6/23/1992	Lahontan Mountain Sucker	12.00	4.24	3.3-5.5
	Eagle Picher	6/23/1992	Speckled Dace	2.00	2.75	2.4-3.1
	Eagle Picher	6/23/1992	Mosquitofish	1.00	1.9	--
	Eagle Picher	10/12/1993	Rainbow Trout	1.00	9.5	--
	Eagle Picher	10/12/1993	Lahontan Mountain Sucker	86.00	2.26	2.1-2.7
	Eagle Picher	10/12/1993	Tahoe Sucker	77.00	5.83	1.8-11.1
	Eagle Picher	10/12/1993	Redside Shiner	47.00	2.28	1.3-3.9
	Eagle Picher	10/12/1993	Speckled Dace	10.00	1.76	1.4-2.5
	Eagle Picher	10/12/1993	Fathead Minnow	3.00	2.2	1.9-2.5
	Eagle Picher	10/12/1993	Green Sunfish	1.00	2	--
	Eagle Picher	8/7/1990	Brown Trout	12.00	7.84	3.9-9.9
	Eagle Picher	8/7/1990	Redside Shiner	54.00	2.64	2.1-4.1
	Eagle Picher	8/7/1990	Tahoe Sucker	46.00	6.44	2.9-8.8
	Eagle Picher	8/7/1990	Lahontan Mountain Sucker	9.00	3.28	2.5-4.1
	Eagle Picher	8/7/1990	Speckled Dace	1.00	2.3	--
	Eagle Picher	9/23/1996	Brown Trout	4.00	6.68	4.3-7.6
	Eagle Picher	9/23/1996	Redside Shiner	72.00	3.14	2.5-3.7
	Eagle Picher	9/23/1996	Lahontan Mountain Sucker	72.00	4.5	3.1-6.0
	Eagle Picher	9/23/1996	Speckled Dace	9.00	2.42	1.6-3.0
	Eagle Picher	9/23/1996	Tahoe Sucker	5.00	8.84	8.2-9.5
	Eagle Picher	9/23/1996	Fathead Minnow	1.00	3.1	--
	Eagle Picher	8/5/1997	Brown Trout	3.00	5.07	4.6-5.4
	Eagle Picher	8/5/1997	Lahontan Cutthroat Trout	1.00	7.6	--

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Eagle Picher	8/5/1997	Green Sunfish	1.00	3	--
	Eagle Picher	8/5/1997	Lahontan Mountain Sucker	74.00	3.85	3.2-6.7
	Eagle Picher	8/5/1997	Tahoe Sucker	45.00	5.77	3.4-8.3
	Eagle Picher	8/5/1997	Redside Shiner	41.00	2.65	2.2-3.2
	Eagle Picher	8/5/1997	Speckled Dace	1.00	2.2	--
	Painted Rock	10/14/1997	Tahoe Sucker	1.00	5.5	--
	Eagle Picher	10/14/1997	Brown Trout	5.00	7.06	6.5-7.6
	Eagle Picher	10/14/1997	Redside Shiner	104.00	2.43	1.5-3.6
	Eagle Picher	10/14/1997	Speckled Dace	76.00	1.71	1.4-2.1
	Eagle Picher	10/14/1997	Tahoe Sucker	41.00	4.05	3.4-5.6
	Eagle Picher	10/14/1997	Lahontan Mountain Sucker	9.00	4.42	2.5-6.7
	Eagle Picher	10/18/1989	Brown Trout	10.00	7.28	5.3-11.3
	Eagle Picher	10/18/1989	Rainbow Trout	5.00	6.46	4.7-11.0
	Eagle Picher	10/18/1989	Tahoe Sucker	137.00	5.67	2.2-8.2
	Eagle Picher	10/18/1989	Lahontan Mountain Sucker	76.00	4.28	2.2-5.7
	Eagle Picher	10/18/1989	Redside Shiner	120.00	3.68	2.8-4.2
	Eagle Picher	10/18/1989	Carp	6.00	4.42	2.8-5.4
	Eagle Picher	8/17/1988	Brown Trout	1.00	4.3	--
	Eagle Picher	8/17/1988	Tahoe Sucker	94.00	5.89	3.8-8.1
	Eagle Picher	8/17/1988	Redside Shiner	83.00	2.92	1.5-3.9
	Eagle Picher	8/17/1988	Lahontan Mountain Sucker	51.00	4.04	2.1-5.2
	Eagle Picher	8/17/1988	Carp	1.00	4.8	--
	Eagle Picher	10/1/1988	Brown Trout	6.00	10.57	2.7-18.0
	Eagle Picher	10/1/1988	Rainbow Trout	3.00	8.93	7.0-10.4
	Eagle Picher	10/1/1988	Redside Shiner	41.00	2.3	2.0-3.0
	Eagle Picher	10/1/1988	Lahontan Mountain Sucker	9.00	3.12	2.3-4.0
	Eagle Picher	10/1/1988	Tahoe Sucker	8.00	4.46	2.7-7.6
	Eagle Picher	10/1/1988	Speckled Dace	1.00	1.8	--
	Eagle Picher	10/25/1999	Brown Trout	23.00	8.3	6.2-9.4

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Eagle Picher	10/25/1999	Rainbow Trout	18.00	9.1	6.1-11.8
	Eagle Picher	10/25/1999	Redside Shiner	35.00	1.7	0.7-3.6
	Eagle Picher	10/25/1999	Speckled Dace	1.00	2.3	0.9-7.8
	Eagle Picher	10/25/1999	Lahontan Mountain Sucker	88.00	4.4	3.7-10.8
	Eagle Picher	10/25/1999	Tahoe Sucker	26.00	7.2	3.7-10.8
	Eagle Picher	10/10/2000	Brown Trout	6.00	9.6	5.8-14.0
	Eagle Picher	10/10/2000	Rainbow Trout	20.00	5.9	4.5-7.4
	Eagle Picher	10/10/2000	Redside Shiner	4.00	2.5	2.1-3.0
	Eagle Picher	10/10/2000	Lahontan Mountain Sucker	12.00	3.9	2.5-5.6
	Eagle Picher	9/27/1994	Redside Shiner	363.00	2.25	1.5-2.9
	Eagle Picher	9/27/1994	Lahontan Mountain Sucker	48.00	3.96	3.4-4.5
	Eagle Picher	9/27/1994	Speckled Dace	35.00	2.16	1.7-2.8
	Eagle Picher	9/27/1994	Tahoe Sucker	15.00	3.4	2.2-5.3
	Eagle Picher	9/27/1994	Fathead Minnow	5.00	1.78	1.3-2.1
	Eagle Picher	9/27/1994	Carp	1.00	2.9	--
	Eagle Picher	10/1/1987	Brown Trout	2.00	4.05	4.0-4.1
	Eagle Picher	10/1/1987	Redside Shiner	290.00	3.21	2.2-4.2
	Eagle Picher	10/1/1987	Tahoe Sucker	150.00	7.04	3.2-10.6
	Eagle Picher	10/1/1987	Lahontan Mountain Sucker	66.00	4.05	2.7-6.2
	Eagle Picher	10/1/1987	Carp	4.00	3.33	2.7-3.8
	Eagle Picher	10/1/1986	Redside Shiner	13.00	3.16	2.6-3.4
	Eagle Picher	10/1/1986	Brown Trout	19.00	7.67	4.1-13.9
	Eagle Picher	10/1/1986	Redside Shiner	42.00	3.31	2.9-3.6
	Eagle Picher	10/1/1986	Tahoe Sucker	39.00	6.18	3.3-8.0
	Eagle Picher	10/1/1986	Lahontan Mountain Sucker	17.00	4.68	3.3-5.3
	Eagle Picher	10/1/1985	Brown Trout	22.00	9.37	8.7-10.4
	Eagle Picher	10/1/1985	Tahoe Sucker	19.00	4.69	3.4-7.9
	Eagle Picher	10/1/1985	Lahontan Mountain Sucker	4.00	4.33	4.2-4.4

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Eagle Picher	10/1/1985	Redside Shiner	1.00	3.8	--
	Eagle Picher	10/1/1984	Brown Trout	1.00	10	--
	Eagle Picher	10/1/1984	Redside Shiner	93.00	2.79	1.5-3.8
	Eagle Picher	10/1/1984	Tahoe Sucker	24.00	3.83	1.6-10.1
	Eagle Picher	10/1/1984	Lahontan Mountain Sucker	11.00	4.45	2.2-6.8
	Eagle Picher	10/10/1995	Rainbow Trout	1.00	10.9	--
	Eagle Picher	10/10/1995	Brown Trout	1.00	13.2	--
	Eagle Picher	10/10/1995	Tahoe Sucker	14.00	5.74	4.2-8.0
	Eagle Picher	10/10/1995	Redside Shiner	12.00	3.24	2.6-3.7
	Eagle Picher	10/10/1995	Lahontan Mountain Sucker	2.00	5.5	5.2-5.8
	Eagle Picher	11/5/2001	Rainbow Trout	2.00	6.8	5.2-8.3
	Eagle Picher	11/5/2001	Mountain Whitefish	1.00	8.2	--
	Eagle Picher	11/5/2001	Redside Shiner	1.00	3	--
	Eagle Picher	11/5/2001	Tahoe Sucker	7.00	4.3	2.6-5.4
	Eagle Picher	11/5/2001	Lahontan Mountain Sucker	1.00	4.6	--
	Eagle Picher	10/15/2002	Brown Trout	3.00	9.28	6.26-10.6
	Eagle Picher	10/15/2002	Rainbow Trout	1.00	6.12	--
	Eagle Picher	10/15/2002	Redside Shiner	58.00	1.68	1.35-2.01
	Eagle Picher	10/15/2002	Speckled Dace	5.00	2	1.77-2.17
	Eagle Picher	10/15/2002	Lahontan Mountain Sucker	5.00	3.76	2.64-5.31
	Eagle Picher	10/15/2002	Tahoe Sucker	1.00	6.28	--
81	Above Derby Dam	10/16/1995	Brown Trout	1.00	9.2	--
	Above Derby Dam	10/16/1995	Redside Shiner	26.00	2.56	1.9-3.1
	Above Derby Dam	10/16/1995	Tahoe Sucker	19.00	2.66	1.7-7.2
	Above Derby Dam	10/16/1995	Speckled Dace	8.00	2.28	1.2-2.8
	Above Derby Dam	10/16/1995	Fathead Minnow	3.00	1.87	1.7-2.0
83	Below Derby Dam (Thisby)	11/5/2001	Brown Trout	4.00	6.4	5.7-7.2
	Below Derby Dam (Thisby)	11/5/2001	Rainbow Trout	10.00	7.7	4.9-14.8

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Derby Dam (Thisby)	11/5/2001	Sacramento Perch	13.00	5.8	4.5-7.8
	Below Derby Dam (Thisby)	11/5/2001	Green Sunfish	6.00	5	3.7-6.1
	Below Derby Dam (Thisby)	11/5/2001	Redside Shiner	50.00		
	Below Derby Dam (Thisby)	11/5/2001	Tahoe Sucker	4.00		
	Below Derby Dam (Thisby)	11/5/2001	Carp	2.00		
	Below Derby Dam (Thisby)	10/10/2000	Rainbow Trout	12.00	6.8	4.2 - 16.0
	Below Derby Dam (Thisby)	10/10/2000	Mountain Whitefish	5.00	8.1	6.0 - 10.9
	Below Derby Dam (Thisby)	10/10/2000	Redside Shiner	9.00	3	2.5 - 3.5
	Below Derby Dam (Thisby)	10/10/2000	Lahontan Mountain Sucker	2.00	4.3	3.5 - 5.1
	Below Derby Dam (Thisby)	10/10/2000	Tahoe Sucker	2.00	2.6	2.3 - 2.8
	Below Derby Dam (Thisby)	10/10/2000	Carp	2.00	22.3	21.5 - 23.0
	Below Derby Dam (Thisby)	10/10/2000	Largemouth Bass	2.00	4.9	4.7 - 5.0
	Below Derby Dam (Thisby)	11/5/2001	Brown Trout	5.00	12.5	4.9-18.9
	Below Derby Dam (Thisby)	11/5/2001	Rainbow Trout	3.00	11.9	4.3-16.5
	Below Derby Dam (Thisby)	11/5/2001	Mountain Whitefish	1.00	11.5	--
	Below Derby Dam (Thisby)	11/5/2001	Sacramento Perch	2.00	1.7	1.5-1.9
	Below Derby Dam (Thisby)	11/5/2001	Green Sunfish	5.00	3.9	2.5-4.8

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Derby Dam (Thisby)	11/5/2001	Redside Shiner	338.00	2.6	1.6-3.2
	Below Derby Dam (Thisby)	11/5/2001	Lahontan Mountain Sucker	5.00	2.6	2.0-3.7
	Below Derby Dam (Thisby)	11/5/2001	Tahoe Sucker	71.00	5.5	2.4-9.7
	Below Derby Dam (Thisby)	11/5/2001	Carp	10.00	3.5	2.0-4.6
	Below Derby Dam (Thisby)	11/5/2001	Mosquitofish	4.00	1.1	0.9-1.3
	Below Derby Dam (Thisby)	11/5/2001	Speckled Dace	2.00		
	Below Derby Dam (Thisby)	11/5/2001	Fathead Minnow	69.00	1.9	1.0-2.4
	Below Derby Dam (Thisby)	10/10/2000	Brown Trout	7.00	16.1	14.5-18.9
	Below Derby Dam (Thisby)	10/10/2000	Rainbow Trout	1.00	5.5	--
	Below Derby Dam (Thisby)	10/10/2000	Redside Shiner	25.00	3.1	2.6-3.5
	Below Derby Dam (Thisby)	10/10/2000	Tahoe Sucker	23.00	8.3	4.1-12.1
	Below Derby Dam (Thisby)	10/10/2000	Green Sunfish	2.00	4.9	4.8-4.9
	Below Derby Dam (Thisby)	10/26/1999	Brown Trout	1.00	10	--
	Below Derby Dam (Thisby)	10/26/1999	Rainbow Trout	5.00	6.5	5.2-7.6
	Below Derby Dam (Thisby)	10/26/1999	Lahontan Cutthroat Trout	1.00	10.3	--
	Below Derby Dam (Thisby)	10/26/1999	Mountain Whitefish	9.00	7.4	6.5-10.1
	Below Derby Dam (Thisby)	10/26/1999	Redside Shiner	36.00	3.2	2.4-3.7

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Derby Dam (Thisby)	10/26/1999	Lahontan Mountain Sucker	3.00	4.8	4.6-4.9
	Below Derby Dam (Thisby)	10/26/1999	Tahoe Sucker	52.00	9.5	7.0-11.6
	Below Derby Dam (Thisby)	10/26/1999	Green Sunfish	14.00	3.5	2.9-5.0
	Below Derby Dam (Thisby)	10/26/1999	Largemouth Bass	2.00	2.9	2.5-3.3
	Below Derby Dam (Thisby)	10/26/1999	Brown Trout	6.00	16.1	12.2-19.8
	Below Derby Dam (Thisby)	10/26/1999	Rainbow Trout	16.00	8.8	5.7-14.8
	Below Derby Dam (Thisby)	10/26/1999	Lahontan Cutthroat Trout	6.00	9.5	8.8-10.2
	Below Derby Dam (Thisby)	10/26/1999	Mountain Whitefish	4.00	8.5	6.5-10.1
	Below Derby Dam (Thisby)	8/6/1997	Lahontan Cutthroat Trout	78.00	8.78	7.0-12.7
	Below Derby Dam (Thisby)	8/6/1997	Brown Trout	7.00	12.16	5.4-15.5
	Below Derby Dam (Thisby)	8/6/1997	Rainbow Trout	3.00	10.1	7.9-11.7
	Below Derby Dam (Thisby)	8/6/1997	Green Sunfish	21.00	3.65	3.3-4.0
	Below Derby Dam (Thisby)	8/6/1997	Redside Shiner	134.00	2.9	2.3-3.4
	Below Derby Dam (Thisby)	8/6/1997	Carp	15.00	19.36	15.1-24.6
	Below Derby Dam (Thisby)	8/6/1997	Tahoe Sucker	5.00	4.48	3.3-8.5
	Below Derby Dam (Thisby)	8/6/1997	Lahontan Mountain Sucker	4.00	3.78	3.2-5.2
	Below Derby Dam (Thisby)	10/15/1997	Lahontan Cutthroat Trout	22.00	9.81	7.8-16.1

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Below Derby Dam (Thisby)	10/15/1997	Rainbow Trout	6.00	10.88	6.3-12.7
	Below Derby Dam (Thisby)	10/15/1997	Brown Trout	4.00	14.83	12.7-16.8
	Below Derby Dam (Thisby)	10/15/1997	Green Sunfish	16.00	3.66	2.8-5.1
	Below Derby Dam (Thisby)	10/15/1997	Largemouth Bass	1.00	4.3	--
	Below Derby Dam (Thisby)	10/15/1997	Redside Shiner	61.00	3.39	2.7-3.8
	Below Derby Dam (Thisby)	10/15/1997	Tahoe Sucker	3.00	4.4	2.9-6.0
	Below Derby Dam (Thisby)	10/15/1997	Lahontan Mountain Sucker	2.00	4.1	3.8-4.4
	Below Derby Dam (Thisby)	10/15/1997	Speckled Dace	1.00	2.6	--
	Below Derby Dam (Thisby)	11/12/1996	Brown Trout	8.00	14.98	12.1-19.0
	Below Derby Dam (Thisby)	11/12/1996	Rainbow Trout	5.00	11.92	6.3-17.6
	Below Derby Dam (Thisby)	11/12/1996	Lahontan Cutthroat Trout	2.00	12.75	12.1-13.4
	Below Derby Dam (Thisby)	11/12/1996	Mountain Whitefish	6.00	6.92	6.2-7.6
	Below Derby Dam (Thisby)	11/12/1996	Redside Shiner	60.00	3.46	2.4-4.2
	Below Derby Dam (Thisby)	11/12/1996	Tahoe Sucker	35.00	6.88	3.3-10.9
	Below Derby Dam (Thisby)	11/12/1996	Lahontan Mountain Sucker	4.00	3.65	3.5-3.8
	Below Derby Dam (Thisby)	11/12/1996	Speckled Dace	4.00	2.15	1.8-2.3
	Below Derby Dam (Thisby)	11/12/1996	Fathead Minnow	3.00	2.07	1.8-2.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
87	Painted Rock	10/15/2002	Brown Trout	2.00	16.52	11.5-21.2
	Painted Rock	10/15/2002	Rainbow Trout	1.00	16.52	--
	Painted Rock	10/15/2002	Redside Shiner	235.00	2.72	1.77-3.7
	Painted Rock	10/15/2002	Lahontan Mountain Sucker	5.00	0.2	2.64-6.85
	Painted Rock	10/15/2002	Tahoe Sucker	19.00	0.76	2.24-7.01
	Painted Rock	10/10/2000	Brown Trout	3.00	10.5	9.7 - 11.2
	Painted Rock	10/10/2000	Rainbow Trout	25.00	5.3	3.9 - 6.5
	Painted Rock	10/10/2000	Redside Shiner	25.00	2.8	1.6 - 3.5
	Painted Rock	10/10/2000	Speckled Dace	4.00	2.1	1.9 - 2.4
	Painted Rock	10/10/2000	Lahontan Mountain Sucker	4.00	3.6	3.1 - 4.2
	Painted Rock	10/10/2000	Tahoe Sucker	8.00	4.2	2.3 - 11.8
	Painted Rock	10/25/1999	Rainbow Trout	14.00	6.3	3.9-8.3
	Painted Rock	10/25/1999	Brown Trout	12.00	7	6.6-7.7
	Painted Rock	10/25/1999	Lahontan Cutthroat Trout	1.00	7.9	--
	Painted Rock	10/25/1999	Lahontan Mountain Sucker	2.00	4.6	4.5-4.7
	Painted Rock	10/25/1999	Tahoe Sucker	1.00	8.1	--
	Painted Rock	10/8/1998	Brown Trout	7.00	5.91	4.8-6.4
	Painted Rock	10/8/1998	Lahontan Cutthroat Trout	1.00	10	--
	Painted Rock	10/8/1998	Redside Shiner	140.00	2.38	1.8-3.0
	Painted Rock	10/8/1998	Tahoe Sucker	14.00	4.22	1.2-6.3
	Painted Rock	10/8/1998	Lahontan Mountain Sucker	1.00	5.3	--
	Painted Rock	8/5/1997	Brown Trout	28.00	4.87	3.9-11.3
	Painted Rock	8/5/1997	Lahontan Cutthroat Trout	13.00	7.26	6.1-8.1
	Painted Rock	8/5/1997	Redside Shiner	35.00	2.53	2.2-2.9
	Painted Rock	8/4/1997	Tahoe Sucker	30.00	6.4	3.6-11.3
	Painted Rock	8/4/1997	Lahontan Mountain Sucker	24.00	3.89	3.3-4.8

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Painted Rock	10/14/1997	Brown Trout	42.00	7.05	5.0-16.6
	Painted Rock	10/14/1997	Rainbow Trout	11.00	10.7	7.8-12.2
	Painted Rock	10/14/1997	Lahontan Cutthroat Trout	1.00	6.9	--
	Painted Rock	10/14/1997	Lahontan Mountain Sucker	3.00	4.67	3.5-5.8
	Painted Rock	11/12/1997	Brown Trout	11.00	10.96	6.8-17.4
	Painted Rock	11/12/1997	Rainbow Trout	9.00	11.5	9.9-12.7
	Painted Rock	11/12/1997	Lahontan Cutthroat Trout	5.00	8.48	7.8-9.0
	Painted Rock	11/12/1997	Largemouth Bass	2.00	3.2	3.0-3.4
	Painted Rock	11/12/1997	Carp	22.00	24.9	16.8-33.0
	Painted Rock	9/23/1996	Brown Trout	9.00	11.3	7.9-15.7
	Painted Rock	9/23/1996	Carp	2.00	19.1	18.2-20.0
	Painted Rock	9/23/1996	Tahoe Sucker	1.00	7.5	--
	Painted Rock	9/23/1996	Lahontan Mountain Sucker	1.00	3.7	--
	Painted Rock	10/10/1995	Brown Trout	4.00	8.25	7.6-9.2
	Painted Rock	10/10/1995	Redside Shiner	22.00	3.3	2.7-3.9
	Painted Rock	10/10/1995	Tahoe Sucker	19.00	6.7	4.2-12.2
	Painted Rock	10/10/1995	Carp	2.00	17.25	17.0-17.5
	Painted Rock	10/10/1995	Lahontan Mountain Sucker	1.00	3.8	--
	Painted Rock	10/10/1995	Fathead Minnow	1.00	2.8	--
	Painted Rock	9/8/1992	Brown Trout	2.00	4.75	3.5-6.0
	Painted Rock	9/8/1992	Largemouth Bass	1.00	8.4	--
	Painted Rock	9/8/1992	Redside Shiner	54.00	1.78	1.5-2.5
	Painted Rock	9/4/1992	Carp	2.00	4.45	3.6-5.3
	Painted Rock	9/8/1992	Mirror carp	2.00	4.85	4.3-5.4
	Painted Rock	9/8/1992	Tahoe Sucker	1.00	3.3	--
	Painted Rock	10/12/1993	Brown Trout	16.00	10.41	8.6-12.5
	Painted Rock	10/12/1993	Tahoe Sucker	2.00	8.5	7.2-9.8
	Painted Rock	10/12/1993	Green Sunfish	1.00	3.4	--
	Painted Rock	9/27/1994	Brown Trout	3.00	10.87	8.9-13.3

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Painted Rock	9/27/1994	Green Sunfish	2.00	1.95	1.7-2.2
	Painted Rock	9/27/1994	Redside Shiner	272.00	2.16	1.2-3.2
	Painted Rock	9/27/1994	Fathead Minnow	18.00	1.93	1.6-2.6
	Painted Rock	9/27/1994	Tahoe Sucker	5.00	2.52	2.0-3.0
	Painted Rock	9/27/1994	Lahontan Mountain Sucker	1.00	4	--
	Painted Rock	6/23/1992	Brown Trout	33.00	6.9	3.6-12.5
	Painted Rock	6/23/1992	Tahoe Sucker	23.00	5.17	4.2-7.3
	Painted Rock	6/23/1992	Redside Shiner	3.00	3.3	2.9-4.0
	Painted Rock	10/4/1991	Brown Trout	2.00	8.55	8.4-8.7
	Painted Rock	10/4/1991	Largemouth Bass	7.00	4.63	3.8-5.5
	Painted Rock	10/4/1991	Green Sunfish	1.00	4.2	--
	Painted Rock	8/7/1990	Brown Trout	30.00	7.5	3.2-10.0
	Painted Rock	8/7/1990	Rainbow Trout	3.00	7.9	7.5-8.5
	Painted Rock	8/7/1990	Tahoe Sucker	5.00	5.44	2.7-6.6
	Painted Rock	8/7/1990	Redside Shiner	2.00	3.2	2.2-4.2
	Painted Rock	8/7/1990	Carp	1.00	3.9	--
	Painted Rock	10/18/1989	Brown Trout	5.00	6.12	5.5-6.6
	Painted Rock	10/18/1989	Rainbow Trout	2.00	5.35	5.3-5.4
	Painted Rock	10/18/1989	Lahontan Mountain Sucker	15.00	4.64	3.2-5.5
	Painted Rock	8/17/1988	Brown Trout	12.00	4.3	3.0-4.9
	Painted Rock	8/17/1988	Rainbow Trout	2.00	8.7	8.6-8.7
	Painted Rock	8/17/1988	Largemouth Bass	1.00	3.3	--
	Painted Rock	8/17/1988	Redside Shiner	286.00	2.91	2.4-3.9
	Painted Rock	8/17/1988	Lahontan Mountain Sucker	77.00	3.68	2.5-4.6
	Painted Rock	8/17/1988	Tahoe Sucker	12.00	5.78	4.3-8.2
	Painted Rock	8/17/1988	Carp	2.00	3.45	3.0-3.9
	Painted Rock	8/17/1988	Fathead Minnow	1.00	2.9	--
	Painted Rock	10/1/1988	Brown Trout	3.00	5.83	2.6-12.0
	Painted Rock	10/1/1988	Lahontan Mountain Sucker	24.00	3.28	2.4-4.8
	Painted Rock	10/1/1987	Brown Trout	49.00	7.22	3.6-10.3

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Painted Rock	10/1/1987	Rainbow Trout	2.00	9.85	8.8-10.9
	Painted Rock	10/1/1987	Redside Shiner	168.00	3.04	2.3-4.0
	Painted Rock	10/1/1987	Lahontan Mountain Sucker	61.00	3.9	3.2-5.4
	Painted Rock	10/1/1987	Tahoe Sucker	9.00	5.41	3.4-7.3
	Painted Rock	10/1/1986	Brown Trout	46.00	3.96	3.1-5.0
	Painted Rock	10/1/1986	Rainbow Trout	2.00	9.3	9.0-9.6
	Painted Rock	10/1/1986	Green Sunfish	1.00	3.8	--
	Painted Rock	10/1/1986	Lahontan Mountain Sucker	63.00	4.6	3.6-5.6
	Painted Rock	10/1/1986	Tahoe Sucker	54.00	5.91	3.8-9.2
	Painted Rock	10/1/1985	Brown Trout	19.00	8.72	7.5-11.5
	Painted Rock	10/1/1985	Rainbow Trout	1.00	11.5	--
	Painted Rock	10/1/1985	Tahoe Sucker	1.00	4.3	--
	Painted Rock	10/1/1985	Lahontan Mountain Sucker	7.00	4.16	3.5-5.4
	Painted Rock	10/1/1985	Green Sunfish	2.00	4.15	4.1-4.2
	Painted Rock	10/1/1984	Largemouth Bass	8.00	3.39	2.6-4.2
	Painted Rock	10/1/1984	Green Sunfish	8.00	2.09	1.4-2.7
	Painted Rock	10/1/1984	Brown Trout	1.00	8.9	--
	Painted Rock	10/1/1984	Tahoe Sucker	98.00	6.85	2.0-11.0
	Painted Rock	10/1/1984	Lahontan Mountain Sucker	58.00	4.3	3.4-5.4
	Painted Rock	10/1/1984	Redside Shiner	15.00	3.25	2.7-3.5
	Painted Rock	10/1/1984	Carp	3.00	6.9	2.4-15.7
	Painted Rock	11/5/2001	Brown Trout	3.00	15.9	6.0-22.0
	Painted Rock	11/5/2001	Rainbow Trout	3.00	11	7.0-13.2
	Painted Rock	11/5/2001	Redside Shiner	170.00	3	2.5-5.9
	Painted Rock	11/5/2001	Lahontan Mountain Sucker	6.00	4.5	2.0-10.5
	Painted Rock	11/5/2001	Tahoe Sucker	30.00	4.7	2.0-10.5
	Painted Rock	11/5/2001	Carp	1.00	4.9	--
	Painted Rock	11/5/2001	Fathead Minnow	3.00	2	2.0-2.0
90	Big Bend	8/4/1997	Redside Shiner	20.00	2.73	2.4-3.8

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Big Bend	8/4/1997	Lahontan Mountain Sucker	11.00	3.65	2.8-6.0
	Big Bend	8/4/1997	Tahoe Sucker	6.00	6.82	2.9-8.7
	Big Bend	8/4/1997	Carp	1.00	20	--
	Big Bend	9/25/1996	Lahontan Cutthroat Trout	1.00	9.4	--
	Big Bend	9/25/1996	Redside Shiner	24.00	3.71	3.4-4.2
	Big Bend	9/25/1997	Tahoe Sucker	7.00	5.67	4.2-7.4
	Big Bend	9/25/1996	Lahontan Mountain Sucker	7.00	3.13	2.2-4.3
91	Wadsworth	10/13/1997	Rainbow Trout	19.00	5.07	3.9-6.2
	Wadsworth	10/13/1997	Lahontan Cutthroat Trout	7.00	8.86	6.2-13.8
	Wadsworth	10/13/1997	Largemouth Bass	1.00	5	--
	Wadsworth	10/13/1997	Green Sunfish	1.00	2.4	--
	Wadsworth	10/13/1997	Lahontan Mountain Sucker	86.00	5.14	4.2-6.4
	Wadsworth	10/13/1997	Redside Shiner	69.00	3.37	2.7-4.0
	Wadsworth	10/13/1997	Tahoe Sucker	1.00	7.4	--
	Wadsworth	10/8/1998	Brown Trout	3.00	5.73	5.5-6.0
	Wadsworth	10/8/1998	Lahontan Cutthroat Trout	2.00	11.7	8.3-15.1
	Wadsworth	10/8/1998	Mountain Whitefish	7.00	5.83	5.0-6.5
	Wadsworth	10/8/1998	Lahontan Mountain Sucker	22.00	3.86	2.9-5.4
	Wadsworth	10/8/1998	Redside Shiner	14.00	2.9	1.5-3.7
	Wadsworth	10/8/1998	Tahoe Sucker	4.00	5.98	4.5-8.9
	Wadsworth	8/4/1997	Lahontan Cutthroat Trout	4.00	6.88	3.3-13.3
	Wadsworth	8/4/1997	Rainbow Trout	2.00	3.2	3.2-3.2
	Wadsworth	8/4/1997	Lahontan Mountain Sucker	104.00	3.92	3.5-5.6
	Wadsworth	8/4/1997	Redside Shiner	38.00	3.02	2.2-3.9
	Wadsworth	8/4/1997	Tahoe Sucker	9.00	6.47	3.0-8.2

RIVER MILE (from L.. Tahoe)	Site Name	Date Sampled	Species	Number Collected	Avg Length (in)	Size Range (in)
	Wadsworth	8/4/1997	Fathead Minnow	1.00	2.2	--
100	SBarS	9/25/1996	Redside Shiner	271.00	2.93	1.8-3.6
	SBarS	9/25/1996	Lahontan Mountain Sucker	80.00	2.26	2.0-2.6
	SBarS	9/25/1996	Tahoe Sucker	1.00	2.4	--
107	Nixon	10/13/1997	Brown Trout	2.00	3.05	1.0-5.1
	Nixon	10/13/1997	Lahontan Cutthroat Trout	2.00	1.35	1.3-1.4
	Nixon	10/13/1997	Rainbow Trout	2.00	1.4	1.4-1.4