Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*) Utilization of Croucher Creek, A Small Non-natal Tributary of the Upper Yukon River During 1993

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JUVENILE CHINOOK SALMON (*ONCORHYNCHUS TSHAWYTSCHA*) UTILIZATION OF CROUCHER CREEK, A SMALL NON-NATAL TRIBUTARY OF THE UPPER YUKON RIVER DURING 1993

by

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Moodie, S., J.A. Grout, and A. von Finster. 2000. Juvenile chinook salmon (*Oncorhynchus tshawytscha*) utilization of Croucher Creek, a small non-natal tributary of the upper Yukon River during 1993. Can. Manuscr. Rep. Fish. Aquat. Sci. 2531: 66 pp.

The use of Croucher Creek, a small non-natal tributary of the Upper Yukon River, by juvenile chinook salmon (*Oncorhynchus tshawytscha*) was investigated. Fish utilization of the stream was assessed by fishing minnow traps once a week between May and October, 1993. Age-1 chinook juveniles with a mean fork length of 79 mm (range 63–104 mm) and mean weight of 4.8 g (range 2.2–10.7 g) were present at the beginning of May and increased rapidly in size (0.33 mm d^{-1} and 0.08 g d^{-1}) before apparently leaving Croucher Creek in June at a mean size of 89 mm and 7.3 g. After mid-June only 2 age-1 chinook juveniles were caught. Age-0 chinook were first caught in Croucher Creek in June. Their mean mean fork length was 53 mm (range 33–66 mm) and mean weight was 1.5 g (range 0.4–2.9 g). Age-0 juveniles were caught in the stream for the remainder of the sampling period. Growth of age-0 chinook was rapid (0.31 mm d^{-1} and 0.03 g d^{-1}) from June through August but growth slowed as water temperatures declined in September. At the end of October, age-0 chinook had a mean size of 71 mm and 3.4 g. Overall catch per trap of age-0 fish declined with the onset of the fall season. Fewer age-0 chinook were caught in the upper parts of the creek but these fish were significantly larger than those caught nearer to the creek mouth. Croucher Creek was not utilized by chinook juveniles of hatchery origin as no fish with adipose fin clips were captured. Other species caught in Croucher Creek included rainbow trout (*Oncorhynchus mykiss*), slimy sculpin (*Cottus cognatus*), arctic grayling (*Thymallus arcticus*), longnose sucker (*Catostomus catostomus*), lake chub (*Couesius plumbeus*) and juvenile northern pike (*Esox lucius*).

RÉSUMÉ

Moodie, S., J.A. Grout, and A. von Finster. Juvenile chinook salmon (*Oncorhynchus tshawytscha*) utilization of Croucher Creek, a small non-natal tributary of the upper Yukon River during 1993. Can. Manuscr. Rep. Fish. Aquat. Sci. 2531: 66 pp.

Nous avons examiné l'utilisation du crique Croucher, petit affluent sans frayères du cours supérieur du Yukon, par des juvéniles de quinnat (*Oncorhynchus tshawytscha*). À cette fin, nous avons mouillé des pièges à ménés une fois par semaine entre mai et octobre 1993. Des juvéniles de quinnat d'âge 1, d'une longueur à la fourche moyenne de 79 mm (fourchette 63–104 mm) et d'un poids moyen de 4,8 g (fourchette 2,2–10,7 g), étaient présents au début de mai et ont connu une augmentation de taille rapide (0,33 mm d^{-1} et 0,08 g d^{-1}), puis semblent avoir quitté le crique Croucher en juin, à une taille moyenne de 89 mm et 7,3 g. Après la mi-juin, seuls deux juvéniles de quinnat d'âge 1 ont été capturés. C'est en juin que des quinnats d'âge 0 ont été capturés pour la première fois dans le crique. Leur longueur à la fourche moyenne était de 53 mm (fourchette 33–66 mm), et leur poids moyen de 1,5 g (fourchette 0,4–2,9 g). Pendant le reste de la période d'échantillonnage, ce sont des juvéniles d'âge 0 qui ont été capturés dans le cours d'eau. La croissance des quinnats d'âge 0 était rapide (0,31 mm d^{-1} et 0,03 g d^{-1}) de juin à août, mais elle a ralenti quand la température de l'eau a baissé en septembre. À la fin d'octobre, les quinnats d'âge 0 avaient une taille moyenne de 71 mm et 3,4 g. Les prises totales par piège de poissons d'âge 0 ont baissé avec le début de l'automne. Les quinnats d'âge 0 capturés dans les tronçons

supérieurs du crique étaient moins nombreux, mais ils étaient nettement plus gros que les spécimens capturés près de l'embouchure. Le crique Croucher n'était pas fréquenté par des quinnats juvéniles issus d'écloseries, car nous n'avons capturé aucun poisson ayant subi l'ablation de la nageoire adipeuse. Les autres espèces trouvées dans le crique Croucher étaient la truite arc-en-ciel (*Oncorhynchus mykiss*), le chabot visqueux (*Cottus cognatus*), l'ombre arctique (*Thymallus arcticus*), le meunier rouge (*Catostomus catostomus*), le méné de lac (*Couesius plumbeus*) et des juvéniles de grand brochet (*Esox lucius*).

INTRODUCTION

RATIONALE

Adult chinook salmon *(Oncorhynchus tshawytscha)* migrate from the Bering Sea up to 3000 km upstream in the Yukon River to spawning areas throughout the Yukon River Basin (Milligan et al. 1985; Beacham et al. 1989). Adults typically return at 5 to 7 years of age (Beacham et al. 1989) and spawning occurs from July through September (Morrow 1980). Fry emerge from spawning gravels in May at a size of 30–40 mm (Walker 1976; Murray et al. 1990). In the Yukon watershed, chinook salmon exhibit the 'stream-type' life history, with juveniles spending one (94%) or two winters in fresh water before migrating to the ocean (Beacham et al. 1989). Peak out migrations of chinook smolts occur between mid-May and mid-June (Brown et al. 1976; Walker 1976), with smolts reaching the Yukon estuary between June and August (Martin et al. 1987).

The freshwater habitat use of chinook juveniles is not well known, however, juveniles have been found rearing in spawning and small, non-natal tributaries of the Yukon River (Walker 1976; Beacham et al. 1989; Murray et al. 1990). It is crucial to understand the role that these small, non-natal (non-spawning) tributaries play in the productivity of salmon because they are often adversely affected by human activities but may be afforded less importance or protection than spawning areas. Impacts on streams associated with land use for agricultural, residential, recreational, industrial and associated activities are increasing in the upper Yukon River Drainage Basin. Unfortunately, the seasonal use of small non-natal streams for juvenile chinook salmon production is not well understood and their importance has not been examined.

Additionally, governments have spent substantial public funds on artificial propagation of chinook salmon in the upper Yukon Basin. Juvenile chinook salmon from the Whitehorse Rapids Hatchery and streamside incubation facilities have been released into creeks upstream of the Whitehorse Rapids Dam to rear in the natural environment. A portion of these fish were coded-wire tagged (cwt) and had their adipose fin clipped. However, little is known of the habitat requirements of these juvenile chinook between the time of release and their eventual return as adults.

STUDY OBJECTIVES

Specific objectives of this study were:

1. To document the distribution and abundance of wild and artificially propagated juvenile chinook salmon throughout an ice-free, open water season (usually May to October) in Croucher Creek, a small non-natal upper Yukon River tributary;
2. To determine the age, length, and weight of juvenile chinook salmon utilizing Croucher Creek throughout the ice-free period; and
3. To infer migration patterns of juvenile chinook salmon in Croucher Creek.

GENERAL STUDY AREA

DESCRIPTION OF DRAINAGE BASIN

Croucher Creek enters the Yukon River 7 km downstream of Whitehorse, Yukon Territory, Canada. The creek has a drainage area of 140 km^2 and a maximum elevation of 1200 m. The drainage basin has its origin in a mountainous area that includes a portion of the western slopes of Gray Ridge and the eastern slopes of Gray (Canyon) Mountain. The lower portion of the catchment is in a wide valley between those mountains and the Laberge Flats. The creek flows northwesterly to its confluence with the Yukon River.

GEOLOGY AND LANDFORMS

The basin is entirely within the glaciated portion of the Yukon River Basin. The lower section of the Croucher Creek basin is underlain by glacial, glaciolacustrine, and glaciofluvial features. There is little exposed bedrock. Exposed bedrock occurs only in the upper parts of the drainage basin. Rock types are limestone and limestone breccia to the west, and hornblende diorite to the east.

VEGETATION

The basin is entirely within the boreal forest. The ground cover varies from alpine forests of Black spruce (*Picea mariana*), White spruce (*Picea glauca*), and Alpine fir (*Abies lasicocarpa*) to lowland forests of spruce, Lodgepole pine (*Pinus contorta*), and aspen (*Populus tremuloides*). Balsam poplar (*Populus balsamifera*) and alder (*Alnus sp.*) are found in riparian areas. Steep south and west facing slopes are open and support a grass or sage cover. Saturated areas in valley bottoms are grass covered and surrounded by shrub communities. There have not been any fires in the drainage basin.

CLIMATE AND HYDROLOGY

The climate of the region is continental and variable with an average precipitation of 269 mm per year: 152 mm as rainfall and 117 mm as snowfall. Snow or rain may fall in any month. Regional climatic variability is caused by the movement of both interior and coastal air masses. Interior air masses bring warm to hot, dry weather in the summer, and cold to extremely cold, dry weather in the winter. Coastal air masses bring cool, moist weather in the summer, and mild weather in the winter. Wide variation in air temperatures have been observed: average July highs and lows are 20° and 8° C, and January averages are -17° and –25° C.

Climatological and hydrological measurements have not been made within the Croucher Creek drainage basin. The East Fork of Croucher Creek drains low, wet lands such as bogs, wet meadows, and ponds. The West Fork maintains significant flows throughout the winter, although there is little or no surface storage in the drainage basin. This indicates the likely presence of groundwater discharge.

AQUATIC RESOURCES

Spawning areas in the upper Yukon watershed above the Whitehorse Rapids Dam are probably the source of the chinook juveniles found in Croucher Creek. Adult chinook salmon have not been observed in Croucher Creek. Estimates of adult chinook spawners in the upper Yukon watershed each year range from 1000 to 2000 fish. Estimates are based on counts of adults travelling through a fish ladder at the Whitehorse Rapids Dam. Juveniles in Croucher Creek may also originate from releases of hatchery fry at sites above the Whitehorse Rapids.

Other fish species found in Croucher Creek include non-native rainbow trout (*O. mykiss*) introduced during the mid-1950's (Walker 1973), slimy sculpin (*Cottus cognatus*), Arctic grayling (*Thymallus arcticus*), longnose sucker (*Catostomus catostomus*), lake chub (*Couesius plumbeus*), and juvenile northern pike (*Esox lucius*). The native species are widely distributed in the Yukon River basin (Scott and Crossman 1973; Morrow 1980).

HUMAN ACTIVITIES

A portion of the drainage basin is within the boundaries of the City of Whitehorse. The remainder of the basin is administered by the Government of Canada and is claimed by the Ta'an Kwach'an and Kwanlin Dun First Nations under the Yukon Land Claims. The drainage basin has been relatively unaffected by human activity. Activities in the basin include:

- access: there are two crossings (one each of the East and West forks) of the creek by the Livingstone Trail (**Fig. 1**). There is an additional crossing of the West Fork (the Upper Road Crossing) but it was incorporated into a large beaver dam that has made the creek impassable at that point for at least 15 years. The Whitehorse-Aishihik-Faro electrical transmission line crosses both forks of the creek. Since the completion of our study, a new creek crossing was built about 1.5 km upstream of the confluence of Croucher Creek with the Yukon river to access a new sewage treatment plant to the north of Croucher Creek.
- First Nations: the area has served as traditional lands for both Kwanlin Dun and Ta'an Kwach'an First Nations. There is an established camp on a bluff overlooking the confluence of Croucher Creek and the Yukon River.
- fishing: beaver ponds upstream of the Livingstone Trail and Upper Road Crossings on the West Fork have yielded Arctic grayling for an extended period. More recently, rainbow trout have also been angled from this area.
- fur trapping: the basin is actively trapped.
- hunting: hunting is not permitted within the City of Whitehorse. Beyond the city boundaries, hunting of game birds and some large mammals occurs.
- quartz mining: there are claims on the East Fork and some exploration and assessment works. These are limited in extent and effect.
- recreation: the beaver pond upstream of the upper road crossing has been a favourite bird watching locale. There is some motorized and non-motorized use of the various trails (snow-machines, cross-country skiers, motorcycles, all terrain vehicles, mountain bikes, hikers, etc.).
- timber harvesting: the upland areas were extensively harvested prior to mechanized forestry. The streamside timber downstream of the Livingstone Trail Crossing of the West Fork has not been cut. Some fuel wood cutting takes place in the basin.

METHODS

Field work at Croucher Creek was carried out during 1993 after ice had melted from the creek. Initial reconnaissance work was conducted on May 5, 1993. Regular weekly sampling began on May 26 and continued until October 28, 1993.

STATION LOCATIONS

All stations were located in the lower 5 km of Croucher Creek, from the confluence with the Yukon River to the Upper Road Crossing (**Fig. 1**). Stations were chosen to provide easy access and divide the stream into roughly equal lengths. Sampling stations are described below:

Station 1 - The stream was a single channel 3-4 m wide with a gradient of <1%. The channel provided glide habitat, and backwaters during high stages in the Yukon River. Ice remained on May 5 and the creek was turbid. Streamside vegetation was predominately alder and was overhanging the channel. Substrate was primarily fine textured sediments with some embedded gravel/cobble.

Station 2 West - The West Fork had the majority of the flow relative to the East Fork, a gradient of <1%, and low water velocity. On May 6, the stream was turbid and ice was absent. Streamside vegetation was willow (*Salix sp.*), alder, and grass. Stream substrates were primarily fine textured materials.

Station 2 East - The East Fork had a gradient >2% where it entered the main stream channel and had a riffle pattern. Stream substrates were cobble and gravel. On May 6, the East Fork was clear and ice free.

Station 3 - The creek had a complex form, and was deep and narrow. Cover was extremely heavy, with large organic debris and overhanging banks and brush. Streamside vegetation was mainly mature spruce, balsam poplar, willow and alder. The gradient was 1 to 2%. The stream bed was composed of sorted gravels and cobbles. On May 6 the stream was clear and ice free.

Station 4 - The creek had a complex form and was deep and narrow. Cover was plentiful, with large organic debris, overhanging banks and some brush. Streamside vegetation was mainly mature spruce, balsam poplar, willow, and alder. Stream gradient was 1 to 2% and the stream bed was gravel and cobble. On May 6, the stream was clear and ice free.

FISH SAMPLING

Two baited Gee-type minnow traps, one each of fine mesh (3 mm) and coarse mesh (6 mm), were set at each of the four stations (Stations 1, 2 West, 3, and 4); only one coarse mesh trap was set at station 2 East. This arrangement yielded a total fishing effort of nine traps per week. Each trap was baited with about 25 g of unpreserved Yukon River salmon roe in a perforated plastic bag. Traps were set away from the main flow of the creek and tethered to the bank with cord. This method has been widely used for the capture of juvenile chinook in the

Yukon River basin (Beacham et al. 1989; Murray et al. 1990). After being allowed to fish for 24 hours, traps were retrieved and the catch was identified.

Juvenile chinook salmon and rainbow trout captured in the traps were anaesthetised and measured for fork length (mm). Weights were determined to $\pm 10^{-1}$ grams using an Acculab Pocket Pro 150-B portable electronic scale. Fish were then examined for adipose fin clips and released. Scale samples from a total of 263 chinook juveniles were taken at various times and locations from August 4 through October 28 for age determination. Scale samples were analysed by the Department of Fisheries and Oceans Fish Morphology Laboratory using Gilbert-Rich age code (Groot and Margolis 1991). All other species of fish caught were identified, enumerated, and released.

PHYSICAL MEASUREMENTS

Stream temperatures were measured with a hand-held thermometer at each station on a weekly basis. Water samples from stations 1, 2 East, 2 West, and 3 were collected in 1-L plastic bottles on a weekly basis and analysed for suspended solids (mg/L) in the laboratory (Eaton et al. 1995). Air temperatures were from the Whitehorse Airport (Climate Data Services, Environment Canada, 120-1200 W. 73rd Ave., Vancouver, B.C. V6P 6H9).

RESULTS

PHYSICAL CONDITIONS

Water temperatures in Croucher Creek increased rapidly in May, in association with warming air temperatures (**Fig. 2A**), and remained in a relatively stable range of 10° to 15°C from June through August (**Fig. 2B**). As air temperatures began to drop in September, the water temperatures dropped rapidly and approached 0° C by the end of October. Water temperature data for individual stations are given in Appendix 2.

Suspended sediments in Croucher Creek were 30 to 90 mg/L in May and June associated with the spring snow and ice melt flood (**Fig. 3**). From July through October, Croucher Creek was a clear water stream with suspended sediments usually <10 mg/L except during rainstorm activity. Data on suspended solids for each station are given in Appendix 2.

FISH DISTRIBUTION AND ABUNDANCE

Juvenile chinook salmon represented 85% of the total number of fish caught at all stations summed over the whole study followed by rainbow trout (5%), slimy sculpin (4%), and all others (6%) (**Table 1**). Complete catch data are provided (see **Appendix 1**).

Catches of age-0 and age-1 chinook salmon were highest in the lower 2 km of Croucher Creek from the mouth of the creek at the Yukon River to the confluence of the East and West forks (stations 1, 2E, and 2W) during the study (**Fig. 4**). Catch per trap of chinook juveniles was < 4 fish per trap upstream of the confluence of the East and West forks (i.e., stations 3 and 4). Coarse mesh (6 mm) traps had a mean catch per trap of 7.9 chinook juveniles, and fine mesh (3

mm) traps captured 5.3 juveniles per trap averaged over all stations and dates. No hatchery (adipose clipped) chinook juveniles were captured during the study.

AGE-SPECIFIC USE OF CROUCHER CREEK BY JUVENILE CHINOOK SALMON

All juveniles caught in the creek in May were likely age-1 or older based on their large size (mean length = 79 mm; range 63–104 mm, **Fig. 5**). Age-1 fish had a mean weight of 4.8 g (range 2.2–10.7 g). In June, age-1 fish were joined by a large number of smaller chinook salmon with a mean size of 53 mm (range 33–66 mm); we assumed that these were age-0 juveniles based on scale samples collected later in the summer (**Fig. 5**). The mean weight of age-0 fish was 1.5 g (range 0.4–2.9 g). Based on scale samples, chinook juveniles collected from the creek from August through October were almost entirely age-0 (98.9%) with only two age-1 (1.1%) fish (**Fig. 5**).

Catches of age-1 chinook salmon peaked in late May and they were not captured after the end of June, except for two fish (**Fig. 6A**). Age-1 fish increased in size in May and June at a rate of 0.33 mm d^{-1} and 0.08 g d^{-1} until they disappeared from the creek at a mean size of 89 mm and 7.3 g at the end of June (**Fig. 6B-C**).

Age-0 chinook salmon began to be caught in the traps in mid June as the age-1 chinook disappeared from the creek (**Fig. 6A**). Catch per trap of age-0 fish peaked in the third week of July. Decreases in the catch of age-0 fish began in late July but they were still being caught in late October when sampling ended. Of age-0 fish caught, mean size increased at a rate of 0.31 mm d^{-1} and 0.03 g d^{-1} from June through August, but growth slowed after September as water temperatures declined (**Fig. 6B-C**). At the end of October the mean size of age-0 chinook juveniles was 71 mm and 3.4 g, which represent increases of 58% in length and 240% in weight since they were first captured in mid-June.

SIZE-DEPENDENT HABITAT USE

Age-0 chinook juveniles were larger at stations located at greater distances from the mouth of Croucher Creek in September. Mean lengths of age-0 fish at each station in September were: station 1 (66 mm), 2W (68 mm), 2E (69 mm), and 3 (76 mm). Station 4 was excluded because only one age-0 fish was caught there in September. Age-0 fish at station 3 were significantly larger than age-0 fish caught in the lower reaches of Croucher Creek at stations 1, 2E, and 2W (2-Factor ANOVA, Tukey-Kramer test, $F_{4,252}= 13.72$, $p<0.0001$). We did not perform the same test for age-1 fish because too few were caught at stations 3 and 4.

DISCUSSION

USE OF CROUCHER CREEK BY JUVENILE CHINOOK SALMON

Age-0 and age-1 chinook salmon made extensive use of the lower 2 km of Croucher Creek. It has been speculated that chinook juveniles enter and ascend small streams in order to utilize food sources, to escape predation from fish and birds, to reduce exposure to suspended sediment, or to generally utilize habitats which are more favourable to small fish than those found in the larger rivers (Scrivener et al. 1994). Stomach contents of large predatory fish such as

inconnu (*Stenodus leucichthys*) from the Yukon River have contained large numbers of juvenile salmon (Walker 1976). Age-0 chinook salmon captured in the mainstem Yukon River were smaller than those captured in an adjacent tributary at the end of June (Walker 1976). Juvenile chinook salmon also had higher growth rates in a clear-water tributary of the Chena River, Alaska, relative to juveniles in the river (Walker 1983). Thus, small, clear, non-natal streams like Croucher Creek seem to provide critical rearing areas for juvenile chinook salmon to escape predators and optimize growth.

In May, juvenile chinook salmon caught in Croucher Creek were similar in length to age-1 chinook salmon captured in other areas of the Yukon watershed (Brown et al. 1976; Walker 1976; Murray et al. 1990), an indication that Croucher juveniles had overwintered somewhere in fresh water. Age-1 chinook underwent rapid growth during May and early June before they disappeared from Croucher Creek. We assume that age-1 chinook salmon migrated downstream in the Yukon River after they disappeared from Croucher Creek because they were similar in size to migrating smolts caught at the Whitehorse Rapids dam (Brown et al. 1976), Yukon River (Walker 1976), and Yukon River delta (Martin et al. 1987). Disappearance of age-1 fish from Croucher Creek also coincided with the late May and early June downstream migration of age-1 juveniles at the nearby Whitehorse Rapids Dam (Brown et al. 1976) and Yukon River (Walker 1976). Only two age-1 chinook remained in Croucher Creek at the end of the summer, possibly to spend an additional year in fresh water as a small percentage of juveniles (6%) do in the Upper Yukon River (Beacham et al. 1989).

Age-0 chinook juveniles in the Upper Yukon River usually emerge from their spawning redds in May at a size ranging from 30 to 40 mm (Walker 1976; Murray et al. 1990). We did not catch any age-0 chinook of this size in Croucher Creek in May. Age-0 chinook juveniles caught in June were >10 mm larger than would be expected for emergent fry. This suggests that age-0 juveniles caught in June likely migrated from natal areas into Croucher Creek through the Yukon River. This conclusion is supported by similar sizes of the age-0 fish caught in Croucher Creek and those caught in the main stem of Yukon River in June (Walker 1976).

Age-0 juveniles reared in Croucher Creek throughout the summer. Disappearance of age-1 chinook salmon in June resulted in relatively little overlap in habitat utilization by age-0 and age-1 year classes. Summer rearing also appeared to be exclusively age-0 juveniles during July in another tributary of the Yukon River (Walker 1976). In late summer, age-0 juveniles in Croucher Creek tended to be of same length or slightly larger than juveniles collected in other Yukon tributaries (Walker 1976; Beacham et al. 1989; Murray et al. 1990). At the end of October, age-0 fish had attained sizes similar to age-1 fish caught earlier in May. This suggests that age-1 juveniles caught in May, 1993, may have been age-0 juveniles that entered the creek during the summer of 1992 and overwintered in Croucher Creek with little increase in size. However, we are not aware of any direct evidence of age-0 fish overwintering in non-natal streams to support this hypothesis. Murray et al. (1990) and Beacham et al. (1989) report overwintering of chinook juveniles in fresh water, although no winter sampling was done to confirm the locations of the fish.

During September and October captures of age-0 chinook salmon decreased as water temperatures declined. Age-0 juveniles may leave small tributary streams in the fall as earlier work suggests (Walker 1976). It is also possible that chinook juveniles moved away from areas where our traps were set or catchability of chinook salmon decreased due to reduced effectiveness of baits and reduced activity levels of the fish in the near-freezing water.

EVIDENCE OF SIZE-DEPENDENT HABITAT USE

Mean lengths of age-0 chinook juveniles increased with distance from the mouth of the creek. Fish upstream of the confluence of the East and West forks of Croucher Creek were significantly larger than those at downstream stations. This pattern has also been observed in Flat Creek near Whitehorse (A. von Finster, unpublished data). It is unclear if chinook salmon found further upstream in these creeks reached a larger size because of better foraging conditions. It is possible these fish had simply been in the stream for a longer period of time or that their larger size allowed them to access areas inaccessible to smaller fish. The low catch per trap of chinook juveniles at stations 3 and 4 above the confluence of the East and West forks suggests that access to these areas may have been limited. A moderate gradient section between Station 2W and Station 3 or a large beaver dam (approx. 1 m in height) above the Livingstone Trail crossing of the West Fork could have been impassable to all but the largest juveniles.

USE OF CROUCHER CREEK BY HATCHERY CHINOOK SALMON JUVENILES

The age-1 chinook juveniles captured in Croucher Creek would have emerged from their spawning beds in 1992, and age-0 fish would have emerged in early 1993. In 1992, the Whitehorse Hatchery released 400,449 chinook juveniles, and in 1993, 441,445 were released. In each of these years approximately 150,000 fish had coded-wire tags applied and the adipose fins clipped. While our evidence may not be conclusive because only about one-third of all the hatchery-released fish had clipped adipose fins, none of the 1701 age-0 and age-1 chinook salmon captured in our study had clipped fins.

SUMMARY

This study offers the most complete account to date of the seasonal utilization of a non-natal habitat by two age classes of juvenile chinook salmon in the Yukon area. Small, clear, non-natal streams like Croucher Creek appear to be important for the rearing of age-0 and age-1 chinook juveniles for the entire open water season from May to October. Our results suggest some avenues for future research. First, the use of Croucher Creek for overwintering by juvenile chinook should be explored. Second, while migration into and out of Croucher Creek has been inferred from trends in our minnow trap catches over time, direct evidence of the timing and numbers of juveniles entering and leaving the creek should be determined with a counting fence and mark-recapture studies.

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Table 1. Summary of species and cumulative catch of fish caught by minnow traps at each station from May to October, 1993.

Station	No. traps	Juvenile chinook salmon	Rainbow trout	Slimy sculpin	Longnose sucker	Lake chub	Other
1	2	395	8	28	19	14	1 np*
2E + 2W	3	1194	59	22	5	58	-
3	2	97	19	8	5	8	1 ag+
4	2	15	20	16	0	4	1 ag+
Cumulative catch		1701	106	74	29	84	3

*Northern pike
+Arctic grayling

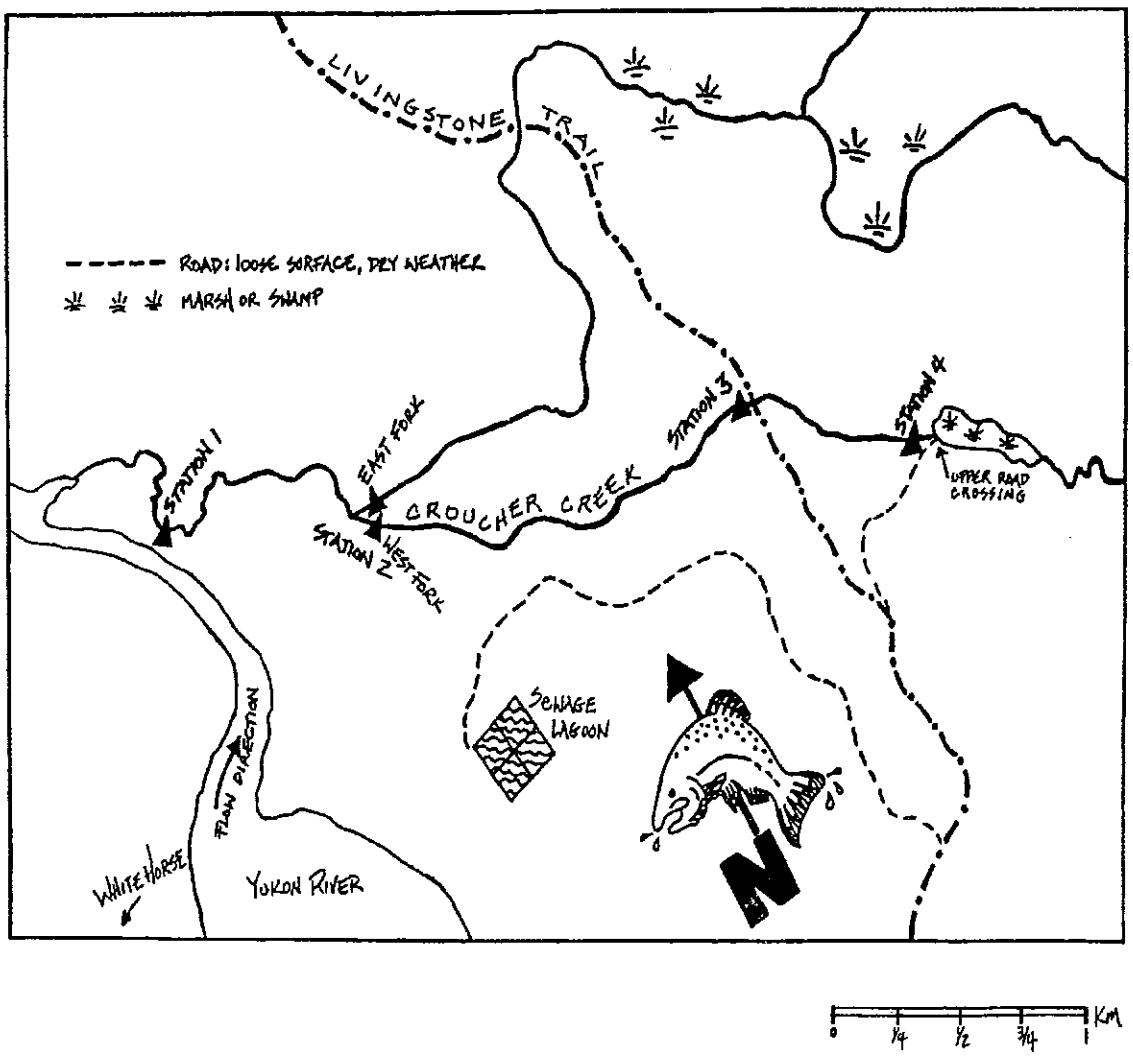

Fig. 1. Map of Croucher Creek and station locations in 1993.

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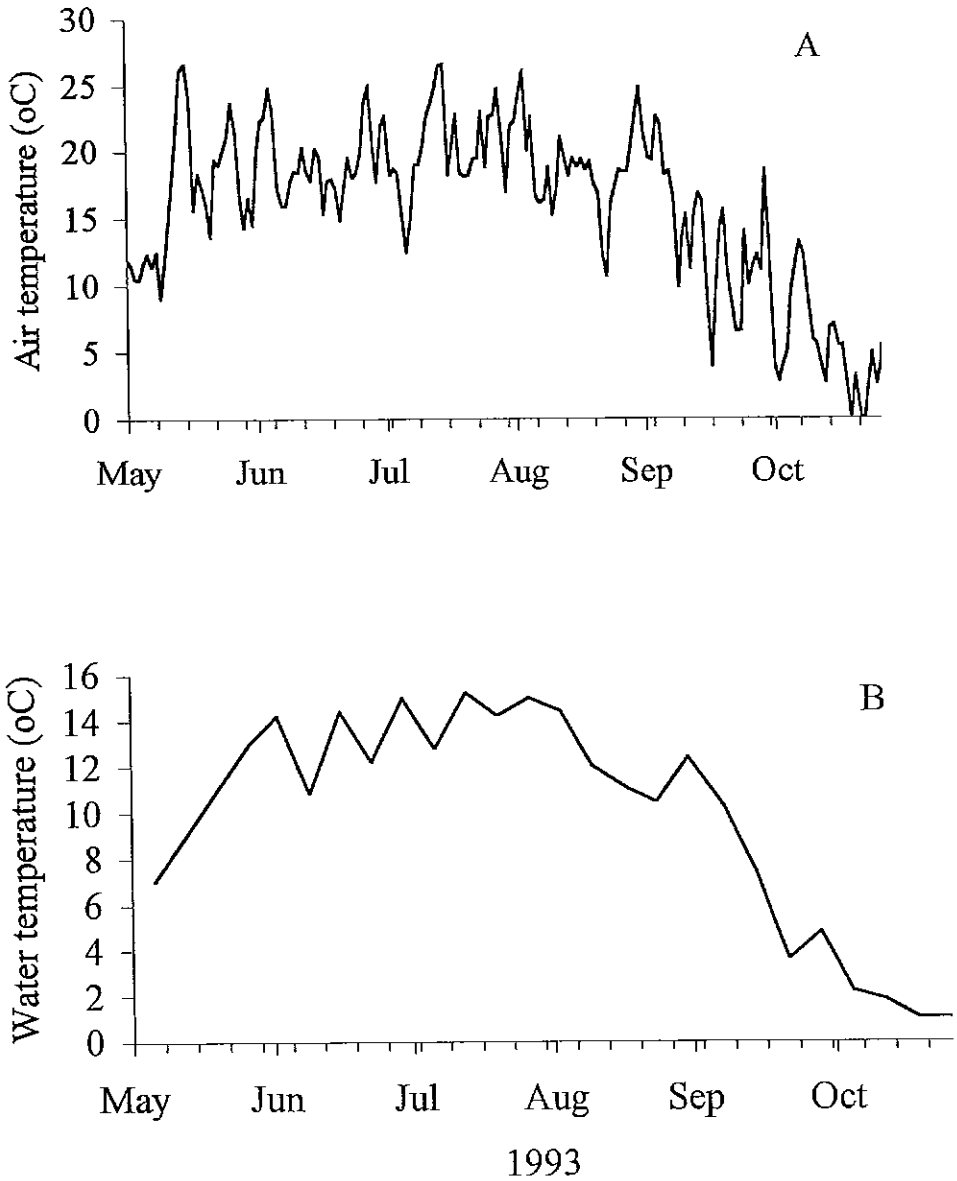

Fig. 2. Daily mean air temperatures from Whitehorse Airport during May to October, 1993 (A), and mean water temperatures from all stations in Coucher Creek recorded during weekly sampling events (B).

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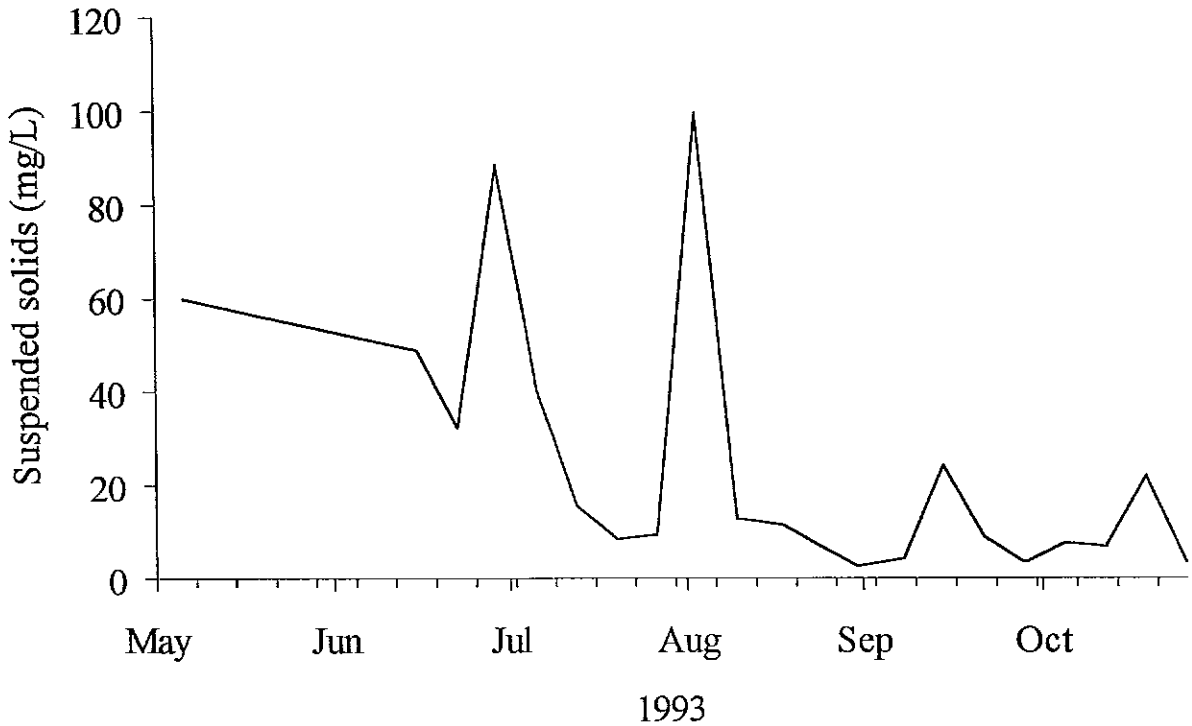

Fig. 3. Mean suspended solid concentrations (mg/L) in Croucher Creek measuring during weekly sampling events from May to October, 1993, and averaged across all stations.

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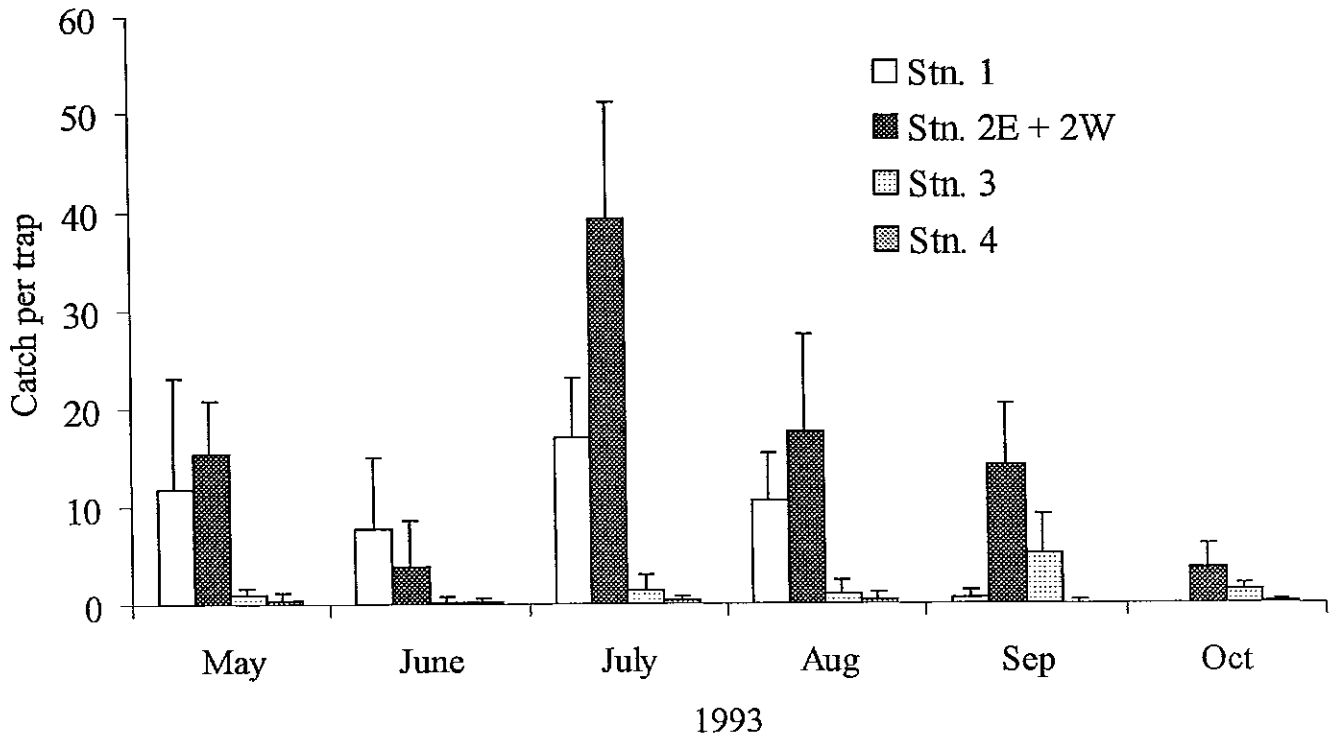

Fig. 4. Mean monthly catch per minnow trap (+SE) of juvenile chinook salmon at each station in Croucher Creek from May to October, 1993.

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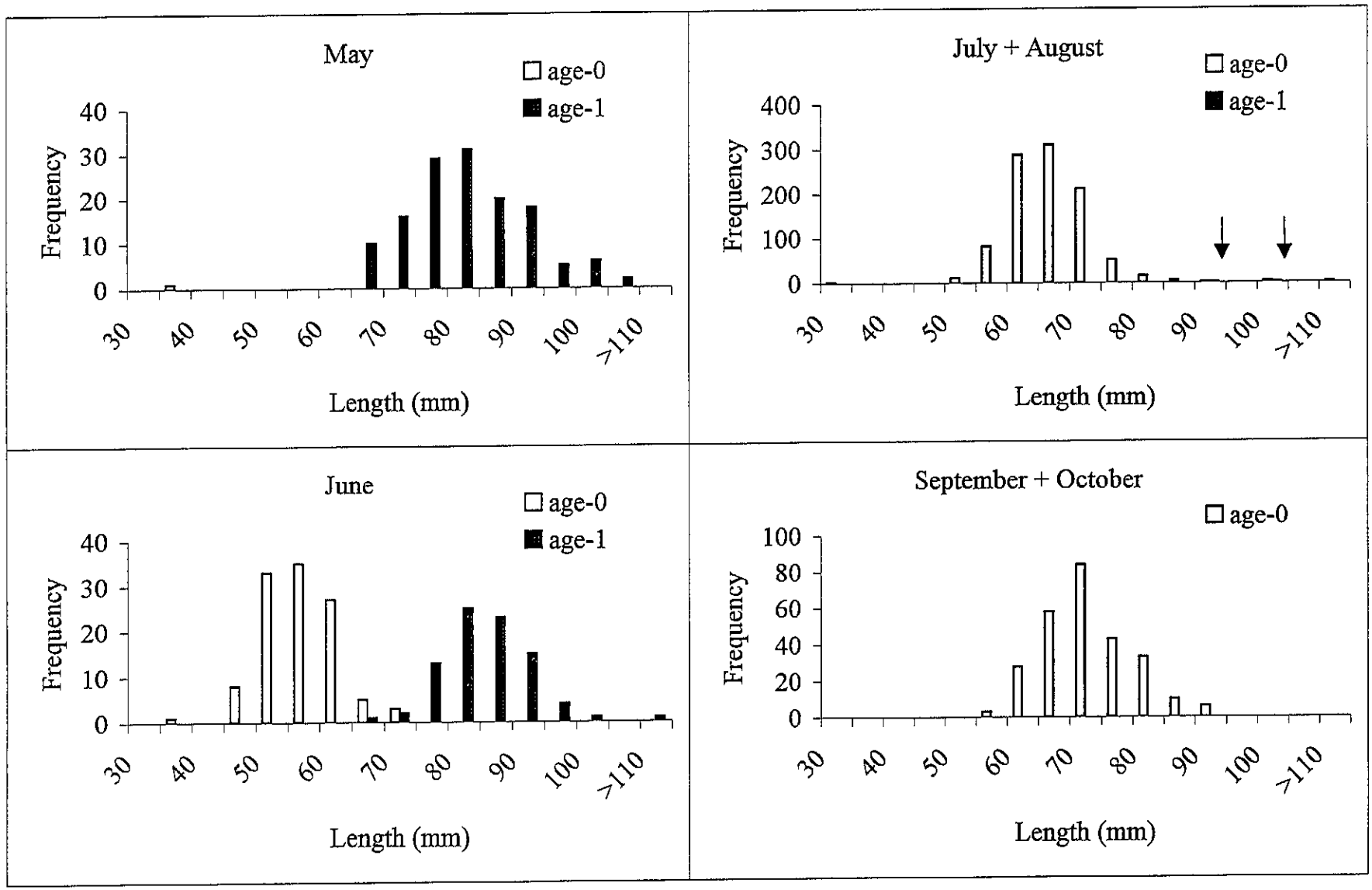

Fig. 5. Monthly distributions of fork lengths (mm) of age-0 and age-1 chinook salmon caught in minnow traps at stations 1, 2E and 2W. In July and August panel, vertical arrows indicate single age-1 chinook salmon.

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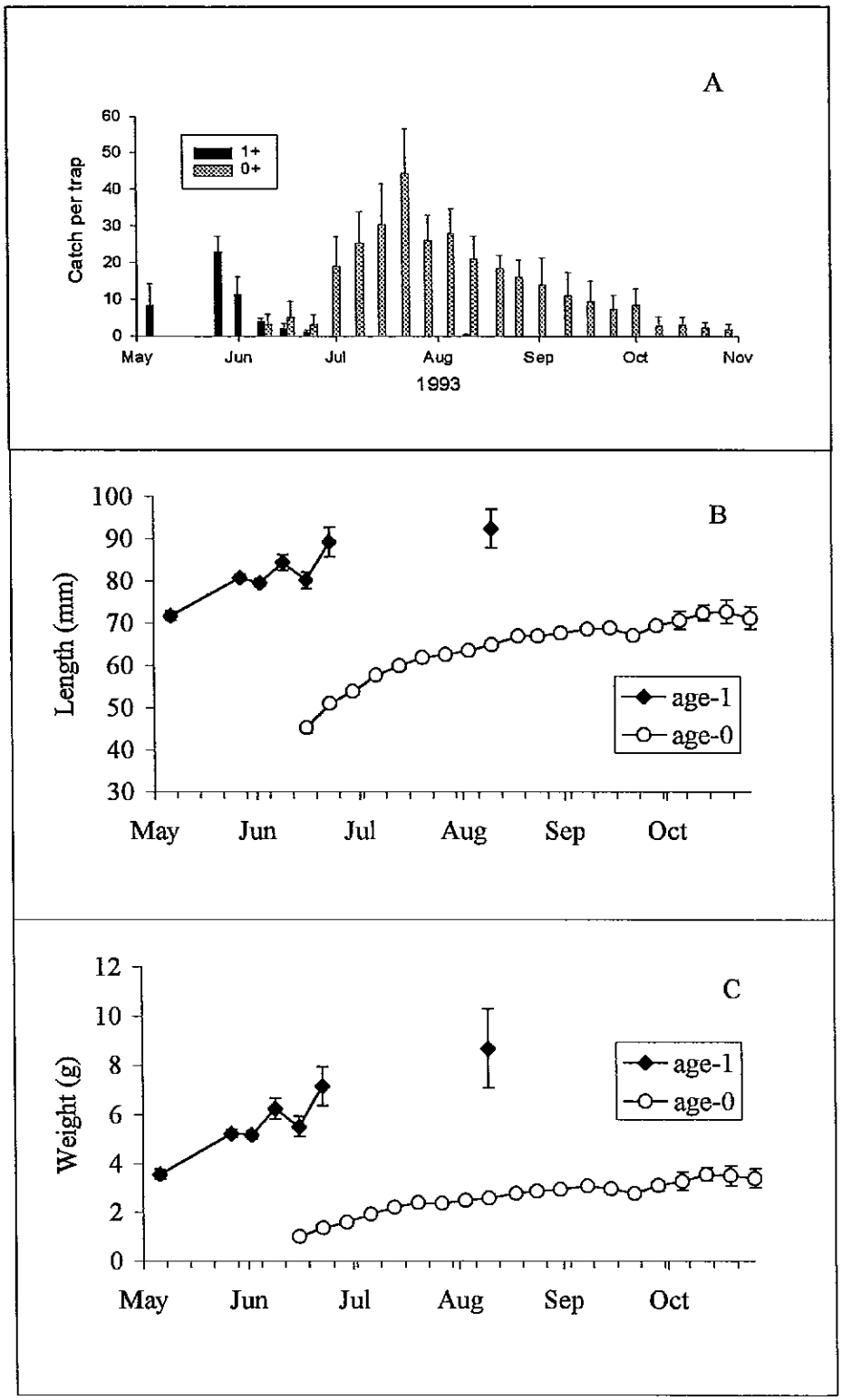

Fig. 6. Mean weekly catch per minnow trap (+SE) of 0+ and 1+ juvenile chinook salmon at stations 1, 2E and 2W (5 minnow traps) from May to October, 1993 (A). Age determinations were based on differences in lengths, weights and age analyses of scale samples. Mean fork length (+/-SE) of 0+ and 1+ juvenile chinook salmon from stations 1, 2E and 2W from May to October, 1993 (B), and mean weight (+/-SE) (C).

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APPENDICES

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Appendix 1. Minnow trap catch of all species by sampling date and station and lengths and weights of juvenile chinook salmon and rainbow trout.

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	3mm	6-May-1993	.	.	.	No Catch
1	3mm	27-May-1993	87	5.2	ch	
1	3mm	27-May-1993	80	5.2	ch	
1	3mm	27-May-1993	89	6.7	ch	
1	3mm	27-May-1993	69	3.2	ch	
1	3mm	27-May-1993	87	5.9	ch	
1	3mm	27-May-1993	98	8.6	ch	
1	3mm	27-May-1993	98	8.2	ch	
1	3mm	27-May-1993	85	5.7	ch	
1	3mm	27-May-1993	77	4.4	ch	
1	3mm	27-May-1993	76	4.4	ch	
1	3mm	27-May-1993	104	10	ch	
1	3mm	27-May-1993	36	0.3	ch	
1	3mm	2-Jun-1993	83	5.5	ch	1 Cyprinid
1	3mm	2-Jun-1993	96	8.4	ch	
1	3mm	2-Jun-1993	78	4.9	ch	
1	3mm	2-Jun-1993	94	8.2	ch	
1	3mm	2-Jun-1993	62	2.7	ch	
1	3mm	9-Jun-1993	91	7.2	ch	1 Sculpin
1	3mm	9-Jun-1993	87	6.8	ch	
1	3mm	9-Jun-1993	89	5.5	ch	
1	3mm	16-Jun-1993	31	0.4	ch	5 Sculpins, 1 Caddis Fly
1	3mm	16-Jun-1993	50	0.8	ch	
1	3mm	23-Jun-1993	.	.	.	4 Sculpins
1	3mm	30-Jun-1993	54	1.7	ch	
1	3mm	30-Jun-1993	47	1.1	ch	
1	3mm	30-Jun-1993	53	1.2	ch	
1	3mm	30-Jun-1993	48	1.1	ch	
1	3mm	30-Jun-1993	60	2.2	ch	
1	3mm	30-Jun-1993	52	1.8	ch	
1	3mm	30-Jun-1993	49	1.2	ch	
1	3mm	30-Jun-1993	55	1.6	ch	
1	3mm	30-Jun-1993	49	1.2	ch	
1	3mm	30-Jun-1993	59	2	ch	
1	3mm	7-Jul-1993	60	1.8	ch	
1	3mm	7-Jul-1993	55	1.5	ch	
1	3mm	7-Jul-1993	58	1.8	ch	
1	3mm	7-Jul-1993	59	2.1	ch	
1	3mm	7-Jul-1993	68	2	ch	
1	3mm	7-Jul-1993	56	1.9	ch	
1	3mm	7-Jul-1993	51	1.4	ch	
1	3mm	7-Jul-1993	50	1.4	ch	
1	3mm	7-Jul-1993	48	1.2	ch	
1	3mm	7-Jul-1993	62	2.1	ch	
1	3mm	7-Jul-1993	66	2.6	ch	
1	3mm	7-Jul-1993	62	2.3	ch	

Appendix 1. (Continued)

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	3mm	7-Jul-1993	56	1.5	ch	
1	3mm	7-Jul-1993	54	1.3	ch	
1	3mm	7-Jul-1993	53	1.9	ch	
1	3mm	7-Jul-1993	63	2.3	ch	
1	3mm	7-Jul-1993	59	2.3	ch	
1	3mm	7-Jul-1993	52	1.5	ch	
1	3mm	14-Jul-1993	56	1.7	ch	5 Sculpins, 1 Long Nose Sucker
1	3mm	14-Jul-1993	72	3.8	ch	
1	3mm	14-Jul-1993	58	1.7	ch	
1	3mm	14-Jul-1993	59	2.7	ch	
1	3mm	14-Jul-1993	68	3.1	ch	
1	3mm	14-Jul-1993	60	2.6	ch	
1	3mm	14-Jul-1993	62	2.6	ch	
1	3mm	14-Jul-1993	55	1.4	ch	
1	3mm	14-Jul-1993	57	1.6	ch	
1	3mm	14-Jul-1993	59	2.2	ch	
1	3mm	14-Jul-1993	55	1.5	ch	
1	3mm	14-Jul-1993	55	1.6	ch	
1	3mm	14-Jul-1993	51	1.5	ch	
1	3mm	14-Jul-1993	67	2.3	ch	
1	3mm	21-Jul-1993	59	1.8	ch	1 Sculpin, 3 Long Nose Suckers
1	3mm	21-Jul-1993	63	2.4	ch	
1	3mm	21-Jul-1993	70	3.4	ch	
1	3mm	21-Jul-1993	64	2.2	ch	
1	3mm	21-Jul-1993	56	1.7	ch	
1	3mm	21-Jul-1993	65	2.3	ch	
1	3mm	21-Jul-1993	57	1.9	ch	
1	3mm	21-Jul-1993	66	3	ch	
1	3mm	21-Jul-1993	56	1.6	ch	
1	3mm	21-Jul-1993	54	1.6	ch	
1	3mm	21-Jul-1993	61	2.3	ch	
1	3mm	21-Jul-1993	59	2	ch	
1	3mm	21-Jul-1993	52	1.4	ch	
1	3mm	21-Jul-1993	55	1.8	ch	
1	3mm	21-Jul-1993	57	2	ch	
1	3mm	21-Jul-1993	66	2.7	Rbt	
1	3mm	21-Jul-1993	56	1.7	Rbt	
1	3mm	21-Jul-1993	53	1.7	Rbt	
1	3mm	28-Jul-1993	68	2.8	ch	2 Sculpins, 1 Long Nose Sucker
1	3mm	28-Jul-1993	62	2.2	ch	
1	3mm	28-Jul-1993	66	2.3	ch	
1	3mm	28-Jul-1993	57	1.5	ch	
1	3mm	28-Jul-1993	53	1.4	ch	
1	3mm	28-Jul-1993	63	2	ch	
1	3mm	28-Jul-1993	55	1.8	ch	
1	3mm	28-Jul-1993	59	1.8	ch	
1	3mm	28-Jul-1993	59	2.2	ch	
1	3mm	28-Jul-1993	58	2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	3mm	28-Jul-1993	62	2.6	ch	
1	3mm	28-Jul-1993	68	2.8	ch	
1	3mm	28-Jul-1993	54	2	ch	
1	3mm	28-Jul-1993	59	2	ch	
1	3mm	28-Jul-1993	64	2.7	ch	
1	3mm	28-Jul-1993	64	2.5	ch	
1	3mm	28-Jul-1993	67	2.7	ch	
1	3mm	28-Jul-1993	64	2	ch	
1	3mm	28-Jul-1993	62	2.2	ch	
1	3mm	28-Jul-1993	64	2.3	ch	
1	3mm	28-Jul-1993	56	1.7	ch	
1	3mm	28-Jul-1993	60	2.2	Rbt	
1	3mm	4-Aug-1993	60	1.5	ch	2 Sculpins, 2 Long Nose Suckers
1	3mm	4-Aug-1993	66	2.4	ch	
1	3mm	4-Aug-1993	70	3.5	ch	
1	3mm	4-Aug-1993	63	2.4	ch	
1	3mm	4-Aug-1993	61	2.1	ch	
1	3mm	4-Aug-1993	60	2	ch	
1	3mm	4-Aug-1993	67	2.4	ch	
1	3mm	4-Aug-1993	60	2.2	ch	
1	3mm	4-Aug-1993	70	3.6	ch	
1	3mm	4-Aug-1993	70	3	ch	
1	3mm	4-Aug-1993	68	2.8	ch	
1	3mm	4-Aug-1993	59	2.1	ch	
1	3mm	4-Aug-1993	71	3.8	ch	
1	3mm	4-Aug-1993	62	2.2	ch	
1	3mm	4-Aug-1993	68	2.9	ch	
1	3mm	4-Aug-1993	57	1.6	ch	
1	3mm	4-Aug-1993	60	2.1	ch	
1	3mm	4-Aug-1993	64	2.4	ch	
1	3mm	4-Aug-1993	60	2.1	ch	
1	3mm	4-Aug-1993	63	2.7	ch	
1	3mm	4-Aug-1993	62	2.3	ch	
1	3mm	4-Aug-1993	57	1.9	ch	
1	3mm	4-Aug-1993	59	1.9	ch	
1	3mm	11-Aug-1993	61	2	ch	
1	3mm	11-Aug-1993	65	2.8	ch	
1	3mm	11-Aug-1993	63	2.6	ch	
1	3mm	11-Aug-1993	62	2.5	ch	
1	3mm	11-Aug-1993	62	2.3	ch	
1	3mm	11-Aug-1993	63	2.3	ch	
1	3mm	11-Aug-1993	64	2.2	ch	
1	3mm	11-Aug-1993	58	1.7	ch	
1	3mm	11-Aug-1993	70	2.8	ch	
1	3mm	11-Aug-1993	63	2.5	ch	
1	3mm	19-Aug-1993	66	2.7	ch	
1	3mm	19-Aug-1993	63	2.7	ch	
1	3mm	19-Aug-1993	70	3.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	3mm	19-Aug-1993	70	3.5	ch	
1	3mm	19-Aug-1993	62	2.2	ch	
1	3mm	19-Aug-1993	64	2.8	ch	
1	3mm	19-Aug-1993	63	2.3	ch	
1	3mm	19-Aug-1993	63	2.1	ch	
1	3mm	19-Aug-1993	64	2.5	ch	
1	3mm	19-Aug-1993	64	3.1	ch	
1	3mm	19-Aug-1993	65	2.5	ch	
1	3mm	19-Aug-1993	67	3.2	ch	
1	3mm	19-Aug-1993	67	2.4	ch	
1	3mm	19-Aug-1993	68	3	ch	
1	3mm	25-Aug-1993	67	2.6	ch	
1	3mm	25-Aug-1993	67	2.8	ch	
1	3mm	25-Aug-1993	65	2.8	ch	
1	3mm	25-Aug-1993	70	3.4	ch	
1	3mm	25-Aug-1993	62	1.9	ch	
1	3mm	25-Aug-1993	66	2.9	ch	
1	3mm	25-Aug-1993	65	2.7	ch	
1	3mm	25-Aug-1993	61	1.9	ch	
1	3mm	25-Aug-1993	70	2.4	ch	
1	3mm	25-Aug-1993	66	2.9	ch	
1	3mm	1-Sep-1993	68	3.1	ch	
1	3mm	1-Sep-1993	58	1.5	ch	
1	3mm	1-Sep-1993	62	2.2	ch	
1	3mm	9-Sep-1993	.	.	.	1 Water Beetle
1	3mm	16-Sep-1993	.	.	.	1 Juvinile Northern Pike
1	3mm	23-Sep-1993	.	.	.	1 Water Beetle
1	3mm	30-Sep-1993	72	3.6	ch	
1	3mm	7-Oct-1993	.	.	.	1 Sculpin
1	3mm	14-Oct-1993	.	.	.	No Catch
1	3mm	21-Oct-1993	.	.	.	1 Sculpin
1	3mm	28-Oct-1993	.	.	.	No Catch
1	6mm	6-May-1993	.	.	.	1 Sculpin, Mesh trapped in sand
1	6mm	27-May-1993	74	3.8	ch	
1	6mm	27-May-1993	79	4.9	ch	
1	6mm	27-May-1993	87	6.6	ch	
1	6mm	27-May-1993	100	10.5	ch	
1	6mm	27-May-1993	89	6.4	ch	
1	6mm	27-May-1993	98	9.1	ch	
1	6mm	27-May-1993	90	7	ch	
1	6mm	27-May-1993	88	6.6	ch	
1	6mm	27-May-1993	78	4.4	ch	
1	6mm	27-May-1993	76	3.7	ch	
1	6mm	27-May-1993	74	3.8	ch	
1	6mm	27-May-1993	84	5.5	ch	
1	6mm	27-May-1993	83	5.5	ch	
1	6mm	27-May-1993	82	5.3	ch	
1	6mm	27-May-1993	71	3.5	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	6mm	27-May-1993	75	3.8	ch	
1	6mm	27-May-1993	84	6	ch	
1	6mm	27-May-1993	93	7.3	ch	
1	6mm	27-May-1993	73	3.6	ch	
1	6mm	27-May-1993	78	5	ch	
1	6mm	27-May-1993	75	4.9	ch	
1	6mm	27-May-1993	98	9.6	ch	
1	6mm	27-May-1993	80	5.6	ch	
1	6mm	27-May-1993	80	4.9	ch	
1	6mm	27-May-1993	75	4	ch	
1	6mm	27-May-1993	74	3.9	ch	
1	6mm	27-May-1993	83	6	ch	
1	6mm	27-May-1993	79	5.5	ch	
1	6mm	27-May-1993	85	6.1	ch	
1	6mm	27-May-1993	80	4.8	ch	
1	6mm	27-May-1993	65	2.8	ch	
1	6mm	27-May-1993	88	6	ch	
1	6mm	27-May-1993	75	3.9	ch	
1	6mm	27-May-1993	76	3.7	ch	
1	6mm	2-Jun-1993	87	6.6	ch	
1	6mm	2-Jun-1993	88	7	ch	
1	6mm	2-Jun-1993	84	6	ch	
1	6mm	2-Jun-1993	77	4.7	ch	
1	6mm	2-Jun-1993	88	7.2	ch	
1	6mm	2-Jun-1993	84	4.9	ch	
1	6mm	2-Jun-1993	90	7.2	ch	
1	6mm	2-Jun-1993	80	4.9	ch	
1	6mm	2-Jun-1993	80	5	ch	
1	6mm	2-Jun-1993	80	4.7	ch	
1	6mm	2-Jun-1993	76	4.2	ch	
1	6mm	9-Jun-1993	79	5	ch	
1	6mm	9-Jun-1993	90	7.4	ch	
1	6mm	9-Jun-1993	79	5.5	ch	
1	6mm	16-Jun-1993	77	4.7	ch	2 Caddis Flies
1	6mm	16-Jun-1993	75	4.3	ch	
1	6mm	16-Jun-1993	88	7.4	ch	
1	6mm	16-Jun-1993	77	5.4	ch	
1	6mm	16-Jun-1993	82	5.7	ch	
1	6mm	16-Jun-1993	70	3.4	ch	
1	6mm	16-Jun-1993	43	1.5	ch	
1	6mm	16-Jun-1993	45	0.8	ch	
1	6mm	16-Jun-1993	47	1.1	ch	
1	6mm	16-Jun-1993	47	0.7	ch	
1	6mm	16-Jun-1993	45	0.8	ch	
1	6mm	16-Jun-1993	45	1	ch	
1	6mm	16-Jun-1993	47	1.1	ch	
1	6mm	16-Jun-1993	49	1.5	ch	
1	6mm	16-Jun-1993	47	1.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	6mm	16-Jun-1993	45	1.1	ch	
1	6mm	16-Jun-1993	47	1.3	ch	
1	6mm	16-Jun-1993	46	1	ch	
1	6mm	23-Jun-1993	48	1.3	ch	1 Cyprinid, 1 Long Nose Sucker
1	6mm	23-Jun-1993	51	1.2	ch	
1	6mm	23-Jun-1993	49	1.2	ch	
1	6mm	23-Jun-1993	53	1.6	ch	
1	6mm	23-Jun-1993	52	1.7	ch	
1	6mm	23-Jun-1993	49	1.1	ch	
1	6mm	23-Jun-1993	45	1.1	Rbt	
1	6mm	23-Jun-1993	54	1.5	ch	
1	6mm	23-Jun-1993	53	1.2	ch	
1	6mm	23-Jun-1993	47	0.9	ch	
1	6mm	30-Jun-1993	52	1.5	ch	2 Sculpins, 1 Long Nose Sucker
1	6mm	30-Jun-1993	50	1.2	ch	
1	6mm	30-Jun-1993	56	1.7	ch	
1	6mm	30-Jun-1993	50	1.2	ch	
1	6mm	30-Jun-1993	48	1.1	ch	
1	6mm	30-Jun-1993	56	1.9	ch	
1	6mm	30-Jun-1993	51	1.4	ch	
1	6mm	30-Jun-1993	47	1.1	ch	
1	6mm	30-Jun-1993	44	0.9	ch	
1	6mm	30-Jun-1993	49	1.3	ch	
1	6mm	30-Jun-1993	58	2	ch	
1	6mm	30-Jun-1993	52	1.3	ch	
1	6mm	30-Jun-1993	51	1.3	ch	
1	6mm	30-Jun-1993	56	1.6	ch	
1	6mm	30-Jun-1993	51	1.4	ch	
1	6mm	30-Jun-1993	54	1.3	ch	
1	6mm	30-Jun-1993	48	1.2	ch	
1	6mm	30-Jun-1993	47	1.2	ch	
1	6mm	30-Jun-1993	52	1.5	ch	
1	6mm	30-Jun-1993	49	1.2	ch	
1	6mm	30-Jun-1993	49	1.6	ch	
1	6mm	30-Jun-1993	47	1.7	ch	
1	6mm	30-Jun-1993	50	1.7	ch	
1	6mm	30-Jun-1993	52	1.3	ch	
1	6mm	30-Jun-1993	46	0.9	ch	
1	6mm	30-Jun-1993	53	1.5	ch	
1	6mm	30-Jun-1993	50	1.5	ch	
1	6mm	30-Jun-1993	55	1.6	ch	
1	6mm	30-Jun-1993	44	0.8	ch	
1	6mm	30-Jun-1993	50	1.4	ch	
1	6mm	30-Jun-1993	49	1.2	ch	
1	6mm	30-Jun-1993	54	1.3	ch	
1	6mm	30-Jun-1993	51	1.3	ch	
1	6mm	30-Jun-1993	53	1.5	ch	
1	6mm	30-Jun-1993	48	1.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	6mm	30-Jun-1993	51	1.2	ch	
1	6mm	30-Jun-1993	51	1.3	ch	
1	6mm	30-Jun-1993	44	0.8	ch	
1	6mm	30-Jun-1993	54	1.6	ch	
1	6mm	30-Jun-1993	49	1.1	ch	
1	6mm	30-Jun-1993	60	1.9	ch	
1	6mm	7-Jul-1993	56	2.4	ch	
1	6mm	7-Jul-1993	50	1.2	ch	
1	6mm	7-Jul-1993	52	1.9	ch	
1	6mm	7-Jul-1993	51	1.7	ch	
1	6mm	7-Jul-1993	49	1.8	ch	
1	6mm	14-Jul-1993	64	2.4	ch	1 Sculpin
1	6mm	14-Jul-1993	58	2.2	ch	
1	6mm	14-Jul-1993	62	2.3	ch	
1	6mm	14-Jul-1993	64	3	ch	
1	6mm	14-Jul-1993	54	1.5	ch	
1	6mm	14-Jul-1993	63	2.5	ch	
1	6mm	14-Jul-1993	62	2	ch	
1	6mm	14-Jul-1993	57	1.4	ch	
1	6mm	14-Jul-1993	52	1.3	ch	
1	6mm	14-Jul-1993	56	1.5	ch	
1	6mm	14-Jul-1993	48	1.2	ch	
1	6mm	14-Jul-1993	54	1.9	ch	
1	6mm	14-Jul-1993	52	1.3	ch	
1	6mm	14-Jul-1993	48	1.5	ch	
1	6mm	14-Jul-1993	52	1.6	ch	
1	6mm	14-Jul-1993	53	1.7	ch	
1	6mm	14-Jul-1993	51	1.3	ch	
1	6mm	14-Jul-1993	53	1.3	ch	
1	6mm	14-Jul-1993	50	1.6	ch	
1	6mm	21-Jul-1993	54	1.8	ch	1 Long Nosed Sucker
1	6mm	21-Jul-1993	63	2.4	ch	
1	6mm	21-Jul-1993	59	1.9	ch	
1	6mm	21-Jul-1993	57	2.1	ch	
1	6mm	21-Jul-1993	61	2.3	ch	
1	6mm	21-Jul-1993	56	2.3	ch	
1	6mm	21-Jul-1993	57	2.2	ch	
1	6mm	21-Jul-1993	58	2	ch	
1	6mm	21-Jul-1993	58	2.1	ch	
1	6mm	21-Jul-1993	51	1.1	ch	
1	6mm	21-Jul-1993	56	1.9	ch	
1	6mm	21-Jul-1993	57	1.9	ch	
1	6mm	21-Jul-1993	69	3.1	ch	
1	6mm	21-Jul-1993	54	1.5	ch	
1	6mm	21-Jul-1993	59	1.8	ch	
1	6mm	21-Jul-1993	64	2.5	ch	
1	6mm	21-Jul-1993	61	2.6	ch	
1	6mm	21-Jul-1993	71	3.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	6mm	21-Jul-1993	57	2	ch	
1	6mm	21-Jul-1993	66	2.6	ch	
1	6mm	21-Jul-1993	59	2.2	ch	
1	6mm	21-Jul-1993	61	3.3	ch	
1	6mm	21-Jul-1993	52	1.7	ch	
1	6mm	21-Jul-1993	57	2	ch	
1	6mm	21-Jul-1993	57	1.7	ch	
1	6mm	21-Jul-1993	59	2.1	ch	
1	6mm	21-Jul-1993	68	2.9	ch	
1	6mm	21-Jul-1993	54	1.9	ch	
1	6mm	21-Jul-1993	56	1.9	ch	
1	6mm	21-Jul-1993	56	1.6	ch	
1	6mm	21-Jul-1993	63	2.3	ch	
1	6mm	21-Jul-1993	58	1.9	ch	
1	6mm	21-Jul-1993	63	2.7	ch	
1	6mm	21-Jul-1993	68	3	Rbt	
1	6mm	21-Jul-1993	69	3	Rbt	
1	6mm	21-Jul-1993	60	2.2	Rbt	
1	6mm	28-Jul-1993	57	2	ch	
1	6mm	28-Jul-1993	61	2.2	ch	
1	6mm	28-Jul-1993	62	2.2	ch	
1	6mm	28-Jul-1993	56	2.1	ch	
1	6mm	28-Jul-1993	57	1.7	ch	
1	6mm	28-Jul-1993	64	2.3	ch	
1	6mm	28-Jul-1993	60	1.9	ch	
1	6mm	28-Jul-1993	64	2.3	ch	
1	6mm	28-Jul-1993	62	2.2	ch	
1	6mm	4-Aug-1993	62	2.3	ch	8 Cyprinids, 4 Long Nose Suckers
1	6mm	4-Aug-1993	65	2.5	ch	
1	6mm	4-Aug-1993	63	2.2	ch	
1	6mm	4-Aug-1993	62	2.4	ch	
1	6mm	4-Aug-1993	59	2.2	ch	
1	6mm	4-Aug-1993	59	1.8	ch	
1	6mm	4-Aug-1993	65	2.6	ch	
1	6mm	4-Aug-1993	62	2.5	ch	
1	6mm	4-Aug-1993	64	2.6	ch	
1	6mm	4-Aug-1993	65	2.5	ch	
1	6mm	4-Aug-1993	66	2.6	ch	
1	6mm	4-Aug-1993	63	2	ch	
1	6mm	4-Aug-1993	58	2.2	ch	
1	6mm	4-Aug-1993	63	2.6	ch	
1	6mm	4-Aug-1993	59	2	ch	
1	6mm	11-Aug-1993	62	2.3	ch	1 Cyniprid, 3 Long Nose Suckers
1	6mm	11-Aug-1993	61	2.2	ch	
1	6mm	11-Aug-1993	63	2.5	ch	
1	6mm	11-Aug-1993	74	4.2	ch	
1	6mm	11-Aug-1993	64	2.5	ch	
1	6mm	11-Aug-1993	61	1.9	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
1	6mm	11-Aug-1993	61	2.20	ch	
1	6mm	11-Aug-1993	59	1.8	ch	
1	6mm	11-Aug-1993	59	2.4	ch	
1	6mm	11-Aug-1993	65	3	ch	
1	6mm	11-Aug-1993	58	1.3	ch	
1	6mm	19-Aug-1993	68	2.6	ch	1 Long Nose Sucker, 1 Cyprinid
1	6mm	19-Aug-1993	65	2.2	ch	
1	6mm	19-Aug-1993	72	3.8	ch	
1	6mm	19-Aug-1993	70	2.8	ch	
1	6mm	19-Aug-1993	63	2.2	ch	
1	6mm	19-Aug-1993	63	2.4	ch	
1	6mm	19-Aug-1993	62	2.2	ch	
1	6mm	19-Aug-1993	80	5	ch	
1	6mm	19-Aug-1993	67	2.9	ch	
1	6mm	19-Aug-1993	61	2.4	ch	
1	6mm	19-Aug-1993	63	2.2	ch	
1	6mm	19-Aug-1993	70	3.5	ch	
1	6mm	19-Aug-1993	62	2.2	ch	
1	6mm	25-Aug-1993	67	2.9	ch	
1	6mm	25-Aug-1993	61	2.2	ch	
1	6mm	25-Aug-1993	67	2.5	ch	
1	6mm	25-Aug-1993	66	3	ch	
1	6mm	25-Aug-1993	64	2.7	ch	
1	6mm	25-Aug-1993	67	2.8	ch	
1	6mm	25-Aug-1993	64	2.5	ch	
1	6mm	25-Aug-1993	63	2.4	ch	
1	6mm	25-Aug-1993	60	1.8	ch	
1	6mm	1-Sep-1993	.	.	.	No Catch
1	6mm	9-Sep-1993	.	.	.	2 Sculpins, 1 Water Beelte
1	6mm	16-Sep-1993	.	.	.	1 Long Nose Sucker, 1 Water Beetle
1	6mm	23-Sep-1993	69	3.3	ch	1 Cyprinid, 1 Water Beetle
1	6mm	30-Sep-1993	61	2.1	ch	1Sculpin
1	6mm	30-Sep-1993	72	3	ch	
1	6mm	7-Oct-1993	.	.	.	1 Cyprinid, 1 Water Beetle
1	6mm	14-Oct-1993	.	.	.	No Catch
1	6mm	21-Oct-1993	.	.	.	No Catch
1	6mm	28-Oct-1993	.	.	.	No Catch
2W	3mm	6-May-1993	70	4.2	ch	
2W	3mm	6-May-1993	79	4.9	ch	
2W	3mm	6-May-1993	70	3.8	ch	
2W	3mm	6-May-1993	78	4.5	ch	
2W	3mm	6-May-1993	63	2.4	ch	
2W	3mm	6-May-1993	72	3.6	ch	
2W	3mm	6-May-1993	76	4.5	ch	
2W	3mm	6-May-1993	73	3.7	ch	
2W	3mm	27-May-1993	86	4.2	ch	1 Caddis Fly
2W	3mm	27-May-1993	67	2.3	ch	
2W	3mm	27-May-1993	89	7	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	27-May-1993	82	6	ch	
2W	3mm	27-May-1993	70	2.9	ch	
2W	3mm	27-May-1993	82	4.5	ch	
2W	3mm	27-May-1993	82	4.8	ch	
2W	3mm	27-May-1993	85	6	ch	
2W	3mm	27-May-1993	86	6.1	ch	
2W	3mm	27-May-1993	94	7.9	ch	
2W	3mm	27-May-1993	89	5.7	ch	
2W	3mm	27-May-1993	88	6.3	ch	
2W	3mm	27-May-1993	74	3.6	ch	
2W	3mm	27-May-1993	63	2.6	ch	
2W	3mm	27-May-1993	91	7.4	ch	
2W	3mm	27-May-1993	91	7.5	ch	
2W	3mm	27-May-1993	94	7.9	ch	
2W	3mm	27-May-1993	69	3.2	ch	
2W	3mm	27-May-1993	69	3.1	ch	
2W	3mm	27-May-1993	76	4.4	ch	
2W	3mm	27-May-1993	79	4.6	ch	
2W	3mm	27-May-1993	81	5.2	ch	
2W	3mm	2-Jun-1993	78	4.1	ch	2 Cyprinids
2W	3mm	2-Jun-1993	76	4.5	ch	
2W	3mm	2-Jun-1993	81	4.9	ch	
2W	3mm	2-Jun-1993	78	4.6	ch	
2W	3mm	9-Jun-1993	82	5.3	ch	1 Sculpin, 2 Cyprinids
2W	3mm	9-Jun-1993	88	7.1	ch	
2W	3mm	16-Jun-1993	82	5.7	ch	5 Cyprinids
2W	3mm	16-Jun-1993	83	6.6	ch	
2W	3mm	22-Jun-1993	95	9.2	ch	6 Cyprinids, 2 Sculpins, 1 LNS
2W	3mm	30-Jun-1993	53	1.3	ch	3 Sculpins, 1 Cyprinid
2W	3mm	30-Jun-1993	61	1.6	ch	
2W	3mm	30-Jun-1993	62	2.4	ch	
2W	3mm	30-Jun-1993	63	2.2	ch	
2W	3mm	30-Jun-1993	56	1.9	ch	
2W	3mm	30-Jun-1993	58	1.9	ch	
2W	3mm	30-Jun-1993	57	1.6	ch	
2W	3mm	30-Jun-1993	53	1.8	ch	
2W	3mm	30-Jun-1993	56	2	ch	
2W	3mm	30-Jun-1993	57	1.5	ch	
2W	3mm	30-Jun-1993	59	1.6	ch	
2W	3mm	30-Jun-1993	66	2.6	ch	
2W	3mm	30-Jun-1993	59	2.2	ch	
2W	3mm	30-Jun-1993	59	2.2	ch	
2W	3mm	30-Jun-1993	56	1.6	ch	
2W	3mm	30-Jun-1993	65	2.6	ch	
2W	3mm	30-Jun-1993	66	2.7	ch	
2W	3mm	30-Jun-1993	59	2.5	ch	
2W	3mm	30-Jun-1993	55	1.8	ch	
2W	3mm	30-Jun-1993	55	1.6	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	30-Jun-1993	52	1.6	Rbt	
2W	3mm	30-Jun-1993	54	1.6	Rbt	
2W	3mm	30-Jun-1993	58	1.6	Rbt	
2W	3mm	30-Jun-1993	64	2.2	Rbt	
2W	3mm	30-Jun-1993	57	1.9	Rbt	
2W	3mm	30-Jun-1993	53	1.6	Rbt	
2W	3mm	30-Jun-1993	58	1.7	Rbt	
2W	3mm	30-Jun-1993	53	1.6	Rbt	
2W	3mm	30-Jun-1993	54	1.6	Rbt	
2W	3mm	30-Jun-1993	69	3.2	Rbt	
2W	3mm	30-Jun-1993	55	1.9	Rbt	
2W	3mm	30-Jun-1993	54	1.5	Rbt	
2W	3mm	7-Jul-1993	63	2.6	ch	
2W	3mm	7-Jul-1993	68	3.2	ch	
2W	3mm	7-Jul-1993	63	2.3	ch	
2W	3mm	7-Jul-1993	66	2.2	ch	
2W	3mm	7-Jul-1993	64	2.5	ch	
2W	3mm	7-Jul-1993	64	2.4	ch	
2W	3mm	7-Jul-1993	60	2	ch	
2W	3mm	7-Jul-1993	54	1.2	ch	
2W	3mm	7-Jul-1993	58	1.8	ch	
2W	3mm	7-Jul-1993	64	1.9	ch	
2W	3mm	7-Jul-1993	54	1.3	ch	
2W	3mm	7-Jul-1993	58	1.9	ch	
2W	3mm	7-Jul-1993	51	1.1	ch	
2W	3mm	7-Jul-1993	57	1.9	ch	
2W	3mm	7-Jul-1993	60	2.5	ch	
2W	3mm	7-Jul-1993	59	1.8	ch	
2W	3mm	7-Jul-1993	63	2.4	ch	
2W	3mm	7-Jul-1993	56	1.5	ch	
2W	3mm	7-Jul-1993	57	1.7	ch	
2W	3mm	7-Jul-1993	60	2.4	ch	
2W	3mm	7-Jul-1993	55	2	ch	
2W	3mm	7-Jul-1993	49	1.5	ch	
2W	3mm	7-Jul-1993	62	2.1	ch	
2W	3mm	7-Jul-1993	59	2.3	ch	
2W	3mm	7-Jul-1993	62	2.3	ch	
2W	3mm	7-Jul-1993	56	1.6	ch	
2W	3mm	7-Jul-1993	68	3.1	ch	
2W	3mm	7-Jul-1993	59	1.9	ch	
2W	3mm	7-Jul-1993	56	1.7	ch	
2W	3mm	7-Jul-1993	69	2.8	ch	
2W	3mm	7-Jul-1993	56	1.5	ch	
2W	3mm	7-Jul-1993	60	2.2	ch	
2W	3mm	7-Jul-1993	60	1.9	ch	
2W	3mm	7-Jul-1993	53	1.9	ch	
2W	3mm	7-Jul-1993	52	1.7	ch	
2W	3mm	7-Jul-1993	68	3.1	Rbt	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	7-Jul-1993	62	2.6	Rbt	
2W	3mm	7-Jul-1993	60	2.2	Rbt	
2W	3mm	7-Jul-1993	55	1.7	Rbt	
2W	3mm	7-Jul-1993	60	1.9	Rbt	
2W	3mm	7-Jul-1993	65	2.6	Rbt	
2W	3mm	7-Jul-1993	61	2	Rbt	
2W	3mm	7-Jul-1993	58	1.7	Rbt	
2W	3mm	7-Jul-1993	59	2.3	Rbt	
2W	3mm	14-Jul-1993	56	2.2	ch	1 Sculpin
2W	3mm	14-Jul-1993	66	2.7	ch	
2W	3mm	14-Jul-1993	64	2.7	ch	
2W	3mm	14-Jul-1993	72	4	ch	
2W	3mm	14-Jul-1993	70	3.6	ch	
2W	3mm	14-Jul-1993	60	1.7	ch	
2W	3mm	14-Jul-1993	64	2.6	ch	
2W	3mm	14-Jul-1993	58	1.7	ch	
2W	3mm	14-Jul-1993	65	2.8	ch	
2W	3mm	14-Jul-1993	59	1.9	ch	
2W	3mm	14-Jul-1993	60	1.8	ch	
2W	3mm	14-Jul-1993	56	1.5	ch	
2W	3mm	14-Jul-1993	59	2.1	ch	
2W	3mm	14-Jul-1993	60	2.2	ch	
2W	3mm	14-Jul-1993	60	2.3	ch	
2W	3mm	14-Jul-1993	60	2.1	ch	
2W	3mm	14-Jul-1993	58	1.8	ch	
2W	3mm	14-Jul-1993	62	2.5	ch	
2W	3mm	14-Jul-1993	56	2	ch	
2W	3mm	14-Jul-1993	63	2.6	ch	
2W	3mm	14-Jul-1993	64	2.5	ch	
2W	3mm	14-Jul-1993	54	1.5	ch	
2W	3mm	14-Jul-1993	55	1.6	ch	
2W	3mm	14-Jul-1993	54	1.4	ch	
2W	3mm	14-Jul-1993	54	1.7	ch	
2W	3mm	21-Jul-1993	64	2.6	ch	
2W	3mm	21-Jul-1993	71	3.1	ch	
2W	3mm	21-Jul-1993	62	2.3	ch	
2W	3mm	21-Jul-1993	62	2.2	ch	
2W	3mm	21-Jul-1993	64	2.4	ch	
2W	3mm	21-Jul-1993	59	1.9	ch	
2W	3mm	21-Jul-1993	67	1.7	ch	
2W	3mm	21-Jul-1993	65	2.3	ch	
2W	3mm	21-Jul-1993	66	3	ch	
2W	3mm	21-Jul-1993	68	3.1	ch	
2W	3mm	21-Jul-1993	64	2.4	ch	
2W	3mm	21-Jul-1993	60	2.2	ch	
2W	3mm	21-Jul-1993	63	2.5	ch	
2W	3mm	21-Jul-1993	62	2.3	ch	
2W	3mm	21-Jul-1993	61	2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	21-Jul-1993	61	1.9	ch	
2W	3mm	21-Jul-1993	64	2.4	ch	
2W	3mm	21-Jul-1993	62	1.9	ch	
2W	3mm	21-Jul-1993	64	2.4	ch	
2W	3mm	21-Jul-1993	60	2.3	ch	
2W	3mm	21-Jul-1993	61	2.1	ch	
2W	3mm	21-Jul-1993	62	2.4	ch	
2W	3mm	21-Jul-1993	70	3.7	ch	
2W	3mm	21-Jul-1993	61	2.2	ch	
2W	3mm	21-Jul-1993	68	3.1	ch	
2W	3mm	21-Jul-1993	59	2.2	ch	
2W	3mm	21-Jul-1993	73	3.9	ch	
2W	3mm	21-Jul-1993	70	2.7	ch	
2W	3mm	21-Jul-1993	66	2.9	ch	
2W	3mm	21-Jul-1993	54	1.3	ch	
2W	3mm	21-Jul-1993	70	3.3	ch	
2W	3mm	21-Jul-1993	70	3.8	ch	
2W	3mm	21-Jul-1993	57	1.8	ch	
2W	3mm	21-Jul-1993	54	1.5	ch	
2W	3mm	21-Jul-1993	58	1.8	ch	
2W	3mm	21-Jul-1993	61	2.4	ch	
2W	3mm	21-Jul-1993	57	1.7	ch	
2W	3mm	21-Jul-1993	64	2.4	ch	
2W	3mm	21-Jul-1993	59	1.9	ch	
2W	3mm	21-Jul-1993	60	2.1	ch	
2W	3mm	21-Jul-1993	55	1.6	ch	
2W	3mm	21-Jul-1993	64	2.9	ch	
2W	3mm	21-Jul-1993	62	2.4	ch	
2W	3mm	21-Jul-1993	61	2.8	ch	
2W	3mm	21-Jul-1993	60	2.1	ch	
2W	3mm	21-Jul-1993	70	3.4	ch	
2W	3mm	21-Jul-1993	62	2.4	ch	
2W	3mm	21-Jul-1993	71	3.6	ch	
2W	3mm	21-Jul-1993	58	2	ch	
2W	3mm	21-Jul-1993	58	2	ch	
2W	3mm	21-Jul-1993	63	2.3	ch	
2W	3mm	21-Jul-1993	65	2.3	ch	
2W	3mm	21-Jul-1993	61	2.3	Rbt	
2W	3mm	28-Jul-1993	72	3.3	ch	
2W	3mm	28-Jul-1993	69	3.4	ch	
2W	3mm	28-Jul-1993	64	2.7	ch	
2W	3mm	28-Jul-1993	70	3.3	ch	
2W	3mm	28-Jul-1993	62	2.3	ch	
2W	3mm	28-Jul-1993	55	1.6	ch	
2W	3mm	28-Jul-1993	65	2.8	ch	
2W	3mm	28-Jul-1993	64	2.3	ch	
2W	3mm	28-Jul-1993	74	4.6	ch	
2W	3mm	28-Jul-1993	63	2.6	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	28-Jul-1993	63	2.2	ch	
2W	3mm	28-Jul-1993	57	1.7	ch	
2W	3mm	28-Jul-1993	59	2.1	ch	
2W	3mm	28-Jul-1993	63	2.4	ch	
2W	3mm	28-Jul-1993	56	1.6	ch	
2W	3mm	28-Jul-1993	62	2.6	ch	
2W	3mm	28-Jul-1993	69	2.7	ch	
2W	3mm	28-Jul-1993	67	3.1	ch	
2W	3mm	28-Jul-1993	67	2.7	ch	
2W	3mm	28-Jul-1993	61	2	ch	
2W	3mm	28-Jul-1993	57	1.7	ch	
2W	3mm	28-Jul-1993	78	4.5	ch	
2W	3mm	28-Jul-1993	69	3.1	ch	
2W	3mm	28-Jul-1993	60	2	ch	
2W	3mm	28-Jul-1993	53	1.1	ch	
2W	3mm	28-Jul-1993	61	2.3	ch	
2W	3mm	28-Jul-1993	61	2.3	ch	
2W	3mm	28-Jul-1993	62	1.9	ch	
2W	3mm	28-Jul-1993	64	2.1	ch	
2W	3mm	28-Jul-1993	66	2.4	ch	
2W	3mm	28-Jul-1993	61	2.1	ch	
2W	3mm	28-Jul-1993	58	2.2	ch	
2W	3mm	28-Jul-1993	70	3.5	ch	
2W	3mm	28-Jul-1993	65	2.7	ch	
2W	3mm	28-Jul-1993	59	2	ch	
2W	3mm	28-Jul-1993	68	3.3	ch	
2W	3mm	4-Aug-1993	71	3.3	ch	2 Cyprinids
2W	3mm	4-Aug-1993	56	1.6	ch	
2W	3mm	4-Aug-1993	64	2.8	ch	
2W	3mm	4-Aug-1993	68	3	ch	
2W	3mm	4-Aug-1993	63	2.3	ch	
2W	3mm	4-Aug-1993	66	2.8	ch	
2W	3mm	4-Aug-1993	68	2.9	ch	
2W	3mm	4-Aug-1993	61	2.7	ch	
2W	3mm	4-Aug-1993	68	2.7	ch	
2W	3mm	4-Aug-1993	65	3.7	ch	
2W	3mm	4-Aug-1993	66	2.8	ch	
2W	3mm	4-Aug-1993	57	1.9	ch	
2W	3mm	4-Aug-1993	60	2	ch	
2W	3mm	4-Aug-1993	61	2.2	ch	
2W	3mm	4-Aug-1993	57	1.7	ch	
2W	3mm	4-Aug-1993	64	2.2	ch	
2W	3mm	4-Aug-1993	62	2.2	ch	
2W	3mm	4-Aug-1993	63	2.2	ch	
2W	3mm	4-Aug-1993	62	2.3	ch	
2W	3mm	4-Aug-1993	58	1.7	ch	
2W	3mm	4-Aug-1993	64	2.3	ch	
2W	3mm	4-Aug-1993	63	2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	4-Aug-1993	74	4	ch	
2W	3mm	4-Aug-1993	64	2.7	ch	
2W	3mm	4-Aug-1993	61	2.1	ch	
2W	3mm	4-Aug-1993	59	1.8	ch	
2W	3mm	4-Aug-1993	67	2.7	ch	
2W	3mm	4-Aug-1993	68	3.1	ch	
2W	3mm	11-Aug-1993	72	3.8	ch	
2W	3mm	11-Aug-1993	67	2.5	ch	
2W	3mm	11-Aug-1993	77	4.5	ch	
2W	3mm	11-Aug-1993	63	2.1	ch	
2W	3mm	11-Aug-1993	69	2.9	ch	
2W	3mm	11-Aug-1993	70	3.1	ch	
2W	3mm	11-Aug-1993	61	2	ch	
2W	3mm	11-Aug-1993	61	2.4	ch	
2W	3mm	11-Aug-1993	64	2.4	ch	
2W	3mm	11-Aug-1993	77	4.9	ch	
2W	3mm	11-Aug-1993	97	10.3	ch	
2W	3mm	11-Aug-1993	66	2.3	ch	
2W	3mm	11-Aug-1993	62	2	ch	
2W	3mm	11-Aug-1993	65	2.8	ch	
2W	3mm	11-Aug-1993	74	3.5	ch	
2W	3mm	11-Aug-1993	63	2.3	ch	
2W	3mm	11-Aug-1993	71	3.1	ch	
2W	3mm	11-Aug-1993	70	3.1	ch	
2W	3mm	11-Aug-1993	73	3.7	ch	
2W	3mm	11-Aug-1993	62	2.2	ch	
2W	3mm	11-Aug-1993	57	1.7	ch	
2W	3mm	11-Aug-1993	58	1.7	ch	
2W	3mm	11-Aug-1993	75	4.3	ch	
2W	3mm	11-Aug-1993	59	1.7	ch	
2W	3mm	11-Aug-1993	64	2.2	ch	
2W	3mm	11-Aug-1993	72	3.3	ch	
2W	3mm	11-Aug-1993	62	2.2	ch	
2W	3mm	11-Aug-1993	75	4.1	ch	
2W	3mm	11-Aug-1993	76	4.2	ch	
2W	3mm	11-Aug-1993	75	3.9	ch	
2W	3mm	11-Aug-1993	66	2.7	ch	
2W	3mm	11-Aug-1993	63	2.4	ch	
2W	3mm	11-Aug-1993	60	1.9	ch	
2W	3mm	11-Aug-1993	66	2.7	ch	
2W	3mm	19-Aug-1993	67	2.5	ch	2 Long Nose Suckers
2W	3mm	19-Aug-1993	76	3.4	ch	
2W	3mm	19-Aug-1993	70	3.4	ch	
2W	3mm	19-Aug-1993	68	2.8	ch	
2W	3mm	19-Aug-1993	61	2	ch	
2W	3mm	19-Aug-1993	70	2.8	ch	
2W	3mm	19-Aug-1993	77	4.1	ch	
2W	3mm	19-Aug-1993	70	2.7	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	19-Aug-1993	68	3.3	ch	
2W	3mm	19-Aug-1993	77	3.5	ch	
2W	3mm	19-Aug-1993	63	2	ch	
2W	3mm	19-Aug-1993	67	2	ch	
2W	3mm	19-Aug-1993	63	2.5	ch	
2W	3mm	19-Aug-1993	68	2.7	ch	
2W	3mm	19-Aug-1993	62	2.2	ch	
2W	3mm	19-Aug-1993	68	2.9	ch	
2W	3mm	19-Aug-1993	57	1.4	ch	
2W	3mm	19-Aug-1993	68	3	ch	
2W	3mm	19-Aug-1993	64	2.5	ch	
2W	3mm	19-Aug-1993	74	3.4	ch	
2W	3mm	19-Aug-1993	63	1.6	ch	
2W	3mm	19-Aug-1993	67	2.4	ch	
2W	3mm	19-Aug-1993	66	2.8	ch	
2W	3mm	19-Aug-1993	67	2.8	ch	
2W	3mm	19-Aug-1993	66	2.6	ch	
2W	3mm	19-Aug-1993	59	2.3	ch	
2W	3mm	19-Aug-1993	65	2.2	ch	
2W	3mm	19-Aug-1993	68	2.9	ch	
2W	3mm	25-Aug-1993	63	2.1	ch	
2W	3mm	25-Aug-1993	67	2.6	ch	
2W	3mm	25-Aug-1993	60	2.4	ch	
2W	3mm	25-Aug-1993	62	2.1	ch	
2W	3mm	25-Aug-1993	68	3	ch	
2W	3mm	25-Aug-1993	73	4	ch	
2W	3mm	25-Aug-1993	70	2.9	ch	
2W	3mm	25-Aug-1993	60	1.9	ch	
2W	3mm	25-Aug-1993	58	2	ch	
2W	3mm	25-Aug-1993	61	2.2	ch	
2W	3mm	25-Aug-1993	67	2.9	ch	
2W	3mm	25-Aug-1993	73	3.4	ch	
2W	3mm	25-Aug-1993	74	2.8	ch	
2W	3mm	25-Aug-1993	74	3.7	ch	
2W	3mm	25-Aug-1993	59	2	ch	
2W	3mm	25-Aug-1993	72	2.9	ch	
2W	3mm	1-Sep-1993	78	4.6	ch	
2W	3mm	1-Sep-1993	55	1.5	ch	
2W	3mm	1-Sep-1993	80	4.8	ch	
2W	3mm	1-Sep-1993	67	2.6	ch	
2W	3mm	1-Sep-1993	70	3.2	ch	
2W	3mm	1-Sep-1993	61	2	ch	
2W	3mm	1-Sep-1993	72	3.5	ch	
2W	3mm	1-Sep-1993	62	2.2	ch	
2W	3mm	1-Sep-1993	67	2.6	ch	
2W	3mm	1-Sep-1993	77	4.4	ch	
2W	3mm	1-Sep-1993	69	2.9	ch	
2W	3mm	1-Sep-1993	68	2.8	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	1-Sep-1993	75	4	ch	
2W	3mm	1-Sep-1993	65	2.6	ch	
2W	3mm	1-Sep-1993	80	4.7	ch	
2W	3mm	1-Sep-1993	68	3.1	ch	
2W	3mm	1-Sep-1993	70	3	ch	
2W	3mm	1-Sep-1993	76	4	ch	
2W	3mm	1-Sep-1993	83	5.7	ch	
2W	3mm	1-Sep-1993	66	2.7	ch	
2W	3mm	1-Sep-1993	69	3	ch	
2W	3mm	1-Sep-1993	68	2.9	ch	
2W	3mm	1-Sep-1993	59	1.8	ch	
2W	3mm	1-Sep-1993	58	1.8	ch	
2W	3mm	1-Sep-1993	65	2.4	ch	
2W	3mm	1-Sep-1993	66	2.3	ch	
2W	3mm	1-Sep-1993	55	1.6	ch	
2W	3mm	1-Sep-1993	55	1.7	ch	
2W	3mm	1-Sep-1993	58	1.8	ch	
2W	3mm	9-Sep-1993	66	2.7	ch	2 Sculpins
2W	3mm	9-Sep-1993	80	4.6	ch	
2W	3mm	9-Sep-1993	75	3.7	ch	
2W	3mm	9-Sep-1993	75	3.8	ch	
2W	3mm	9-Sep-1993	61	2.3	ch	
2W	3mm	9-Sep-1993	88	6.6	ch	
2W	3mm	9-Sep-1993	68	2.8	ch	
2W	3mm	9-Sep-1993	71	3.3	ch	
2W	3mm	9-Sep-1993	80	5.3	ch	
2W	3mm	9-Sep-1993	75	3.5	ch	
2W	3mm	9-Sep-1993	64	2.5	ch	
2W	3mm	9-Sep-1993	67	2.9	ch	
2W	3mm	9-Sep-1993	63	2.4	ch	
2W	3mm	9-Sep-1993	59	1.9	ch	
2W	3mm	9-Sep-1993	68	3.2	ch	
2W	3mm	9-Sep-1993	68	2.8	ch	
2W	3mm	9-Sep-1993	72	3.3	ch	
2W	3mm	9-Sep-1993	77	4.3	ch	
2W	3mm	9-Sep-1993	67	2.7	ch	
2W	3mm	9-Sep-1993	60	1.8	ch	
2W	3mm	9-Sep-1993	63	2.2	ch	
2W	3mm	9-Sep-1993	73	3.4	ch	
2W	3mm	16-Sep-1993	70	3.4	ch	
2W	3mm	16-Sep-1993	67	2.5	ch	
2W	3mm	16-Sep-1993	63	2	ch	
2W	3mm	16-Sep-1993	61	1.9	ch	
2W	3mm	16-Sep-1993	60	1.7	ch	
2W	3mm	16-Sep-1993	70	3.1	ch	
2W	3mm	16-Sep-1993	66	2.4	ch	
2W	3mm	16-Sep-1993	75	3.5	ch	
2W	3mm	16-Sep-1993	69	2.8	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	3mm	16-Sep-1993	68	2.9	ch	
2W	3mm	16-Sep-1993	75	4.1	ch	
2W	3mm	16-Sep-1993	72	3.1	ch	
2W	3mm	16-Sep-1993	68	2.7	ch	
2W	3mm	16-Sep-1993	59	1.7	ch	
2W	3mm	16-Sep-1993	67	2.8	ch	
2W	3mm	16-Sep-1993	67	2.6	ch	
2W	3mm	16-Sep-1993	67	2.9	ch	
2W	3mm	23-Sep-1993	67	2.6	ch	
2W	3mm	23-Sep-1993	76	4.3	ch	
2W	3mm	23-Sep-1993	58	1.6	ch	
2W	3mm	23-Sep-1993	66	2.6	ch	
2W	3mm	23-Sep-1993	67	2.8	ch	
2W	3mm	23-Sep-1993	70	3.2	ch	
2W	3mm	23-Sep-1993	64	2.5	ch	
2W	3mm	23-Sep-1993	68	2.9	ch	
2W	3mm	23-Sep-1993	69	2.3	ch	
2W	3mm	23-Sep-1993	59	1.7	ch	
2W	3mm	23-Sep-1993	70	3.1	ch	
2W	3mm	23-Sep-1993	59	1.3	ch	
2W	3mm	23-Sep-1993	75	4.2	ch	
2W	3mm	23-Sep-1993	63	2.6	ch	
2W	3mm	30-Sep-1993	72	2.7	ch	
2W	3mm	30-Sep-1993	75	3.3	ch	
2W	3mm	30-Sep-1993	64	2.4	ch	
2W	3mm	30-Sep-1993	60	1.8	ch	
2W	3mm	30-Sep-1993	67	2.5	ch	
2W	3mm	30-Sep-1993	62	2.5	ch	
2W	3mm	30-Sep-1993	78	5	ch	
2W	3mm	30-Sep-1993	65	2.6	ch	
2W	3mm	30-Sep-1993	60	2	ch	
2W	3mm	30-Sep-1993	68	2.8	ch	
2W	3mm	30-Sep-1993	66	2.6	ch	
2W	3mm	30-Sep-1993	76	4	ch	
2W	3mm	30-Sep-1993	72	3.5	ch	
2W	3mm	30-Sep-1993	63	2.3	ch	
2W	3mm	30-Sep-1993	70	3	ch	
2W	3mm	7-Oct-1993	67	3.3	ch	
2W	3mm	14-Oct-1993	75	4	ch	
2W	3mm	14-Oct-1993	76	3.8	ch	
2W	3mm	14-Oct-1993	59	1.4	ch	
2W	3mm	21-Oct-1993	61	1.8	ch	
2W	3mm	21-Oct-1993	60	1.7	ch	
2W	3mm	21-Oct-1993	62	2.2	ch	
2W	3mm	28-Oct-1993	85	5.6	ch	
2W	6mm	6-May-1993	96	8.5	ch	1 Sculpin
2W	6mm	6-May-1993	64	2.2	ch	
2W	6mm	6-May-1993	74	3.5	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	6-May-1993	64	3	ch	
2W	6mm	6-May-1993	76	4.2	ch	
2W	6mm	6-May-1993	69	3.3	ch	
2W	6mm	6-May-1993	72	3.7	ch	
2W	6mm	6-May-1993	73	3.7	ch	
2W	6mm	6-May-1993	76	4.3	ch	
2W	6mm	6-May-1993	74	3.3	ch	
2W	6mm	6-May-1993	77	4.2	ch	
2W	6mm	6-May-1993	67	2.4	ch	
2W	6mm	6-May-1993	70	2.9	ch	
2W	6mm	6-May-1993	69	2.6	ch	
2W	6mm	6-May-1993	74	3.9	ch	
2W	6mm	6-May-1993	71	3.5	ch	
2W	6mm	6-May-1993	65	2.8	ch	
2W	6mm	6-May-1993	66	2.9	ch	
2W	6mm	6-May-1993	76	3.9	ch	
2W	6mm	6-May-1993	72	3.6	ch	
2W	6mm	6-May-1993	69	2.7	ch	
2W	6mm	6-May-1993	70	3.1	ch	
2W	6mm	6-May-1993	64	2.7	ch	
2W	6mm	6-May-1993	74	3.2	ch	
2W	6mm	6-May-1993	64	2.2	ch	
2W	6mm	27-May-1993	82	5.2	ch	
2W	6mm	27-May-1993	73	3.9	ch	
2W	6mm	27-May-1993	71	3.6	ch	
2W	6mm	27-May-1993	73	3.8	ch	
2W	6mm	27-May-1993	89	7	ch	
2W	6mm	27-May-1993	65	2.6	ch	
2W	6mm	27-May-1993	77	4.4	ch	
2W	6mm	27-May-1993	82	5	ch	
2W	6mm	27-May-1993	73	3.4	ch	
2W	6mm	27-May-1993	80	4.9	ch	
2W	6mm	27-May-1993	81	5.1	ch	
2W	6mm	27-May-1993	78	5.2	ch	
2W	6mm	27-May-1993	82	5.2	ch	
2W	6mm	27-May-1993	86	6.1	ch	
2W	6mm	27-May-1993	79	5.5	ch	
2W	6mm	27-May-1993	86	6.4	ch	
2W	6mm	27-May-1993	85	4.8	ch	
2W	6mm	27-May-1993	74	4.6	ch	
2W	6mm	27-May-1993	75	5.3	ch	
2W	6mm	27-May-1993	70	4.6	ch	
2W	6mm	27-May-1993	65	3	ch	
2W	6mm	27-May-1993	69	3.2	ch	
2W	6mm	2-Jun-1993	85	5.3	ch	6 Cyprinids
2W	6mm	2-Jun-1993	82	6.2	ch	
2W	6mm	2-Jun-1993	82	5.2	ch	
2W	6mm	2-Jun-1993	71	4.5	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	2-Jun-1993	81	5.7	ch	
2W	6mm	2-Jun-1993	89	7.1	ch	
2W	6mm	2-Jun-1993	75	4.5	ch	
2W	6mm	2-Jun-1993	83	5.6	ch	
2W	6mm	2-Jun-1993	75	4.3	ch	
2W	6mm	2-Jun-1993	76	4.3	ch	
2W	6mm	2-Jun-1993	74	4	ch	
2W	6mm	2-Jun-1993	76	4.7	ch	
2W	6mm	2-Jun-1993	78	4.8	ch	
2W	6mm	2-Jun-1993	71	3.6	ch	
2W	6mm	2-Jun-1993	83	5.7	ch	
2W	6mm	2-Jun-1993	84	6.1	ch	
2W	6mm	2-Jun-1993	81	4.9	ch	
2W	6mm	2-Jun-1993	75	4.2	ch	
2W	6mm	2-Jun-1993	82	6.5	ch	
2W	6mm	2-Jun-1993	77	4.5	ch	
2W	6mm	2-Jun-1993	69	3.5	ch	
2W	6mm	2-Jun-1993	71	3.8	ch	
2W	6mm	2-Jun-1993	88	6.7	ch	
2W	6mm	2-Jun-1993	80	5.6	ch	
2W	6mm	2-Jun-1993	73	3.6	ch	
2W	6mm	2-Jun-1993	78	4.9	ch	
2W	6mm	9-Jun-1993	87	6.1	ch	1 Sculpin
2W	6mm	9-Jun-1993	89	6.8	ch	
2W	6mm	9-Jun-1993	77	5	ch	
2W	6mm	9-Jun-1993	84	6.2	ch	
2W	6mm	9-Jun-1993	83	5.6	ch	
2W	6mm	9-Jun-1993	82	5.2	ch	
2W	6mm	9-Jun-1993	110	13.1	ch	
2W	6mm	16-Jun-1993	.	.	.	1 Sculpin, 2 Cyprinids
2W	6mm	23-Jun-1993	80	5.5	ch	7 Cyprinids
2W	6mm	23-Jun-1993	94	7.5	ch	
2W	6mm	23-Jun-1993	88	6.5	ch	
2W	6mm	23-Jun-1993	55	1.9	ch	
2W	6mm	23-Jun-1993	117	16.9	Rbt	
2W	6mm	23-Jun-1993	83	5.8	Rbt	
2W	6mm	23-Jun-1993	75	4.4	Rbt	
2W	6mm	30-Jun-1993	60	2.2	ch	2 Sculpins
2W	6mm	30-Jun-1993	55	1.7	ch	
2W	6mm	30-Jun-1993	66	2.9	ch	
2W	6mm	30-Jun-1993	54	1.5	ch	
2W	6mm	30-Jun-1993	57	2.2	ch	
2W	6mm	30-Jun-1993	57	2	Rbt	
2W	6mm	30-Jun-1993	66	2.8	Rbt	
2W	6mm	30-Jun-1993	59	2.3	Rbt	
2W	6mm	30-Jun-1993	56	1.8	Rbt	
2W	6mm	30-Jun-1993	61	2.6	Rbt	
2W	6mm	30-Jun-1993	56	1.9	Rbt	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	30-Jun-1993	51	1.3	Rbt	
2W	6mm	30-Jun-1993	53	1.6	Rbt	
2W	6mm	30-Jun-1993	54	1.6	Rbt	
2W	6mm	30-Jun-1993	53	1.5	Rbt	
2W	6mm	30-Jun-1993	65	3	Rbt	
2W	6mm	30-Jun-1993	49	1.6	Rbt	
2W	6mm	30-Jun-1993	57	2.1	Rbt	
2W	6mm	30-Jun-1993	61	2.2	Rbt	
2W	6mm	30-Jun-1993	62	1.8	Rbt	
2W	6mm	30-Jun-1993	58	2.2	Rbt	
2W	6mm	7-Jul-1993	58	1.7	ch	1 Sculpin
2W	6mm	7-Jul-1993	65	2.3	ch	
2W	6mm	7-Jul-1993	56	1.9	ch	
2W	6mm	7-Jul-1993	57	2.1	ch	
2W	6mm	7-Jul-1993	58	1.7	ch	
2W	6mm	7-Jul-1993	54	1.4	ch	
2W	6mm	7-Jul-1993	60	2.3	ch	
2W	6mm	7-Jul-1993	60	2.3	ch	
2W	6mm	7-Jul-1993	52	1.2	ch	
2W	6mm	7-Jul-1993	52	1.2	ch	
2W	6mm	7-Jul-1993	55	1.5	ch	
2W	6mm	7-Jul-1993	56	1.5	ch	
2W	6mm	7-Jul-1993	58	1.6	ch	
2W	6mm	7-Jul-1993	54	1.7	ch	
2W	6mm	7-Jul-1993	52	1.4	ch	
2W	6mm	7-Jul-1993	62	2.3	ch	
2W	6mm	7-Jul-1993	58	1.9	ch	
2W	6mm	7-Jul-1993	60	2.3	ch	
2W	6mm	7-Jul-1993	61	2.1	ch	
2W	6mm	7-Jul-1993	55	2.1	ch	
2W	6mm	7-Jul-1993	62	2.4	ch	
2W	6mm	7-Jul-1993	58	2	ch	
2W	6mm	7-Jul-1993	58	1.1	ch	
2W	6mm	7-Jul-1993	50	1.6	ch	
2W	6mm	7-Jul-1993	66	3.1	ch	
2W	6mm	7-Jul-1993	56	1.7	ch	
2W	6mm	7-Jul-1993	56	1.5	ch	
2W	6mm	7-Jul-1993	51	1.2	ch	
2W	6mm	7-Jul-1993	49	0.8	ch	
2W	6mm	7-Jul-1993	57	1.5	ch	
2W	6mm	7-Jul-1993	72	3.4	ch	
2W	6mm	7-Jul-1993	57	1.6	ch	
2W	6mm	7-Jul-1993	72	3.4	ch	
2W	6mm	7-Jul-1993	61	2.2	ch	
2W	6mm	7-Jul-1993	60	2.2	ch	
2W	6mm	7-Jul-1993	60	2.2	ch	
2W	6mm	7-Jul-1993	57	2.1	ch	
2W	6mm	7-Jul-1993	52	1.5	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	7-Jul-1993	53	1.2	ch	
2W	6mm	7-Jul-1993	51	1.3	ch	
2W	6mm	7-Jul-1993	52	1.2	ch	
2W	6mm	7-Jul-1993	53	1.7	ch	
2W	6mm	7-Jul-1993	53	1.6	ch	
2W	6mm	7-Jul-1993	63	2.5	Rbt	
2W	6mm	7-Jul-1993	68	3.1	Rbt	
2W	6mm	7-Jul-1993	59	2.1	Rbt	
2W	6mm	7-Jul-1993	91	9.1	Rbt	
2W	6mm	7-Jul-1993	53	1.3	Rbt	
2W	6mm	14-Jul-1993	66	2.4	ch	1Sculpin, 3 Cyprinid
2W	6mm	14-Jul-1993	56	1.9	ch	
2W	6mm	14-Jul-1993	73	3.8	ch	
2W	6mm	14-Jul-1993	65	2.5	ch	
2W	6mm	14-Jul-1993	64	2.4	ch	
2W	6mm	14-Jul-1993	64	2.2	ch	
2W	6mm	14-Jul-1993	59	2.2	ch	
2W	6mm	14-Jul-1993	65	2.7	ch	
2W	6mm	14-Jul-1993	56	1.9	ch	
2W	6mm	14-Jul-1993	57	1.7	ch	
2W	6mm	14-Jul-1993	62	1.9	ch	
2W	6mm	14-Jul-1993	59	1.9	ch	
2W	6mm	14-Jul-1993	59	1.9	ch	
2W	6mm	14-Jul-1993	68	3.7	ch	
2W	6mm	14-Jul-1993	64	3.4	ch	
2W	6mm	14-Jul-1993	68	3.5	ch	
2W	6mm	14-Jul-1993	52	1.3	ch	
2W	6mm	14-Jul-1993	58	2	ch	
2W	6mm	14-Jul-1993	62	2	ch	
2W	6mm	14-Jul-1993	59	1.6	ch	
2W	6mm	14-Jul-1993	62	2.3	ch	
2W	6mm	14-Jul-1993	61	2.2	ch	
2W	6mm	14-Jul-1993	57	1.9	ch	
2W	6mm	14-Jul-1993	62	2.3	ch	
2W	6mm	14-Jul-1993	64	2.2	ch	
2W	6mm	14-Jul-1993	59	2.2	ch	
2W	6mm	14-Jul-1993	62	2	ch	
2W	6mm	14-Jul-1993	61	2.5	ch	
2W	6mm	14-Jul-1993	57	2	ch	
2W	6mm	14-Jul-1993	60	1.9	ch	
2W	6mm	14-Jul-1993	60	2.2	ch	
2W	6mm	14-Jul-1993	58	2.2	ch	
2W	6mm	14-Jul-1993	68	3.1	ch	
2W	6mm	14-Jul-1993	51	1.3	ch	
2W	6mm	14-Jul-1993	55	1.6	ch	
2W	6mm	14-Jul-1993	58	2.6	ch	
2W	6mm	14-Jul-1993	60	2.1	ch	
2W	6mm	14-Jul-1993	71	3.3	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	14-Jul-1993	66	2.6	ch	
2W	6mm	14-Jul-1993	56	1.8	ch	
2W	6mm	14-Jul-1993	56	1.6	ch	
2W	6mm	14-Jul-1993	64	2.7	ch	
2W	6mm	14-Jul-1993	58	1.9	ch	
2W	6mm	14-Jul-1993	59	2.3	ch	
2W	6mm	14-Jul-1993	68	3.3	ch	
2W	6mm	14-Jul-1993	70	3.5	ch	
2W	6mm	14-Jul-1993	64	2.8	ch	
2W	6mm	14-Jul-1993	57	1.7	ch	
2W	6mm	14-Jul-1993	58	2.2	ch	
2W	6mm	14-Jul-1993	57	1.6	ch	
2W	6mm	14-Jul-1993	55	1.6	ch	
2W	6mm	14-Jul-1993	56	1.4	ch	
2W	6mm	14-Jul-1993	57	1.7	ch	
2W	6mm	14-Jul-1993	67	2.7	ch	
2W	6mm	14-Jul-1993	63	2.2	ch	
2W	6mm	14-Jul-1993	63	2.3	ch	
2W	6mm	14-Jul-1993	64	2.5	ch	
2W	6mm	14-Jul-1993	59	2.1	ch	
2W	6mm	14-Jul-1993	63	2.4	ch	
2W	6mm	14-Jul-1993	60	2.2	ch	
2W	6mm	14-Jul-1993	60	2	ch	
2W	6mm	14-Jul-1993	64	2.4	ch	
2W	6mm	14-Jul-1993	58	1.9	ch	
2W	6mm	21-Jul-1993	69	3.1	ch	2 Long Nose Suckers, 12 Cyprinids
2W	6mm	21-Jul-1993	61	2	ch	
2W	6mm	21-Jul-1993	60	2.4	ch	
2W	6mm	21-Jul-1993	64	2.4	ch	
2W	6mm	21-Jul-1993	56	1.6	ch	
2W	6mm	21-Jul-1993	66	2.6	ch	
2W	6mm	21-Jul-1993	98	11.5	ch	
2W	6mm	21-Jul-1993	69	3.3	ch	
2W	6mm	21-Jul-1993	66	3	ch	
2W	6mm	21-Jul-1993	67	2.9	ch	
2W	6mm	21-Jul-1993	65	2.6	ch	
2W	6mm	21-Jul-1993	59	1.7	ch	
2W	6mm	21-Jul-1993	61	2.1	ch	
2W	6mm	21-Jul-1993	71	3.3	ch	
2W	6mm	21-Jul-1993	58	1.7	ch	
2W	6mm	21-Jul-1993	66	2.8	ch	
2W	6mm	21-Jul-1993	70	3.5	ch	
2W	6mm	21-Jul-1993	62	2.7	ch	
2W	6mm	21-Jul-1993	66	2.8	ch	
2W	6mm	21-Jul-1993	66	2.6	ch	
2W	6mm	21-Jul-1993	70	3.3	ch	
2W	6mm	21-Jul-1993	68	3.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	21-Jul-1993	69	3.1	ch	
2W	6mm	21-Jul-1993	64	3	ch	
2W	6mm	21-Jul-1993	59	2.2	ch	
2W	6mm	21-Jul-1993	60	2.3	ch	
2W	6mm	21-Jul-1993	63	2.7	ch	
2W	6mm	21-Jul-1993	65	3	ch	
2W	6mm	21-Jul-1993	67	3.5	ch	
2W	6mm	21-Jul-1993	57	2	ch	
2W	6mm	21-Jul-1993	70	3.1	ch	
2W	6mm	21-Jul-1993	67	3.1	ch	
2W	6mm	21-Jul-1993	70	3.1	ch	
2W	6mm	21-Jul-1993	68	3.9	ch	
2W	6mm	21-Jul-1993	62	2.5	ch	
2W	6mm	21-Jul-1993	59	2	ch	
2W	6mm	21-Jul-1993	58	1.9	ch	
2W	6mm	21-Jul-1993	66	2.5	ch	
2W	6mm	21-Jul-1993	66	2.4	ch	
2W	6mm	21-Jul-1993	59	1.8	ch	
2W	6mm	21-Jul-1993	51	0.8	ch	
2W	6mm	21-Jul-1993	61	2.2	ch	
2W	6mm	21-Jul-1993	61	2.4	ch	
2W	6mm	21-Jul-1993	64	2.6	ch	
2W	6mm	21-Jul-1993	62	2.3	ch	
2W	6mm	21-Jul-1993	57	1.9	ch	
2W	6mm	21-Jul-1993	65	2.4	ch	
2W	6mm	21-Jul-1993	6.1	1.9	ch	
2W	6mm	21-Jul-1993	61	2.2	ch	
2W	6mm	21-Jul-1993	69	3	ch	
2W	6mm	21-Jul-1993	58	2	ch	
2W	6mm	21-Jul-1993	63	2.3	ch	
2W	6mm	21-Jul-1993	63	2.6	ch	
2W	6mm	21-Jul-1993	61	2.1	ch	
2W	6mm	21-Jul-1993	59	2.6	ch	
2W	6mm	21-Jul-1993	72	3.6	ch	
2W	6mm	21-Jul-1993	62	1.6	ch	
2W	6mm	21-Jul-1993	62	2.4	ch	
2W	6mm	21-Jul-1993	63	2.3	ch	
2W	6mm	21-Jul-1993	64	2.4	ch	
2W	6mm	21-Jul-1993	59	1.9	ch	
2W	6mm	21-Jul-1993	62	2.4	ch	
2W	6mm	21-Jul-1993	64	2.3	ch	
2W	6mm	21-Jul-1993	59	2.2	ch	
2W	6mm	21-Jul-1993	58	1.9	ch	
2W	6mm	21-Jul-1993	63	2.3	ch	
2W	6mm	21-Jul-1993	73	3.9	ch	
2W	6mm	21-Jul-1993	62	1.9	ch	
2W	6mm	21-Jul-1993	62	2.3	ch	
2W	6mm	21-Jul-1993	66	2.7	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	21-Jul-1993	62	2.3	ch	
2W	6mm	21-Jul-1993	54	1.7	ch	
2W	6mm	21-Jul-1993	68	3.1	ch	
2W	6mm	21-Jul-1993	61	1.9	ch	
2W	6mm	28-Jul-1993	54	1.7	ch	
2W	6mm	28-Jul-1993	63	2.3	ch	
2W	6mm	28-Jul-1993	70	3.3	ch	
2W	6mm	28-Jul-1993	63	2.6	ch	
2W	6mm	28-Jul-1993	61	2.3	ch	
2W	6mm	28-Jul-1993	70	2.8	ch	
2W	6mm	28-Jul-1993	68	3.4	ch	
2W	6mm	28-Jul-1993	63	1.7	ch	
2W	6mm	28-Jul-1993	60	2.4	ch	
2W	6mm	28-Jul-1993	69	3	ch	
2W	6mm	28-Jul-1993	55	1.6	ch	
2W	6mm	28-Jul-1993	61	2.3	ch	
2W	6mm	28-Jul-1993	60	1.9	ch	
2W	6mm	28-Jul-1993	60	2	ch	
2W	6mm	28-Jul-1993	84	5.8	ch	
2W	6mm	28-Jul-1993	58	1.9	ch	
2W	6mm	28-Jul-1993	74	3.9	ch	
2W	6mm	28-Jul-1993	58	2.2	ch	
2W	6mm	28-Jul-1993	63	2.2	ch	
2W	6mm	28-Jul-1993	67	2.8	ch	
2W	6mm	28-Jul-1993	70	3.2	ch	
2W	6mm	28-Jul-1993	68	2.6	ch	
2W	6mm	28-Jul-1993	60	2.3	ch	
2W	6mm	28-Jul-1993	72	3.7	ch	
2W	6mm	28-Jul-1993	62	2.1	ch	
2W	6mm	28-Jul-1993	63	2.4	ch	
2W	6mm	28-Jul-1993	67	3	ch	
2W	6mm	28-Jul-1993	68	3.2	ch	
2W	6mm	28-Jul-1993	69	3.3	ch	
2W	6mm	28-Jul-1993	60	2.3	ch	
2W	6mm	28-Jul-1993	60	1.7	ch	
2W	6mm	28-Jul-1993	62	2.3	ch	
2W	6mm	28-Jul-1993	58	1.5	ch	
2W	6mm	28-Jul-1993	52	1.4	ch	
2W	6mm	28-Jul-1993	60	2.4	ch	
2W	6mm	28-Jul-1993	61	2.3	ch	
2W	6mm	28-Jul-1993	61	2	ch	
2W	6mm	28-Jul-1993	64	2.2	ch	
2W	6mm	28-Jul-1993	76	5.2	Rbt	
2W	6mm	28-Jul-1993	68	2.8	Rbt	
2W	6mm	4-Aug-1993	76	4.4	ch	2 Cyprinids, 1 Long Nose Suckers
2W	6mm	4-Aug-1993	66	2.7	ch	
2W	6mm	4-Aug-1993	61	2.1	ch	
2W	6mm	4-Aug-1993	68	3.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	4-Aug-1993	68	3.1	ch	
2W	6mm	4-Aug-1993	60	1.9	ch	
2W	6mm	4-Aug-1993	72	3.5	ch	
2W	6mm	4-Aug-1993	70	3.3	ch	
2W	6mm	4-Aug-1993	62	2.6	ch	
2W	6mm	4-Aug-1993	67	2.7	ch	
2W	6mm	4-Aug-1993	67	2.8	ch	
2W	6mm	4-Aug-1993	62	2.3	ch	
2W	6mm	4-Aug-1993	57	1.8	ch	
2W	6mm	4-Aug-1993	56	1.8	ch	
2W	6mm	4-Aug-1993	61	2.2	ch	
2W	6mm	4-Aug-1993	59	2.1	ch	
2W	6mm	4-Aug-1993	67	2.4	ch	
2W	6mm	4-Aug-1993	63	2.9	ch	
2W	6mm	4-Aug-1993	65	2.7	ch	
2W	6mm	4-Aug-1993	67	2.9	ch	
2W	6mm	4-Aug-1993	58	1.9	ch	
2W	6mm	4-Aug-1993	72	3.3	ch	
2W	6mm	4-Aug-1993	68	3.1	ch	
2W	6mm	4-Aug-1993	63	2.6	ch	
2W	6mm	4-Aug-1993	71	3.6	ch	
2W	6mm	4-Aug-1993	61	2.2	ch	
2W	6mm	4-Aug-1993	60	2.2	ch	
2W	6mm	4-Aug-1993	61	2.3	ch	
2W	6mm	4-Aug-1993	75	3.9	ch	
2W	6mm	4-Aug-1993	60	2.3	ch	
2W	6mm	4-Aug-1993	56	1.7	ch	
2W	6mm	4-Aug-1993	58	1.4	ch	
2W	6mm	4-Aug-1993	67	2.7	ch	
2W	6mm	4-Aug-1993	62	2.3	ch	
2W	6mm	4-Aug-1993	62	2.2	ch	
2W	6mm	4-Aug-1993	61	2.1	ch	
2W	6mm	4-Aug-1993	56	1.9	ch	
2W	6mm	4-Aug-1993	59	1.8	ch	
2W	6mm	4-Aug-1993	58	1.7	ch	
2W	6mm	4-Aug-1993	73	3.6	ch	
2W	6mm	4-Aug-1993	57	1.6	ch	
2W	6mm	4-Aug-1993	69	3.7	ch	
2W	6mm	4-Aug-1993	69	3.1	ch	
2W	6mm	4-Aug-1993	66	2.7	ch	
2W	6mm	4-Aug-1993	69	3.4	ch	
2W	6mm	4-Aug-1993	60	2	ch	
2W	6mm	11-Aug-1993	78	4.1	ch	4 Cyprinids
2W	6mm	11-Aug-1993	65	2.5	ch	
2W	6mm	11-Aug-1993	66	2.7	ch	
2W	6mm	11-Aug-1993	65	2.7	ch	
2W	6mm	11-Aug-1993	70	2.9	ch	
2W	6mm	11-Aug-1993	63	2.2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	11-Aug-1993	64	2.4	ch	
2W	6mm	11-Aug-1993	70	3.3	ch	
2W	6mm	11-Aug-1993	68	3.1	ch	
2W	6mm	11-Aug-1993	64	2.6	ch	
2W	6mm	11-Aug-1993	66	2.8	ch	
2W	6mm	11-Aug-1993	67	2.8	ch	
2W	6mm	11-Aug-1993	61	1.7	ch	
2W	6mm	11-Aug-1993	58	1.8	ch	
2W	6mm	11-Aug-1993	61	2.7	ch	
2W	6mm	11-Aug-1993	61	2.1	ch	
2W	6mm	11-Aug-1993	53	1.4	ch	
2W	6mm	11-Aug-1993	70	2.9	ch	
2W	6mm	11-Aug-1993	59	1.8	ch	
2W	6mm	11-Aug-1993	59	1.8	ch	
2W	6mm	11-Aug-1993	66	2.8	ch	
2W	6mm	11-Aug-1993	73	3.3	ch	
2W	6mm	11-Aug-1993	58	1.7	ch	
2W	6mm	11-Aug-1993	65	2.6	ch	
2W	6mm	11-Aug-1993	68	2.7	ch	
2W	6mm	11-Aug-1993	60	2	ch	
2W	6mm	11-Aug-1993	61	2.3	ch	
2W	6mm	11-Aug-1993	59	2.3	ch	
2W	6mm	11-Aug-1993	65	2.5	ch	
2W	6mm	11-Aug-1993	60	2	ch	
2W	6mm	19-Aug-1993	68	2.6	ch	
2W	6mm	19-Aug-1993	75	4.4	ch	
2W	6mm	19-Aug-1993	68	2.4	ch	
2W	6mm	19-Aug-1993	67	2.3	ch	
2W	6mm	19-Aug-1993	65	2.3	ch	
2W	6mm	19-Aug-1993	62	2.3	ch	
2W	6mm	19-Aug-1993	70	3	ch	
2W	6mm	19-Aug-1993	69	3.1	ch	
2W	6mm	19-Aug-1993	65	2.3	ch	
2W	6mm	19-Aug-1993	56	1.4	ch	
2W	6mm	19-Aug-1993	70	2.9	ch	
2W	6mm	19-Aug-1993	65	2.2	ch	
2W	6mm	19-Aug-1993	66	2.7	ch	
2W	6mm	19-Aug-1993	63	2.3	ch	
2W	6mm	19-Aug-1993	62	1.5	ch	
2W	6mm	19-Aug-1993	81	5.2	ch	
2W	6mm	19-Aug-1993	63	2.4	ch	
2W	6mm	19-Aug-1993	62	2.1	ch	
2W	6mm	19-Aug-1993	61	2.1	ch	
2W	6mm	25-Aug-1993	75	4	ch	
2W	6mm	25-Aug-1993	81	4.7	ch	
2W	6mm	25-Aug-1993	81	5	ch	
2W	6mm	25-Aug-1993	70	3	ch	
2W	6mm	25-Aug-1993	61	2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	25-Aug-1993	56	1.7	ch	
2W	6mm	25-Aug-1993	78	4	ch	
2W	6mm	25-Aug-1993	60	1.9	ch	
2W	6mm	25-Aug-1993	74	3.2	ch	
2W	6mm	25-Aug-1993	61	2.5	ch	
2W	6mm	25-Aug-1993	71	3.5	ch	
2W	6mm	25-Aug-1993	65	2.6	ch	
2W	6mm	25-Aug-1993	60	2.1	ch	
2W	6mm	25-Aug-1993	58	1.6	ch	
2W	6mm	25-Aug-1993	69	3.2	ch	
2W	6mm	25-Aug-1993	61	1.9	ch	
2W	6mm	25-Aug-1993	68	2.9	ch	
2W	6mm	25-Aug-1993	61	2.4	ch	
2W	6mm	25-Aug-1993	68	3.1	ch	
2W	6mm	25-Aug-1993	65	2.1	ch	
2W	6mm	25-Aug-1993	67	2.7	ch	
2W	6mm	25-Aug-1993	67	2.3	ch	
2W	6mm	25-Aug-1993	69	3.3	ch	
2W	6mm	25-Aug-1993	68	3.2	ch	
2W	6mm	25-Aug-1993	71	3.6	ch	
2W	6mm	25-Aug-1993	64	2.6	ch	
2W	6mm	25-Aug-1993	66	2.7	ch	
2W	6mm	25-Aug-1993	65	2.3	ch	
2W	6mm	25-Aug-1993	66	2.5	ch	
2W	6mm	1-Sep-1993	64	2.2	ch	
2W	6mm	1-Sep-1993	69	2.9	ch	
2W	6mm	1-Sep-1993	80	4.4	ch	
2W	6mm	1-Sep-1993	65	2.4	ch	
2W	6mm	1-Sep-1993	72	3.3	ch	
2W	6mm	1-Sep-1993	71	3.3	ch	
2W	6mm	1-Sep-1993	62	2.2	ch	
2W	6mm	1-Sep-1993	61	2.1	ch	
2W	6mm	1-Sep-1993	88	6.7	ch	
2W	6mm	1-Sep-1993	75	3.7	ch	
2W	6mm	1-Sep-1993	74	4.2	ch	
2W	6mm	1-Sep-1993	65	2	ch	
2W	6mm	1-Sep-1993	62	2.3	ch	
2W	6mm	1-Sep-1993	61	1.6	ch	
2W	6mm	1-Sep-1993	64	2.7	ch	
2W	6mm	1-Sep-1993	62	2.3	ch	
2W	6mm	1-Sep-1993	75	4.2	ch	
2W	6mm	1-Sep-1993	70	2.7	ch	
2W	6mm	1-Sep-1993	66	2.7	ch	
2W	6mm	1-Sep-1993	62	2	ch	
2W	6mm	1-Sep-1993	74	3.6	ch	
2W	6mm	1-Sep-1993	70	3	ch	
2W	6mm	1-Sep-1993	61	2	ch	
2W	6mm	1-Sep-1993	60	2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	9-Sep-1993	60	1.9	ch	2 Cyprinid
2W	6mm	9-Sep-1993	67	2.8	ch	
2W	6mm	9-Sep-1993	66	2.7	ch	
2W	6mm	9-Sep-1993	76	4.4	ch	
2W	6mm	9-Sep-1993	64	2.3	ch	
2W	6mm	9-Sep-1993	65	2.5	ch	
2W	6mm	9-Sep-1993	60	2.1	ch	
2W	6mm	9-Sep-1993	69	3.2	ch	
2W	6mm	9-Sep-1993	72	3.6	ch	
2W	6mm	9-Sep-1993	69	3.3	ch	
2W	6mm	9-Sep-1993	65	2.6	ch	
2W	6mm	9-Sep-1993	70	3.3	ch	
2W	6mm	9-Sep-1993	61	2	ch	
2W	6mm	9-Sep-1993	77	4.7	ch	
2W	6mm	9-Sep-1993	62	2.1	ch	
2W	6mm	9-Sep-1993	71	3.2	ch	
2W	6mm	9-Sep-1993	62	2.4	ch	
2W	6mm	9-Sep-1993	75	3.8	ch	
2W	6mm	9-Sep-1993	64	2.6	ch	
2W	6mm	9-Sep-1993	66	2.6	ch	
2W	6mm	9-Sep-1993	70	3.3	ch	
2W	6mm	9-Sep-1993	59	1.6	ch	
2W	6mm	16-Sep-1993	76	4	ch	2 Cyprinids
2W	6mm	16-Sep-1993	80	5.1	ch	
2W	6mm	16-Sep-1993	88	6	ch	
2W	6mm	16-Sep-1993	70	3.1	ch	
2W	6mm	16-Sep-1993	76	4.3	ch	
2W	6mm	16-Sep-1993	75	3.6	ch	
2W	6mm	16-Sep-1993	67	1.8	ch	
2W	6mm	16-Sep-1993	67	2.8	ch	
2W	6mm	16-Sep-1993	70	3	ch	
2W	6mm	16-Sep-1993	74	3.4	ch	
2W	6mm	16-Sep-1993	63	2.5	ch	
2W	6mm	16-Sep-1993	60	2	ch	
2W	6mm	16-Sep-1993	70	2.9	ch	
2W	6mm	16-Sep-1993	59	1.5	ch	
2W	6mm	16-Sep-1993	60	1.9	ch	
2W	6mm	16-Sep-1993	76	4.5	ch	
2W	6mm	16-Sep-1993	67	2.5	ch	
2W	6mm	16-Sep-1993	82	4.6	ch	
2W	6mm	16-Sep-1993	68	2.6	ch	
2W	6mm	16-Sep-1993	70	3.3	ch	
2W	6mm	16-Sep-1993	64	2.5	ch	
2W	6mm	23-Sep-1993	66	2.6	ch	3 Sculpins
2W	6mm	23-Sep-1993	69	3.2	ch	
2W	6mm	23-Sep-1993	70	3	ch	
2W	6mm	23-Sep-1993	71	3.3	ch	
2W	6mm	23-Sep-1993	63	2.2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	23-Sep-1993	72	3.3	ch	
2W	6mm	23-Sep-1993	65	2.3	ch	
2W	6mm	23-Sep-1993	67	2.7	ch	
2W	6mm	23-Sep-1993	79	4.7	ch	
2W	6mm	23-Sep-1993	59	1.8	ch	
2W	6mm	23-Sep-1993	66	2.6	ch	
2W	6mm	23-Sep-1993	62	2	ch	
2W	6mm	23-Sep-1993	74	3.8	ch	
2W	6mm	23-Sep-1993	59	1.8	ch	
2W	6mm	30-Sep-1993	68	2.5	ch	
2W	6mm	30-Sep-1993	70	3.1	ch	
2W	6mm	30-Sep-1993	84	5.5	ch	
2W	6mm	30-Sep-1993	86	6.8	ch	
2W	6mm	30-Sep-1993	64	2.3	ch	
2W	6mm	30-Sep-1993	72	3.3	ch	
2W	6mm	30-Sep-1993	69	2.4	ch	
2W	6mm	30-Sep-1993	67	2.6	ch	
2W	6mm	30-Sep-1993	73	3.4	ch	
2W	6mm	30-Sep-1993	65	2.8	ch	
2W	6mm	30-Sep-1993	67	2.8	ch	
2W	6mm	30-Sep-1993	59	1.3	ch	
2W	6mm	30-Sep-1993	76	4	ch	
2W	6mm	30-Sep-1993	83	6	ch	
2W	6mm	30-Sep-1993	68	2.5	ch	
2W	6mm	30-Sep-1993	73	3.5	ch	
2W	6mm	30-Sep-1993	60	1.9	ch	
2W	6mm	7-Oct-1993	70	3.3	ch	
2W	6mm	7-Oct-1993	68	2.8	ch	
2W	6mm	7-Oct-1993	85	6	ch	
2W	6mm	7-Oct-1993	70	2.9	ch	
2W	6mm	7-Oct-1993	63	2.1	ch	
2W	6mm	7-Oct-1993	63	2.1	ch	
2W	6mm	7-Oct-1993	80	4.7	ch	
2W	6mm	7-Oct-1993	77	4.1	ch	
2W	6mm	7-Oct-1993	65	2.2	ch	
2W	6mm	7-Oct-1993	70	2.7	ch	
2W	6mm	14-Oct-1993	86	5.1	ch	1 Cyprinid
2W	6mm	14-Oct-1993	81	5	ch	
2W	6mm	14-Oct-1993	74	3.4	ch	
2W	6mm	14-Oct-1993	79	4.6	ch	
2W	6mm	14-Oct-1993	77	4.2	ch	
2W	6mm	14-Oct-1993	70	3.7	ch	
2W	6mm	14-Oct-1993	64	2.4	ch	
2W	6mm	14-Oct-1993	67	2.6	ch	
2W	6mm	14-Oct-1993	73	3.4	ch	
2W	6mm	14-Oct-1993	76	4.3	ch	
2W	6mm	21-Oct-1993	83	2.9	ch	
2W	6mm	21-Oct-1993	81	5.3	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2W	6mm	21-Oct-1993	75	4.1	ch	
2W	6mm	21-Oct-1993	77	4.1	ch	
2W	6mm	21-Oct-1993	71	3.9	ch	
2W	6mm	21-Oct-1993	82	5	ch	
2W	6mm	28-Oct-1993	79	5.3	ch	
2W	6mm	28-Oct-1993	78	4.3	ch	
2W	6mm	28-Oct-1993	68	2.8	ch	
2W	6mm	28-Oct-1993	65	2.5	ch	
2W	6mm	28-Oct-1993	78	2.5	ch	
2W	6mm	28-Oct-1993	72	3.2	ch	
2E	6mm	27-May-1993	104	10.7	ch	
2E	6mm	27-May-1993	77	6.5	ch	
2E	6mm	27-May-1993	71	3.3	ch	
2E	6mm	27-May-1993	81	5.7	ch	
2E	6mm	27-May-1993	77	4.7	ch	
2E	6mm	27-May-1993	77	4.6	ch	
2E	6mm	27-May-1993	86	6.1	ch	
2E	6mm	27-May-1993	78	4.6	ch	
2E	6mm	27-May-1993	74	4.5	ch	
2E	6mm	27-May-1993	76	4.1	ch	
2E	6mm	27-May-1993	82	4.5	ch	
2E	6mm	27-May-1993	72	3.5	ch	
2E	6mm	27-May-1993	88	5.2	ch	
2E	6mm	27-May-1993	79	5	ch	
2E	6mm	27-May-1993	82	5.7	ch	
2E	6mm	2-Jun-1993	71	3.2	ch	
2E	6mm	2-Jun-1993	81	6.1	ch	
2E	6mm	2-Jun-1993	78	4.9	ch	
2E	6mm	2-Jun-1993	82	5.8	ch	
2E	6mm	2-Jun-1993	76	5.5	ch	
2E	6mm	2-Jun-1993	74	4.9	ch	
2E	6mm	2-Jun-1993	80	5.2	ch	
2E	6mm	9-Jun-1993	75	4.9	ch	
2E	6mm	9-Jun-1993	83	6.6	ch	
2E	6mm	9-Jun-1993	77	4.9	ch	
2E	6mm	9-Jun-1993	73	4.8	ch	
2E	6mm	16-Jun-1993	88	6.6	ch	
2E	6mm	16-Jun-1993	114	16.3	Rbt	
2E	6mm	23-Jun-1993	.	.	.	No Catch
2E	6mm	30-Jun-1993	58	1.8	ch	1 Sculpin
2E	6mm	30-Jun-1993	61	2.5	ch	
2E	6mm	30-Jun-1993	57	1.7	ch	
2E	6mm	30-Jun-1993	56	1.8	ch	
2E	6mm	30-Jun-1993	58	1.9	ch	
2E	6mm	30-Jun-1993	53	1.5	ch	
2E	6mm	30-Jun-1993	57	1.7	ch	
2E	6mm	30-Jun-1993	57	2	ch	
2E	6mm	30-Jun-1993	51	1.2	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2E	6mm	30-Jun-1993	54	1.7	ch	
2E	6mm	30-Jun-1993	58	2	ch	
2E	6mm	30-Jun-1993	58	1.7	ch	
2E	6mm	30-Jun-1993	92	8.8	Rbt	
2E	6mm	30-Jun-1993	87	7.1	Rbt	
2E	6mm	30-Jun-1993	57	2.1	Rbt	
2E	6mm	30-Jun-1993	58	2.2	Rbt	
2E	6mm	30-Jun-1993	65	3.1	Rbt	
2E	6mm	30-Jun-1993	93	9.9	Rbt	
2E	6mm	30-Jun-1993	88	8	Rbt	
2E	6mm	30-Jun-1993	98	10.5	Rbt	
2E	6mm	30-Jun-1993	61	2.4	Rbt	
2E	6mm	30-Jun-1993	68	3.4	Rbt	
2E	6mm	30-Jun-1993	52	1.6	Rbt	
2E	6mm	7-Jul-1993	59	1.7	ch	2 Sculpins
2E	6mm	7-Jul-1993	55	1.3	ch	
2E	6mm	7-Jul-1993	57	1.8	ch	
2E	6mm	7-Jul-1993	56	1.9	ch	
2E	6mm	7-Jul-1993	54	1.4	ch	
2E	6mm	7-Jul-1993	60	2	ch	
2E	6mm	7-Jul-1993	67	3	ch	
2E	6mm	7-Jul-1993	60	2.1	ch	
2E	6mm	7-Jul-1993	56	1.7	ch	
2E	6mm	7-Jul-1993	56	1.5	ch	
2E	6mm	7-Jul-1993	61	1.9	ch	
2E	6mm	7-Jul-1993	54	1.8	ch	
2E	6mm	7-Jul-1993	58	2.1	ch	
2E	6mm	7-Jul-1993	69	3.5	ch	
2E	6mm	7-Jul-1993	58	2.4	ch	
2E	6mm	7-Jul-1993	59	2.1	ch	
2E	6mm	7-Jul-1993	66	3	ch	
2E	6mm	7-Jul-1993	57	1.8	ch	
2E	6mm	7-Jul-1993	57	1.6	ch	
2E	6mm	7-Jul-1993	58	1.7	ch	
2E	6mm	7-Jul-1993	60	2.4	ch	
2E	6mm	7-Jul-1993	57	2.2	ch	
2E	6mm	7-Jul-1993	91	10.1	Rbt	
2E	6mm	7-Jul-1993	54	1.5	Rbt	
2E	6mm	7-Jul-1993	64	2.7	Rbt	
2E	6mm	7-Jul-1993	60	2.3	Rbt	
2E	6mm	7-Jul-1993	57	1.8	ch	
2E	6mm	7-Jul-1993	49	1.1	ch	
2E	6mm	7-Jul-1993	57	1.7	ch	
2E	6mm	7-Jul-1993	61	2.4	ch	
2E	6mm	7-Jul-1993	60	2.2	ch	
2E	6mm	7-Jul-1993	61	2.1	ch	
2E	6mm	7-Jul-1993	65	3.1	ch	
2E	6mm	7-Jul-1993	55	2.4	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2E	6mm	7-Jul-1993	66	1.9	ch	
2E	6mm	14-Jul-1993	56	1.9	ch	
2E	6mm	14-Jul-1993	66	2.7	ch	
2E	6mm	14-Jul-1993	90	8.9	ch	
2E	6mm	14-Jul-1993	65	2.8	ch	
2E	6mm	14-Jul-1993	60	2.6	ch	
2E	6mm	14-Jul-1993	54	2	ch	
2E	6mm	14-Jul-1993	67	2.4	ch	
2E	6mm	14-Jul-1993	57	2	ch	
2E	6mm	14-Jul-1993	58	1.7	ch	
2E	6mm	14-Jul-1993	67	2.9	ch	
2E	6mm	14-Jul-1993	60	1.6	ch	
2E	6mm	14-Jul-1993	66	2.6	ch	
2E	6mm	14-Jul-1993	59	2	ch	
2E	6mm	14-Jul-1993	63	2	ch	
2E	6mm	14-Jul-1993	57	2.2	ch	
2E	6mm	14-Jul-1993	55	2.3	ch	
2E	6mm	14-Jul-1993	60	2.8	ch	
2E	6mm	14-Jul-1993	52	1.9	ch	
2E	6mm	14-Jul-1993	58	2.2	ch	
2E	6mm	14-Jul-1993	55	1.7	ch	
2E	6mm	14-Jul-1993	62	2.2	ch	
2E	6mm	14-Jul-1993	58	1.5	ch	
2E	6mm	14-Jul-1993	70	3.5	ch	
2E	6mm	14-Jul-1993	61	2.2	ch	
2E	6mm	14-Jul-1993	58	1.6	ch	
2E	6mm	14-Jul-1993	67	3.4	ch	
2E	6mm	14-Jul-1993	57	1.6	ch	
2E	6mm	14-Jul-1993	88	9	Rbt	
2E	6mm	21-Jul-1993	62	2.1	ch	
2E	6mm	21-Jul-1993	68	3.1	ch	
2E	6mm	21-Jul-1993	62	2.3	ch	
2E	6mm	21-Jul-1993	56	1.9	ch	
2E	6mm	21-Jul-1993	71	3.7	ch	
2E	6mm	21-Jul-1993	61	2.1	ch	
2E	6mm	21-Jul-1993	62	2	ch	
2E	6mm	21-Jul-1993	63	2.5	ch	
2E	6mm	21-Jul-1993	68	3.5	ch	
2E	6mm	21-Jul-1993	66	2.8	ch	
2E	6mm	21-Jul-1993	57	2.7	ch	
2E	6mm	21-Jul-1993	58	1.6	ch	
2E	6mm	21-Jul-1993	61	2.6	ch	
2E	6mm	21-Jul-1993	63	2.3	ch	
2E	6mm	21-Jul-1993	53	1.7	ch	
2E	6mm	21-Jul-1993	62	2.2	ch	
2E	6mm	21-Jul-1993	62	2.3	ch	
2E	6mm	21-Jul-1993	60	2.2	ch	
2E	6mm	21-Jul-1993	69	3.1	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2E	6mm	21-Jul-1993	56	2.1	ch	
2E	6mm	21-Jul-1993	68	3	ch	
2E	6mm	21-Jul-1993	60	1.9	ch	
2E	6mm	21-Jul-1993	57	1.6	ch	
2E	6mm	21-Jul-1993	63	2.6	ch	
2E	6mm	21-Jul-1993	58	1.7	ch	
2E	6mm	21-Jul-1993	57	1.4	ch	
2E	6mm	21-Jul-1993	65	2.6	ch	
2E	6mm	21-Jul-1993	58	1.7	ch	
2E	6mm	21-Jul-1993	69	2.8	ch	
2E	6mm	21-Jul-1993	61	2.2	ch	
2E	6mm	21-Jul-1993	59	1.8	ch	
2E	6mm	21-Jul-1993	62	2.3	Rbt	
2E	6mm	28-Jul-1993	55	1.7	ch	1 Caddis Fly
2E	6mm	28-Jul-1993	60	2	ch	
2E	6mm	28-Jul-1993	66	2.6	ch	
2E	6mm	28-Jul-1993	69	2.9	ch	
2E	6mm	28-Jul-1993	60	2.2	ch	
2E	6mm	28-Jul-1993	59	1.8	ch	
2E	6mm	28-Jul-1993	61	2.1	ch	
2E	6mm	28-Jul-1993	59	1.8	ch	
2E	6mm	28-Jul-1993	58	1.8	ch	
2E	6mm	28-Jul-1993	78	4.4	ch	
2E	6mm	28-Jul-1993	56	1.6	ch	
2E	6mm	28-Jul-1993	57	1.9	ch	
2E	6mm	28-Jul-1993	63	2.7	ch	
2E	6mm	28-Jul-1993	51	1.2	ch	
2E	6mm	28-Jul-1993	55	1.7	ch	
2E	6mm	28-Jul-1993	65	2.5	ch	
2E	6mm	28-Jul-1993	62	2.4	ch	
2E	6mm	4-Aug-1993	71	4.2	ch	
2E	6mm	4-Aug-1993	56	1.5	ch	
2E	6mm	4-Aug-1993	68	3	ch	
2E	6mm	4-Aug-1993	63	2.4	ch	
2E	6mm	4-Aug-1993	62	2.6	ch	
2E	6mm	4-Aug-1993	66	2.6	ch	
2E	6mm	4-Aug-1993	76	4.2	ch	
2E	6mm	4-Aug-1993	66	2.5	ch	
2E	6mm	4-Aug-1993	70	2.9	ch	
2E	6mm	4-Aug-1993	61	2.3	ch	
2E	6mm	4-Aug-1993	59	2.1	ch	
2E	6mm	4-Aug-1993	58	1.9	ch	
2E	6mm	4-Aug-1993	59	2.2	ch	
2E	6mm	4-Aug-1993	57	1.6	ch	
2E	6mm	11-Aug-1993	63	2.2	ch	
2E	6mm	11-Aug-1993	70	3.2	ch	
2E	6mm	11-Aug-1993	88	7.1	ch	
2E	6mm	11-Aug-1993	60	1.8	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
2E	6mm	11-Aug-1993	70	3.1	ch	
2E	6mm	11-Aug-1993	66	2.7	ch	
2E	6mm	11-Aug-1993	60	1.9	ch	
2E	6mm	11-Aug-1993	66	2.7	ch	
2E	6mm	19-Aug-1993	100	11.7	ch	
2E	6mm	19-Aug-1993	71	2.7	ch	
2E	6mm	19-Aug-1993	62	2.1	ch	
2E	6mm	19-Aug-1993	76	3.9	ch	
2E	6mm	19-Aug-1993	66	2.7	ch	
2E	6mm	19-Aug-1993	67	2.5	ch	
2E	6mm	19-Aug-1993	60	1.5	ch	
2E	6mm	19-Aug-1993	70	2.9	ch	
2E	6mm	25-Aug-1993	108	13.5	ch	
2E	6mm	25-Aug-1993	65	2.2	ch	
2E	6mm	25-Aug-1993	77	4.6	ch	
2E	6mm	25-Aug-1993	68	2.6	ch	
2E	6mm	25-Aug-1993	72	3.5	ch	
2E	6mm	25-Aug-1993	57	1.5	ch	
2E	6mm	25-Aug-1993	85	5.2	Rbt	
2E	6mm	25-Aug-1993	94	8.5	Rbt	
2E	6mm	1-Sep-1993	66	2.7	ch	
2E	6mm	1-Sep-1993	87	5.6	ch	
2E	6mm	1-Sep-1993	65	2.4	ch	
2E	6mm	1-Sep-1993	65	2.8	ch	
2E	6mm	1-Sep-1993	76	4.2	ch	
2E	6mm	1-Sep-1993	57	1.5	ch	
2E	6mm	9-Sep-1993	80	4.6	ch	
2E	6mm	9-Sep-1993	65	2.9	ch	
2E	6mm	9-Sep-1993	64	2.5	ch	
2E	6mm	9-Sep-1993	72	3.3	ch	
2E	6mm	16-Sep-1993	67	2.7	ch	
2E	6mm	16-Sep-1993	71	4	ch	
2E	6mm	16-Sep-1993	65	2	ch	
2E	6mm	16-Sep-1993	66	2.9	ch	
2E	6mm	16-Sep-1993	66	2.7	ch	
2E	6mm	23-Sep-1993	70	3.1	ch	
2E	6mm	30-Sep-1993	72	3.6	ch	
2E	6mm	7-Oct-1993	.	.	.	No Catch
2E	6mm	14-Oct-1993	62	2.5	ch	
2E	6mm	14-Oct-1993	69	3.1	ch	
2E	6mm	21-Oct-1993	76	4.1	ch	
2E	6mm	28-Oct-1993	63	2.4	ch	
2E	6mm	28-Oct-1993	60	2.9	ch	
2E	6mm	28-Oct-1993	65	2.6	ch	
3	3mm	6-May-1993	91	7.1	ch	
3	3mm	27-May-1993	.	.		4 Cyprinids
3	3mm	2-Jun-1993	.	.	.	No Catch, 1 snail
3	3mm	9-Jun-1993	77	4.4	ch	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
3	3mm	16-Jun-1993	.	.	.	Snails
3	3mm	23-Jun-1993	.	.	.	No Catch
3	3mm	30-Jun-1993	.	.		2 Sculpins, 1 Long Nose Sucker
3	3mm	7-Jul-1993	.	.	.	No Catch
3	3mm	14-Jul-1993	92	9.3	Rbt	
3	3mm	21-Jul-1993	63	2.4	ch	
3	3mm	21-Jul-1993	66	2.9	ch	
3	3mm	28-Jul-1993	81	5.6	ch	1 Sculpin
3	3mm	4-Aug-1993	82	5.3	Rbt	
3	3mm	11-Aug-1993	.	.	.	1Sculpin
3	3mm	19-Aug-1993	68	2.5	ch	1 Sculpin
3	3mm	19-Aug-1993	70	3.2	ch	
3	3mm	25-Aug-1993	.	.	.	1 Sculpin
3	3mm	1-Sep-1993	84	6.3	ch	
3	3mm	1-Sep-1993	81	5.2	Rbt	
3	3mm	9-Sep-1993	56	1.4	Rbt	1 Sculpin
3	3mm	16-Sep-1993	95	8.5	ch	
3	3mm	23-Sep-1993	.	.		1 Sculpin
3	3mm	30-Sep-1993	.	.	.	No Catch
3	3mm	7-Oct-1993	81	4.4	ch	
3	3mm	7-Oct-1993	85	6.4	ch	
3	3mm	14-Oct-1993	67	2.7	ch	
3	3mm	21-Oct-1993	76	3.7	ch	
3	3mm	28-Oct-1993	.	.	.	No Catch
3	6mm	6-May-1993	91	7.3	ch	
3	6mm	6-May-1993	88	6.7	ch	
3	6mm	27-May-1993	68	3.3	ch	
3	6mm	27-May-1993	139	25.3	Rbt	
3	6mm	2-Jun-1993	78	5.5	ch	
3	6mm	2-Jun-1993	73	3.6	ch	
3	6mm	2-Jun-1993	116	16.1	Rbt	
3	6mm	9-Jun-1993	.	.	.	No Catch
3	6mm	16-Jun-1993	135	21.7	Rbt	1 Grayling
3	6mm	23-Jun-1993	105	13.1	Rbt	
3	6mm	23-Jun-1993	90	8.8	Rbt	
3	6mm	23-Jun-1993	87	7.3	Rbt	
3	6mm	30-Jun-1993	.	.		2 Cyprinids, 1 Long Nose Sucker
3	6mm	7-Jul-1993	.	.	.	2 Cyprinids, 1 Long Nose Sucker
3	6mm	14-Jul-1993	67	3.4	Rbt	
3	6mm	21-Jul-1993	69	3.3	ch	
3	6mm	21-Jul-1993	64	2.4	ch	
3	6mm	21-Jul-1993	68	3.3	ch	
3	6mm	21-Jul-1993	73	4.2	ch	
3	6mm	21-Jul-1993	58	1.7	ch	
3	6mm	21-Jul-1993	64	2.6	ch	
3	6mm	21-Jul-1993	59	1.9	ch	
3	6mm	21-Jul-1993	75	4.8	Rbt	
3	6mm	21-Jul-1993	71	3.9	Rbt	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
3	6mm	28-Jul-1993	62	2.4	ch	
3	6mm	4-Aug-1993	64	2.4	ch	I Long Nose Sucker
3	6mm	4-Aug-1993	72	3.7	ch	
3	6mm	4-Aug-1993	81	5.8	ch	
3	6mm	4-Aug-1993	80	4.9	ch	
3	6mm	4-Aug-1993	72	3.7	ch	
3	6mm	4-Aug-1993	93	9.6	ch	
3	6mm	11-Aug-1993	68	2.8	ch	1 Long Nose Sucker
3	6mm	11-Aug-1993	68	3.1	ch	
3	6mm	11-Aug-1993	70	3	ch	
3	6mm	11-Aug-1993	66	2.7	ch	
3	6mm	19-Aug-1993	.	.	.	No Catch
3	6mm	25-Aug-1993	92	8.1	ch	
3	6mm	25-Aug-1993	90	7.1	ch	
3	6mm	25-Aug-1993	71	3.2	ch	
3	6mm	25-Aug-1993	84	5.6	ch	
3	6mm	25-Aug-1993	65	2.6	ch	
3	6mm	25-Aug-1993	125	18.3	Rbt	
3	6mm	1-Sep-1993	73	3.4	ch	
3	6mm	1-Sep-1993	76	4.5	ch	
3	6mm	1-Sep-1993	83	6	ch	
3	6mm	1-Sep-1993	69	3.2	ch	
3	6mm	1-Sep-1993	82	5.3	ch	
3	6mm	1-Sep-1993	76	4.6	ch	
3	6mm	1-Sep-1993	81	5.5	ch	
3	6mm	1-Sep-1993	74	4.1	ch	
3	6mm	1-Sep-1993	65	2.5	ch	
3	6mm	1-Sep-1993	73	3.7	ch	
3	6mm	1-Sep-1993	72	3.2	ch	
3	6mm	1-Sep-1993	89	7.5	ch	
3	6mm	1-Sep-1993	70	3.4	ch	
3	6mm	1-Sep-1993	90	8	ch	
3	6mm	1-Sep-1993	73	3.7	ch	
3	6mm	1-Sep-1993	100	10.5	Rbt	
3	6mm	9-Sep-1993	65	2.6	ch	
3	6mm	9-Sep-1993	67	2.8	ch	
3	6mm	9-Sep-1993	71	3.4	ch	
3	6mm	9-Sep-1993	72	3.7	ch	
3	6mm	9-Sep-1993	73	3.8	ch	
3	6mm	9-Sep-1993	85	6.1	ch	
3	6mm	9-Sep-1993	70	3.1	ch	
3	6mm	9-Sep-1993	67	2.8	ch	
3	6mm	9-Sep-1993	77	4.5	ch	
3	6mm	9-Sep-1993	74	3.6	ch	
3	6mm	9-Sep-1993	78	4.5	ch	
3	6mm	9-Sep-1993	73	3.5	ch	
3	6mm	9-Sep-1993	80	4.6	ch	
3	6mm	9-Sep-1993	83	5	Rbt	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
3	6mm	16-Sep-1993	71	3.6	ch	
3	6mm	16-Sep-1993	74	3.7	ch	
3	6mm	16-Sep-1993	73	3.6	ch	
3	6mm	16-Sep-1993	80	4.2	ch	
3	6mm	16-Sep-1993	74	3.8	ch	
3	6mm	16-Sep-1993	78	4.1	ch	
3	6mm	16-Sep-1993	108	12.2	Rbt	
3	6mm	23-Sep-1993	78	4.3	ch	
3	6mm	23-Sep-1993	80	4.8	ch	
3	6mm	23-Sep-1993	85	6.3	ch	
3	6mm	23-Sep-1993	74	3.6	ch	
3	6mm	23-Sep-1993	79	4.6	ch	
3	6mm	23-Sep-1993	72	2.6	ch	
3	6mm	23-Sep-1993	74	3.9	ch	
3	6mm	23-Sep-1993	72	3.7	ch	
3	6mm	23-Sep-1993	77	4.1	ch	
3	6mm	23-Sep-1993	108	12.3	Rbt	
3	6mm	30-Sep-1993	75	3.8	ch	
3	6mm	30-Sep-1993	79	4.5	ch	
3	6mm	30-Sep-1993	70	3.1	ch	
3	6mm	30-Sep-1993	78	4.3	ch	
3	6mm	30-Sep-1993	72	3.2	ch	
3	6mm	30-Sep-1993	75	3.6	ch	
3	6mm	7-Oct-1993	74	3.7	ch	
3	6mm	14-Oct-1993	75	4	ch	
3	6mm	34256	72	3.6	ch	
3	6mm	34256	75	3.8	ch	
3	6mm	14-Oct-1993	93	7.7	Rbt	
3	6mm	21-Oct-1993	67	2.7	ch	1 Sculpin
3	6mm	28-Oct-1993	77	4.4	ch	
3	6mm	28-Oct-1993	80	4.6	ch	
4	3mm	6-May-1993	.	.	.	No Catch
4	3mm	27-May-1993	.	.	.	No Catch
4	3mm	2-Jun-1993	75	4.6	ch	
4	3mm	9-Jun-1993	.	.	.	NoCatch
4	3mm	16-Jun-1993	.	.	.	NoCatch
4	3mm	23-Jun-1993	.	.	.	NoCatch
4	3mm	30-Jun-1993	.	.	.	1 Sculpin
4	3mm	7-Jul-1993	.	.	.	No Catch
4	3mm	14-Jul-1993	.	.	.	No Catch
4	3mm	21-Jul-1993	.	.	.	No Catch
4	3mm	28-Jul-1993	70	3.6	Rbt	2 Sculpins, lots of snails
4	3mm	4-Aug-1993	.	.	.	2 Sculpins, 1 leach
4	3mm	11-Aug-1993	.	.	.	
4	3mm	19-Aug-1993	72	3.9	ch	1 Sculpin
4	3mm	25-Aug-1993	77	4.3	ch	1Sculpin
4	3mm	1-Sep-1993	108	13.7	Rbt	
4	3mm	1-Sep-1993	91	7.4	Rbt	

Appendix 1. (Continued)

Station	Minnow Trap Mesh Size	Date	Length (mm)	Weight (g)	(ch) or Rainbow (Rbt)	Other Species and Notes
4	3mm	9-Sep-1993	.	.	.	1 Sculpin
4	3mm	16-Sep-1993	88	6.4	ch	1 Sculpin
4	3mm	23-Sep-1993	.	.	.	No Catch
4	3mm	30-Sep-1993	.	.	.	No Catch
4	3mm	7-Oct-1993	.	.	.	1 Sculpin
4	3mm	14-Oct-1993	.	.	.	1 Sculpin
4	3mm	21-Oct-1993	.	.	.	No Catch
4	3mm	28-Oct-1993	68	3	Rbt	1 Sculpin
4	6mm	6-May-1993	.	.	.	No Catch
4	6mm	27-May-1993	73	4.4	ch	4 Cyprinids
4	6mm	27-May-1993	67	3.3	ch	
4	6mm	2-Jun-1993	.	.	.	1 Caddis Fly
4	6mm	9-Jun-1993	80	7	ch	
4	6mm	9-Jun-1993	81	6.3	ch	1 Sculpin
4	6mm	16-Jun-1993	74	4.3	Rbt	
4	6mm	16-Jun-1993	89	8.4	Rbt	
4	6mm	16-Jun-1993	95	9.6	Rbt	
4	6mm	16-Jun-1993	89	9	Rbt	
4	6mm	16-Jun-1993	99	11.1	Rbt	
4	6mm	16-Jun-1993	68	2.8	Rbt	
4	6mm	23-Jun-1993	.	.	.	No Catch (1 dead mouse in trap)
4	6mm	30-Jun-1993	108	12.6	Rbt	
4	6mm	30-Jun-1993	121	19.9	Rbt	
4	6mm	7-Jul-1993	97	10.7	Rbt	trap
4	6mm	7-Jul-1993	125	17.4	Rbt	
4	6mm	14-Jul-1993	94	9.6	Rbt	6 Snails
4	6mm	21-Jul-1993	73	3.7	ch	1 Sculpin
4	6mm	28-Jul-1993	74	4.4	ch	
4	6mm	28-Jul-1993	72	3.6	ch	
4	6mm	4-Aug-1993	79	4.9	Rbt	
4	6mm	4-Aug-1993	97	10.1	Rbt	
4	6mm	4-Aug-1993	123	18.1	Rbt	
4	6mm	11-Aug-1993	.	.		1 Sculpin
4	6mm	19-Aug-1993	100	11.8	Rbt	
4	6mm	19-Aug-1993	126	18.3	Rbt	
4	6mm	19-Aug-1993	99	11.7	Rbt	
4	6mm	25-Aug-1993	.	.	.	No Catch
4	6mm	1-Sep-1993	.	.	.	No Catch
4	6mm	9-Sep-1993	.	.	.	No Catch
4	6mm	16-Sep-1993	.	.	.	No Catch
4	6mm	23-Sep-1993	.	.	.	No Catch
4	6mm	30-Sep-1993	.	.	.	No Catch
4	6mm	7-Oct-1993	81	5.2	ch	
4	6mm	7-Oct-1993	98	10.3	Rbt	
4	6mm	14-Oct-1993	.	.	.	1 Sculpin
4	6mm	21-Oct-1993	.	.	.	No Catch
4	6mm	28-Oct-1993	81	5.7	Rbt	

Appendix 2. Water temperatures and suspended solids by date and station.

Date	Station	Water Temperature (oC)	Suspended Solids (mg/L)
6-May-1993	1	6	52.8
27-May-1993	1	12	.
2-Jun-1993	1	14	.
9-Jun-1993	1	10	.
16-Jun-1993	1	13	160.4
23-Jun-1993	1	11	85.2
30-Jun-1993	1	14	315.6
7-Jul-1993	1	11	49.2
14-Jul-1993	1	15	39.2
21-Jul-1993	1	12	18
28-Jul-1993	1	15	10.4
4-Aug-1993	1	13	85.6
11-Aug-1993	1	11	34.8
19-Aug-1993	1	11	20.8
25-Aug-1993	1	10	9.2
1-Sep-1993	1	13	3.6
9-Sep-1993	1	10	5.6
16-Sep-1993	1	7	67.2
23-Sep-1993	1	4	18
30-Sep-1993	1	3	5.6
7-Oct-1993	1	2	16.8
14-Oct-1993	1	2	18
21-Oct-1993	1	0	74
28-Oct-1993	1	0	7.2
6-May-1993	2W	7	172.4
27-May-1993	2W	12	.
2-Jun-1993	2W	14	.
9-Jun-1993	2W	11	.
16-Jun-1993	2W	15	18.8
23-Jun-1993	2W	13	34
30-Jun-1993	2W	15	26.8
7-Jul-1993	2W	13	66.8
14-Jul-1993	2W	15	12.8
21-Jul-1993	2W	15	6.4
28-Jul-1993	2W	14	12.8
4-Aug-1993	2W	14	52
11-Aug-1993	2W	12	8
19-Aug-1993	2W	11	10.4
25-Aug-1993	2W	11	6.8
1-Sep-1993	2W	12	2.4
9-Sep-1993	2W	10	3.2
16-Sep-1993	2W	8	17.2
23-Sep-1993	2W	4	12
30-Sep-1993	2W	4	3.2
7-Oct-1993	2W	2	7.6
14-Oct-1993	2W	2	4
21-Oct-1993	2W	1	5.2
28-Oct-1993	2W	1	3.6

Appendix 2. (Continued)

Date	Station	Water Temperature (oC)	Suspended Solids (mg/L)
6-May-1993	2E	6	11.2
27-May-1993	2E	11	.
2-Jun-1993	2E	13	.
9-Jun-1993	2E	9	.
16-Jun-1993	2E	12	15.2
23-Jun-1993	2E	10	8.4
30-Jun-1993	2E	13	6.8
7-Jul-1993	2E	11	.
14-Jul-1993	2E	14	7.6
21-Jul-1993	2E	13	7.6
28-Jul-1993	2E	14	8.8
4-Aug-1993	2E	13	256.4
11-Aug-1993	2E	11	5.2
19-Aug-1993	2E	10	14.4
25-Aug-1993	2E	9	10.8
1-Sep-1993	2E	11	3.6
9-Sep-1993	2E	9	6
16-Sep-1993	2E	6	7.2
23-Sep-1993	2E	3	3.6
30-Sep-1993	2E	3	3.6
7-Oct-1993	2E	1	4.4
14-Oct-1993	2E	1	2.4
21-Oct-1993	2E	0	8.8
28-Oct-1993	2E	0	2.8
6-May-1993	3	8	3.6
27-May-1993	3	15	.
2-Jun-1993	3	15	.
9-Jun-1993	3	11	.
16-Jun-1993	3	16	1.2
23-Jun-1993	3	13	2.4
30-Jun-1993	3	16	5.2
7-Jul-1993	3	14	5.6
14-Jul-1993	3	16	3.2
21-Jul-1993	3	15	2
28-Jul-1993	3	16	5.6
4-Aug-1993	3	16	4.4
11-Aug-1993	3	13	2.4
19-Aug-1993	3	12	1.2
25-Aug-1993	3	11	2.4
1-Sep-1993	3	13	1.2
9-Sep-1993	3	11	2.4
16-Sep-1993	3	8	4.8
23-Sep-1993	3	2	2.4
30-Sep-1993	3	9	1.6
7-Oct-1993	3	4	2
14-Oct-1993	3	1	2
21-Oct-1993	3	2	0.4
28-Oct-1993	3	2	0.4

Appendix 2. (Continued)

Date	Station	Water Temperature (oC)	Suspended Solids (mg/L)
6-May-1993	4	8	.
27-May-1993	4	15	.
2-Jun-1993	4	15	.
9-Jun-1993	4	13	.
16-Jun-1993	4	16	.
23-Jun-1993	4	14	.
30-Jun-1993	4	17	.
7-Jul-1993	4	15	.
14-Jul-1993	4	16	.
21-Jul-1993	4	16	.
28-Jul-1993	4	16	.
4-Aug-1993	4	16	.
11-Aug-1993	4	13	.
19-Aug-1993	4	11	.
25-Aug-1993	4	11	.
1-Sep-1993	4	13	.
9-Sep-1993	4	11	.
16-Sep-1993	4	8	.
23-Sep-1993	4	5	.
30-Sep-1993	4	5	.
7-Oct-1993	4	2	.
14-Oct-1993	4	3	.
21-Oct-1993	4	2	.
28-Oct-1993	4	2	.