

**Fishery Data Series No. 91-32**

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# **Sitkoh Creek Steelhead Study, 1990**

by

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Roger Harding,  
and  
Art Schmidt**

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Alaska Department of Fish and Game

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## ABSTRACT

Steelhead *Oncorhynchus mykiss* escapement into Sitkoh Creek, Chichagof Island, Southeast Alaska, was counted as it passed upstream through a bipod and picket weir. The 1990 escapement of steelhead between April 5 and June 1 was 661, with 402 females (61 percent), 258 males (39 percent), and 1 fish which we were unable to determine the sex of. We successfully aged 404 of those fish.

Steelhead spawning for the first time represented 7 age classes, with age 4.2 comprising 40.4 percent of first-time spawners. Initial spawning steelhead represented 54 percent of the total return. Repeat spawning steelhead represented 24 age classes, with ages 3.2S1, 3.3S1, 4.2S1, and 4.3S2 accounting for 60.8 percent of the total.

An estimated 1,205 angler hours (standard error = 57) were expended to catch 278 (standard error = 20) steelhead. The harvest of steelhead was an estimated 35 (standard error = 3) fish for an overall release rate of 87 percent. An estimated total of 176 cutthroat trout *Oncorhynchus clarki* was also caught (standard error = 20), and of that total, 21 (standard error = 2) fish were released. An estimated total of 25 Dolly Varden *Salvelinus malma* was caught and kept (standard error = 5), and another 566 fish were caught and released, for a total Dolly Varden catch of 591 (standard error = 37).

KEY WORDS: Steelhead, *Oncorhynchus mykiss*, escapement, weir, cutthroat trout, *Oncorhynchus clarki*, Dolly Varden, *Salvelinus malma*, creel survey, Sitkoh Creek, Southeast Alaska, Chichagof Island, age-weight-length, harvest.

## INTRODUCTION

Sitkoh Creek, located on Chichagof Island (Figure 1), supports one of the most important steelhead *Oncorhynchus mykiss* runs and sport fisheries in northern Southeast Alaska. Sitkoh Creek attracts steelhead anglers from all urban centers of the region, with the majority coming from Sitka (Jones, 1983).

Most of the Sitkoh Creek steelhead fishery occurs in the lower sections of the creek. The primary fishing site is a pool at the upper end of the intertidal area. Most anglers access the area from salt water.

Some anglers use a U.S. Forest Service (USFS) recreational cabin at Sitkoh Lake about 6.4 km from the stream mouth. Harvests from that location are thought to be insignificant based on data collected in 1987 (A. E. Schmidt, Alaska Department of Fish and Game, Sitka, personal communication). Schmidt estimated that no steelhead were caught in 1987 from the cabin but that 53 steelhead were harvested and an additional 163 steelhead were caught and released in the lower stream. In 1987, an estimated 17 anglers fished from the cabin, and 123 accessed Sitkoh Creek from the intertidal area of Sitkoh Bay.

There were indications that the population of steelhead in Sitkoh Creek had recently undergone a decline. Stream surveys of Sitkoh Creek have been conducted annually by the ADFG Sitka Area Management Biologist since 1983 to count the number of adult steelhead in the system. The average number of adult steelhead observed from 1983 through 1987 was 103 fish. The numbers observed in 1988 and 1989 were 17 and 20, respectively. The severity and abruptness of this decrease warranted further investigation to determine if the Sitkoh Creek steelhead population had declined or if other factors were affecting the foot surveys.

Steelhead entering Sitkoh Creek were counted through a weir during the spring of 1936, 1937, and 1982. The resultant counts were 760, 1,108, and 770, respectively. Consequently, a weir count of steelhead entering Sitkoh Creek in 1990 was used to evaluate the population's current status.

The research objectives for the 1990 study were:

1. to count the escapement of steelhead into the Sitkoh Creek system between early April and May 31, 1990;
2. to estimate the mean fork length at age of the adult steelhead returning to Sitkoh Creek between early April and May 31, 1990; and
3. to evaluate the sport angler effort, catch, and harvest of steelhead in the Sitkoh Creek system between early April and May 31, 1990.

## METHODS

### Escapement Weir

An aluminum bipod and picket weir with an upstream sampling trap was operated near the mouth of Sitkoh Creek (Figure 2). Adult steelhead entering the system were counted upstream through the weir as they arrived. We also measured water temperature (°C) and the water level (cm) at the weir at 0800 hours daily. All steelhead passing upstream through the weir were counted and measured to the

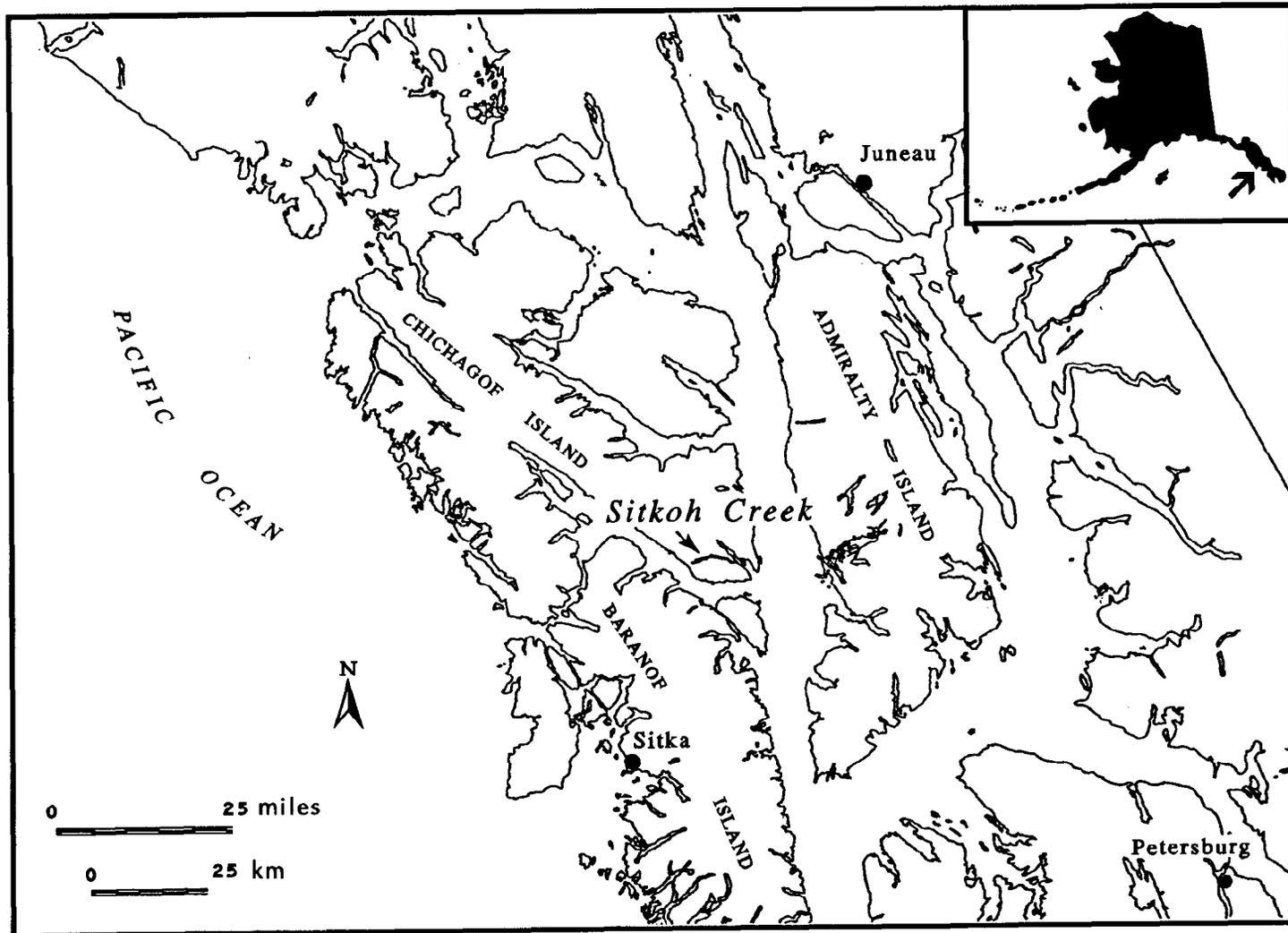


Figure 1. Northern Southeast Alaska and Sitkoh Creek.

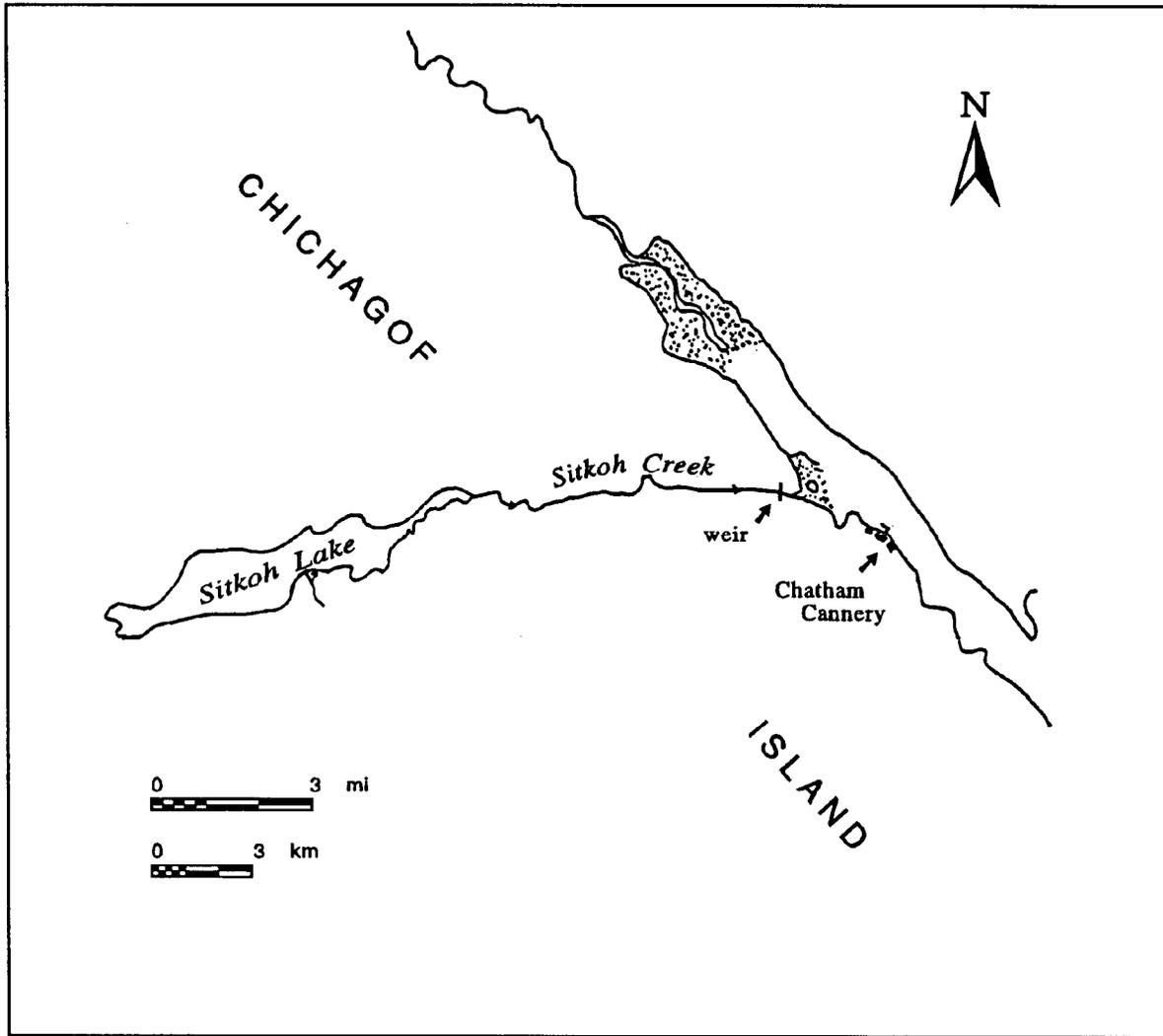


Figure 2. Location of weir at Sitkoh Creek in 1990.

nearest 1 mm of fork length (FL, tip of snout to fork of tail). Date, time of passage through the weir, sample number, sex (when possible), fork length, general condition, and comments were recorded. We also noted the presence of net marks or other wounds. A scale sample was collected from the lateral surface of each fish midway between the lateral line and the dorsal fin for subsequent age determination. Scale samples were initially placed in coin envelopes and later cleaned by immersion in warm water and soap to remove epidermal material. Three scales from each fish were mounted on a gum card, and a triacetate impression was made (30 seconds at 7,000 kg/cm<sup>2</sup> and 97°C). Scales and otoliths were taken from all steelhead mortalities observed in the stream or in the creel census (if possible), so that ages determined from otoliths and scales could be cross-checked.

A hole was punched in the upper lobe of the caudal fin of each steelhead passing the weir. This would have allowed a mark-recapture estimate of the population had the weir washed out in the spring floods.

### Harvest Studies

Our camp was located about 300 m up from the stream mouth, which is where most of the fishing effort occurs. The camp was situated next to the access trail used by most anglers to access areas above the lower fishing area. This permitted us to interview all anglers who had completed their trips in upper fishing areas. Since all anglers fishing upstream were interviewed, expansions for that area were unnecessary.

In lower Sitkoh creek, a stratified two-stage direct expansion survey (Cochran 1977) was used to estimate total angler effort, harvest, and catch for anglers exiting Sitkoh Creek. Strata were types of day (weekend vs weekdays) and seasons (three 14-day periods); there were thus 12 distinct strata. Within strata, "days" (actually ½-day periods) were primary sampling units, and anglers within days were secondary sampling units. In each ½-day period selected for sampling, an attempt was made to interview all anglers exiting the stream during the entire period. Sampling effort was allocated to weekend and weekday strata in proportion to the angling effort expected, based on a creel census conducted in Sitkoh Creek in 1987. Two of 4 weekend/holidays and 3 of 10 weekdays in each 14-day season were selected for sampling.

Each exiting angler interviewed at Sitkoh Creek was asked how many hours he fished (to the nearest 0.25 hour), whether or not the trip was complete, the number of fish kept and/or released by species, and the community from which their trip originated.

The harvest in each stratum was estimated:

$$\hat{C}_h = D_h \bar{C}_h \quad (1)$$

$$\bar{C}_h = \frac{\sum_{i=1}^{d_h} \hat{C}_{hi}}{d_h} \quad (2)$$

$$\hat{C}_{hi} = M_{hi} \bar{C}_{hi} \quad (3)$$

$$\bar{c}_{hi} = \frac{\sum_{j=1}^{m_{hi}} c_{hij}}{m_{hi}} \quad (4)$$

where  $c_{hij}$  is the harvest by angler  $j$  in sampling day  $i$  stratum  $h$ ,  $m_{hi}$  is the number of anglers interviewed in day  $i$ ,  $M_{hi}$  is the number of anglers completing trips in day  $i$ ,  $d_h$  is the number of days sampled in stratum  $h$ , and  $D_h$  is the number of days in stratum  $h$ . The variance of the harvest by stratum is estimated:

$$V[\hat{C}_h] = (1-f_{1h}) D_h^2 \frac{\sum_{i=1}^{d_h} (\hat{c}_{hi} - \bar{c}_h)^2}{d_h (d_h - 1)} + D_h \sum_{i=1}^{d_h} M_{hi}^2 (1-f_{2hi}) \frac{\sum_{j=1}^{m_{hi}} (c_{hij} - \bar{c}_{hi})^2}{d_h m_{hi} (m_{hi} - 1)} \quad (5)$$

where  $f_{1h}$  is the sampling fraction for days and  $f_{2hi}$  is the sampling fraction for anglers. Harvest and effort for the season (and their variances) are the sums across strata  $\Sigma C_h$  and  $\Sigma V[C_h]$ , and  $\Sigma E_h$  and  $\Sigma V[E_h]$ .

We left self-addressed and stamped forms in the USFS cabin located at Sitkoh Lake for voluntary use by anglers who fished from the cabin. The information requested was the same as we collected in our interviews at the stream mouth. After the fishing season, we contacted the U.S. Forest Service and obtained a list of all cabin reservations to determine the total number of anglers who used the cabin.

## RESULTS

### Escapement Weir

The weir was operated from April 5 through May 31, 1990. The first fish passed through the weir on April 9 (Figure 3). A total of 661 steelhead was counted upstream; the peak count of 49 fish passed through on May 5 (Appendix A1). Of the 661 fish, 258 (39%) were males and 402 (61%) were females; we were unable to determine the sex of one fish. We did not have any problems holding the weir, so the additional fin marks placed on immigrant steelhead were not used for analysis purposes.

Water temperatures ranged from 2°C when the weir was installed to a high of 11°C on June 1 (Appendix A1). Temperatures were approximately 5°C during the period of peak upstream passage the first week of May. Water levels were low (20 cm) when the weir was installed and increased to a high of 63 cm on April 21 during a period of heavy rain and snow melt (Appendix A1, Figure 3). After April 23, water levels decreased gradually up to the time the weir was pulled.

Of the 661 fish through the weir, we were able to age a total of 404 (Table 1). We also aged an additional 13 steelhead from the angler harvest (Appendix A3). An estimated 54% percent of the steelhead passing upstream through the weir were first-time spawners. Seven age classes were documented among first-time spawners, with age 4.2 dominating at 40.4% (Figure 4, Table 1). Ages 3.2 and 3.3 were also an important segment of the first-time spawners (45%). Repeat spawning steelhead in Sitkoh Creek represented 46% of the return and included a total of 24 age classes. Four age classes (ages 3.3S1, 3.2S1, 4.2S1, and 4.3S1) comprised 60.8% of the total repeat spawners (Figure 5).

The median length of spawning female steelhead (800mm) was 80mm above the median for male steelhead (Figure 6). The proportion of repeat female spawners was also

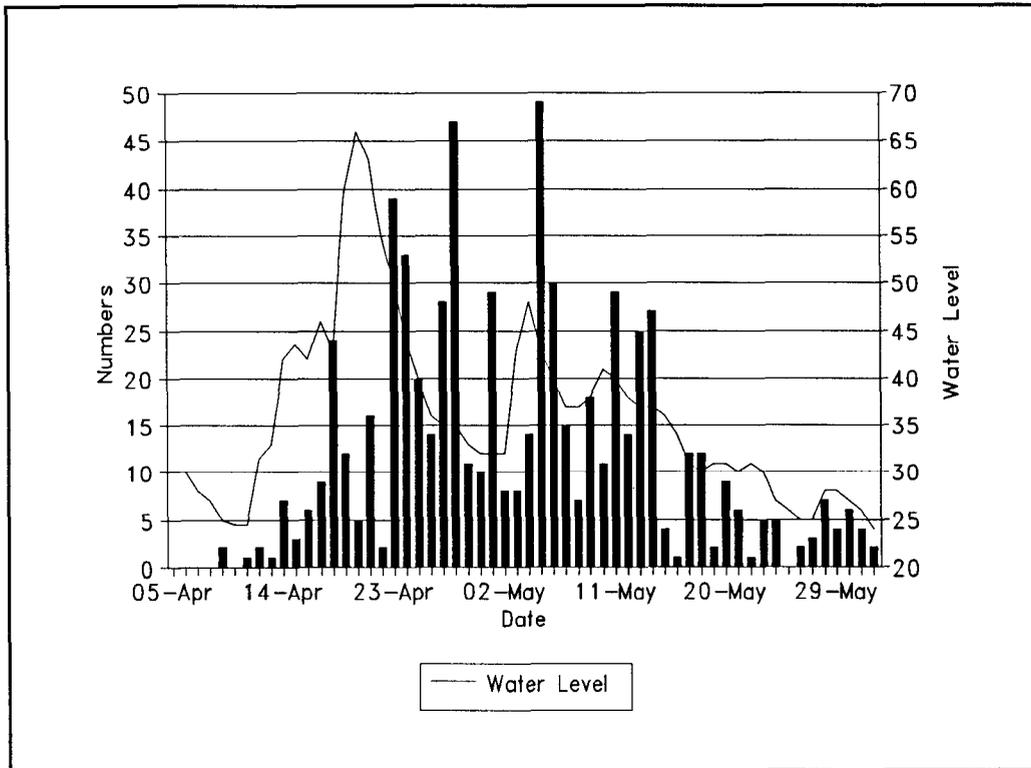


Figure 3. Sitkoh Creek steelhead escapement counts and relative daily water levels, 1990.

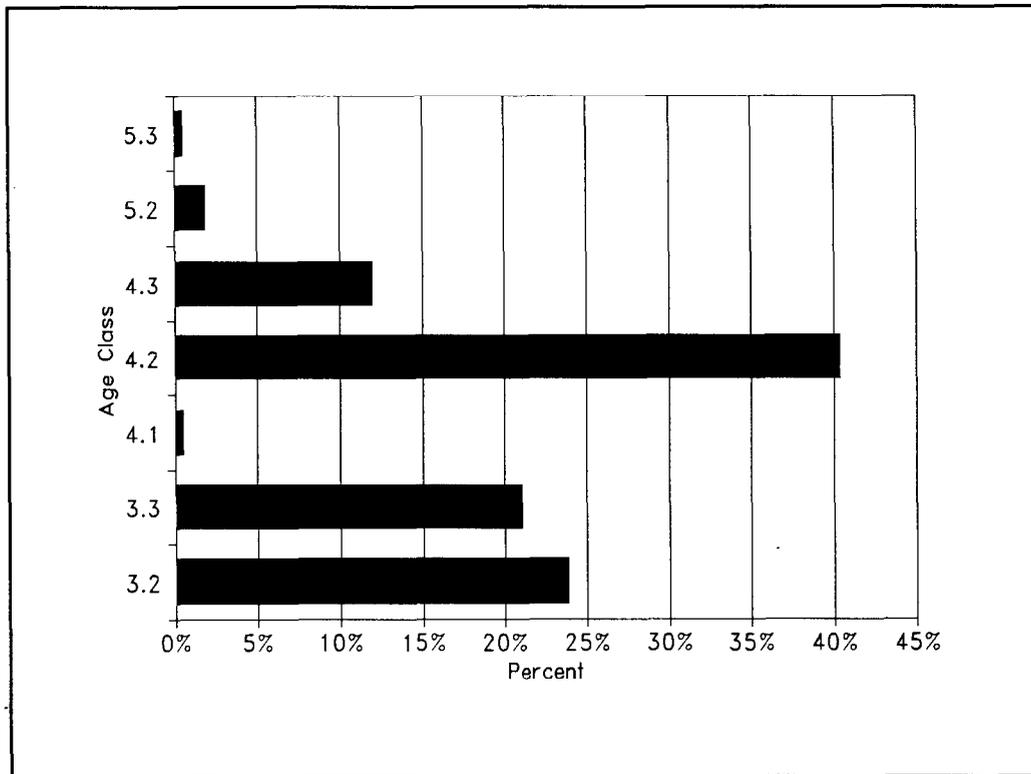


Figure 4. Age classes of initial steelhead spawners in Sitkoh Creek, 1990.

Table 1. Age and mean length of 404 inmigrant steelhead with ageable scales, Sitkoh Creek, 1990.

Class	Females			Males		
	n	Length	SE	n	Length	SE
3.2	13	660	8.2	39	660	6.8
3.3	29	773	6.3	17	810	10.7
4.1	1	646				
4.2	30	670	6.1	58	687	3.8
4.3	19	783	10.7	7	824	13.5
5.2	1	672		3	713	23.4
5.3	1	796				
2.2S1				1	762	
2.2S1S1	1	803				
3.1S1S1S1	1	829				
3.2S1	19	766	6.7	15	800	18.7
3.2S1S1	15	824	11.3	2	791	1.5
3.2S1S1S1	8	839	9.7			
3.2S1S1S1S1	1	872				
3.3S1	29	799	5.3	5	850	21.1
3.3S1S1	4	824	17.3			
3.3S1S1S1	1	828				
4.1S1				2	667	35.5
4.1S1S1	1	748				
4.2S1	21	732	37.2	4	764	29.7
4.2S1S1	16	821	9.0	2	795	74.5
4.2S1S1S1	3	853	23.5			
4.2S1S1S1S1	1	840				
4.3S1	17	827	7.1	3	799	11.8
4.3S1S1	3	866	17.8			
4.3S1S1S1	1	875				
5.1S1				1	664	
5.2S1	4	787	25.4	2	772	41.0
5.2S1S1	1	828				
5.3S1	2	864	29.0			
Total	243			161		

higher: 54.7% of the upstream migrating females were repeat spawners, while only 19% of the upstream migrating males were repeat spawners.

We examined every upstream migrant for physical markings (Appendix A3). About 6% of the upstream migrants displayed marks indicating possible gill net injuries. A total of 24 steelhead had patterns of scale loss or abrasion that could have been caused by a gill net. An additional 13 steelhead had tail notches that could have been caused by hanging from the tail in a gill net.

Steelhead tended to move upstream through our weir after dark. Over 61% of the upstream migration passed through the weir between 2300 and 0200 hours (Figure 7).

More than 80% of the steelhead that arrived at the weir in the early weeks of the run were males (Figure 8). As the run progressed, the proportion of males steadily declined to just over 23% during the last week of weir operation.

In addition to steelhead, we observed hundreds of Dolly Varden *Salvelinus malma* moving downstream during mid- to late April and early May. We were unable to count Dolly Varden because most were able to swim through the pickets of the weir. Since we were unable to count them, we built a fyke net into the face of the weir to allow them free passage downstream.

#### Harvest Studies

Angler effort was low during the early portions of the survey (April 9-22), and we observed only 49.1 hours of effort in that period. Both observed effort and catch (Table 2) generally increased each period from the first bi-weekly period to the third.

Steelhead anglers in Sitkoh Creek fished an estimated 1,206 hours (SE = 199.0) from April 9 through May 20 (Table 3) and caught an estimated 277 (SE = 83.4) steelhead. The total number of steelhead kept was 34 (SE = 8.7), for an overall steelhead release rate in 1990 of 87.4%.

Anglers also caught an estimated 176 cutthroat trout *Oncorhynchus clarki* (SE = 95.3), 591 Dolly Varden (SE = 165.9), and 42 Rainbow (SE = 21.4). Anglers kept an estimated 21 cutthroat trout (SE = 6.6), 25 Dolly Varden (SE = 9.5), and 23 rainbow trout (SE = 19.5).

Effort and harvest were higher late in the day through all three sampling periods. Of the total hours of effort, an estimated 943.5 hours (78.3%) were expended in the late day (afternoon) stratum, and only 261.7 hours (21.7%) were spent in the morning hours. Out of the total catch of 278 steelhead, 209 fish (75%) were caught in the late day stratum.

According to the U.S. Forest Service, six parties used the cabin. Our field crew interviewed each of them in the lower areas of the stream. Since all of these parties were included in the creel survey estimates, we did not estimate effort from the cabin separately. All of the parties that fished Sitkoh Creek from the USFS cabin at Sitkoh Lake indicated that the best fishing was in the lower stream. While they indicated that fishing upstream was good for cutthroat trout and Dolly Varden, they all preferred to hike to the mouth of the stream to fish for steelhead. We also received from the six parties voluntary creel forms summarizing effort and harvest. The six parties included a total of 16 anglers

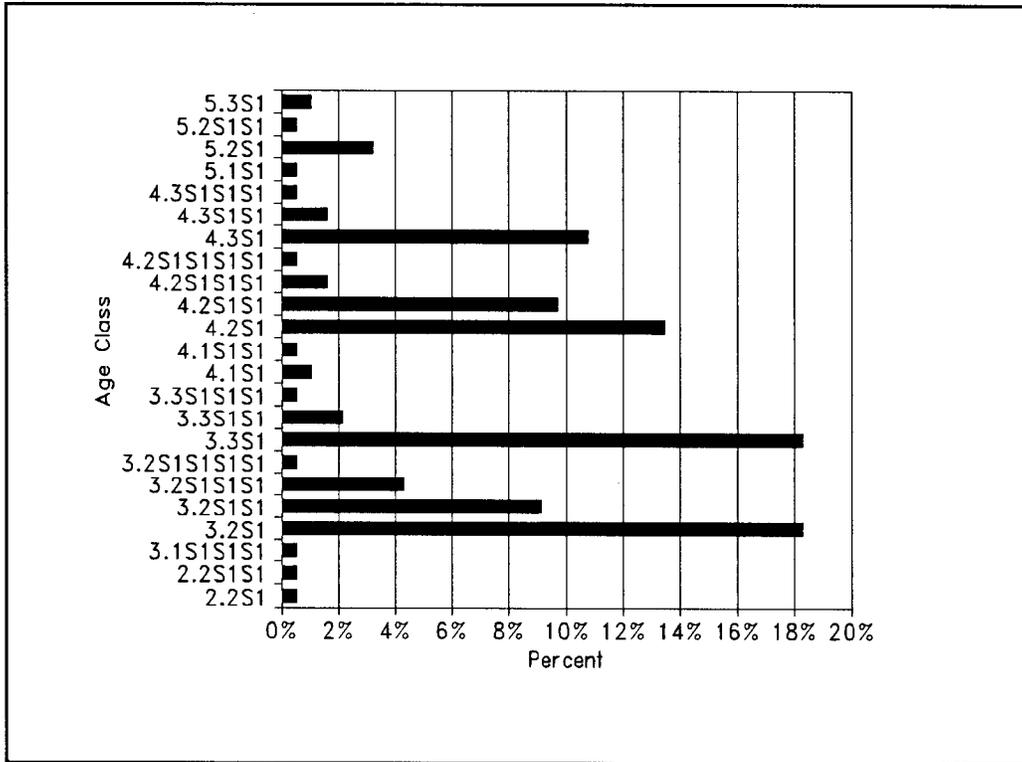


Figure 5. Age classes of repeat steelhead spawners in Sitkoh Creek, 1990.

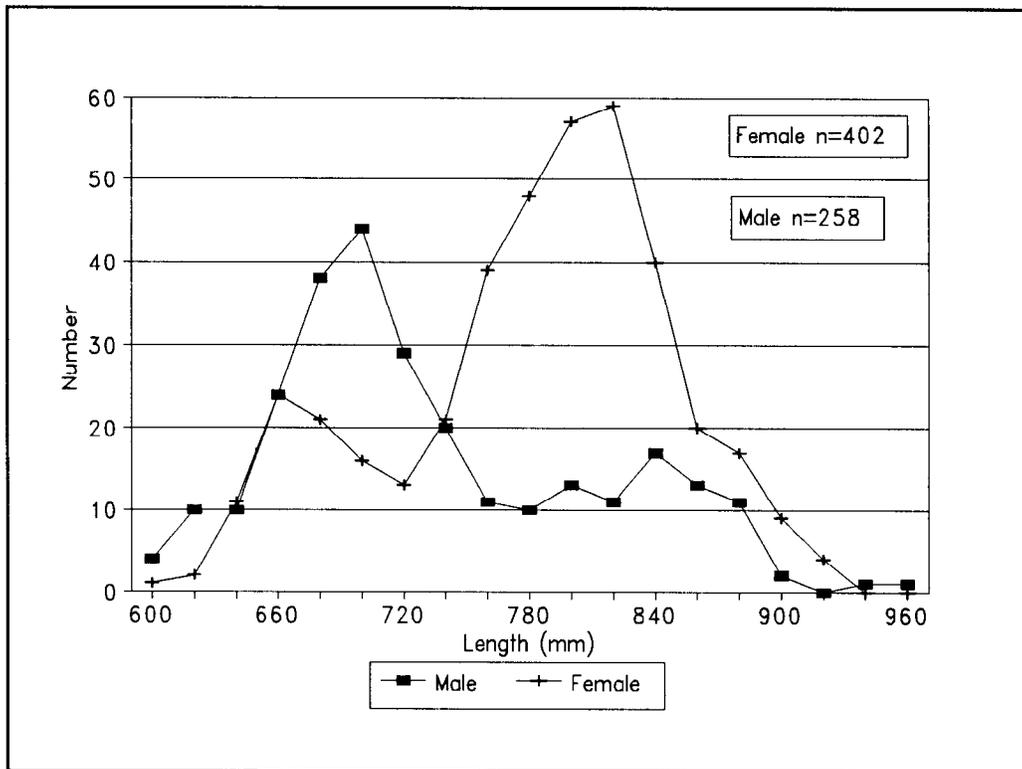


Figure 6. Length frequency of steelhead in Sitkoh Creek, 1990.

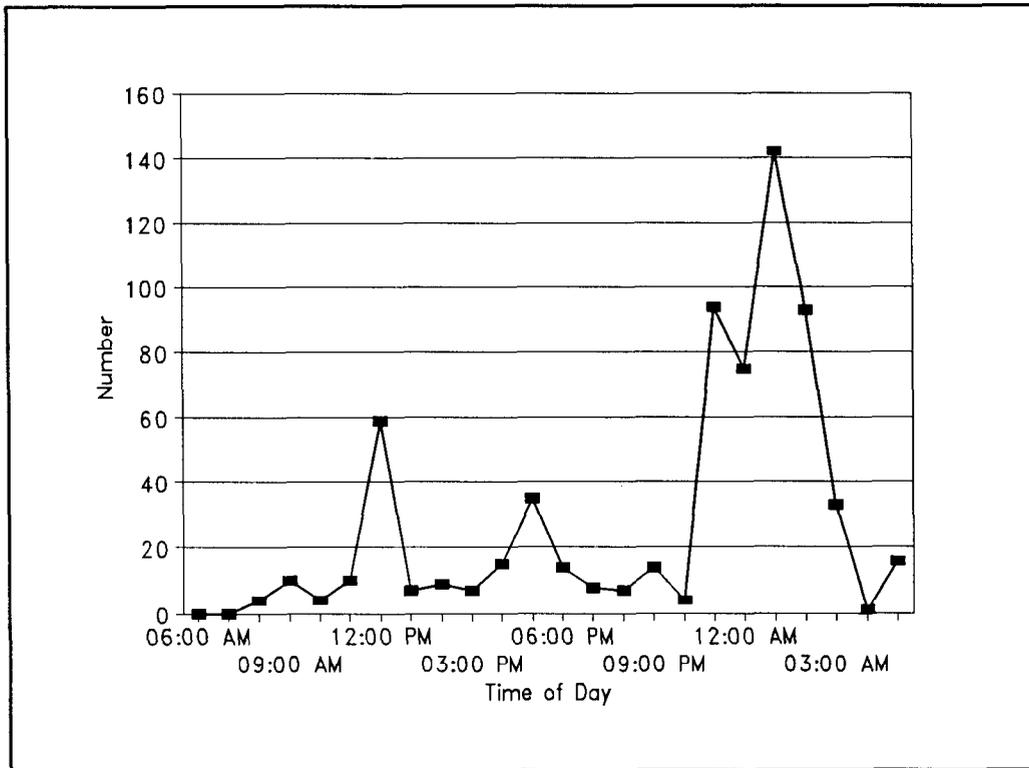


Figure 7. Steelhead passage through the weir at Sitkoh Creek by time of day, 1990.

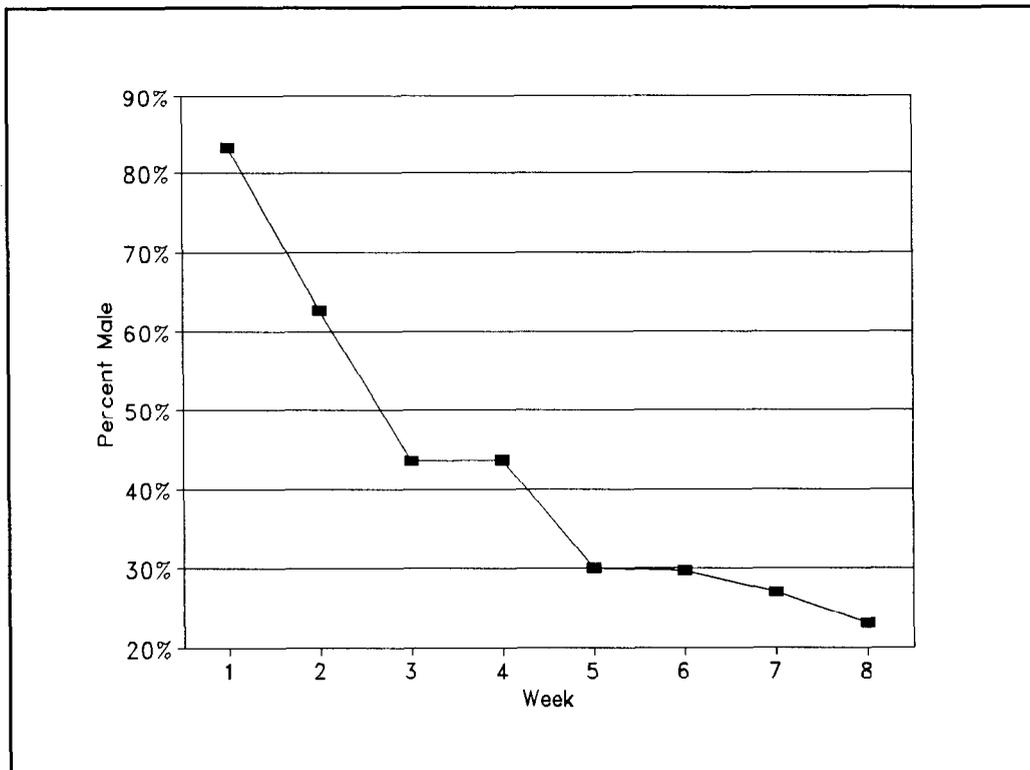


Figure 8. Percentage of males passing through the Sitkoh Creek weir by week, 1990. (Week 1 starts Sunday, April 7).

Table 2. Observed angler effort (angler-hours), number of interviews, number of periods sampled, number of possible sampling periods, and observed harvest and catch by species, period in day, and sampling period, Sitkoh Creek, 1990.

Strata	Angler effort	Anglers interviewed	Periods sampled	Samples possible	Steelhead		Cutthroat		Dolly Varden		Rainbow	
					Kept	Caught	Kept	Caught	Kept	Caught	Kept	Caught
<u>Early Day</u>												
Weekend												
4/9-4/22	9.0	4	2	4	0	1	0	0	1	1	0	0
4/23-5/6	32.0	16	2	4	3	5	0	2	25	25	1	1
5/7-5/20	15.0	7	2	4	3	5	1	3	0	0	0	3
Weekday												
4/9-4/22	7.8	3	3	10	0	1	0	0	0	0	0	0
4/23-5/6	17.2	10	3	10	0	6	0	0	14	14	0	0
5/7-5/20	21.0	6	3	10	1	7	0	1	2	3	0	0
<u>Late Day</u>												
Weekend												
4/9-4/22	30.3	6	2	4	0	0	0	0	7	13	0	0
4/23-5/6	64.0	19	2	4	3	15	0	1	18	23	0	0
5/7-5/20	51.0	11	2	4	0	13	9	7	7	10	0	3
Weekday												
4/9-4/22	1.1	2	3	10	1	3	0	0	0	0	0	0
4/23-5/6	75.8	30	3	10	1	3	6	6	60	60	4	4
5/7-5/20	119.0	24	3	10	2	40	35	38	57	57	1	8
<b>Total</b>	<b>454.0</b>	<b>138</b>	<b>30</b>	<b>84</b>	<b>15</b>	<b>98</b>	<b>50</b>	<b>58</b>	<b>194</b>	<b>206</b>	<b>6</b>	<b>16</b>

Table 3. Estimated total angler effort, harvest, and catch by sampling period, Sitkoh Creek, 1990.

	April 9 - April 22	April 23 - May 6	May 7 - May 20	Total
<b>Angler hours</b>				
Estimate	108	499	599	1,206
Variance	1,716	21,151	16,750	39,617
SE	41.4	145.4	129.4	199.0
Rel. prec. <sup>a</sup>	0.8	0.6	0.4	0.3
<b>Steelhead kept</b>				
Estimate	3	15	16	34
Variance	8	12	57	77
SE	2.8	3.4	0.5	8.7
Rel. prec.	1.9	0.5	0.9	0.5
<b>Steelhead catch</b>				
Estimate	15	70	192	277
Variance	80	145	6,727	6,952
SE	8.9	12.1	82.0	83.4
Rel. prec.	1.2	0.3	0.9	.6
<b>Cutthroat kept</b>				
Estimate	0	6	15	21
Variance	0	10	33	43
SE	0.0	3.2	5.8	6.6
Rel. prec.		1.1	0.8	0.6
<b>Cutthroat catch</b>				
Estimate	0	26	150	176
Variance	0	173	8,905	9,078
SE	0.0	13.2	94.4	95.3
Rel. prec.		1.0	1.3	1.1
<b>Dolly Varden kept</b>				
Estimate	12	10	3	25
Variance	32	50	8	90
SE	5.7	7.1	2.8	9.5
Rel. prec.	0.9	1.4	1.9	0.8
<b>Dolly Varden catch</b>				
Estimate	28	342	220	591
Variance	244	15,162	12,123	27,529
SE	15.6	123.1	110.1	165.9
Rel. prec.	1.1	0.7	1.0	0.6
<b>Rainbow kept</b>				
Estimate	0	0	23	23
Variance	0.0	0.0	381	381
SE	0.0	0.0	19.5	19.5
Rel. prec.			1.7	1.7
<b>Rainbow catch</b>				
Estimate	0	15	27	42
Variance	0	126	334	460
SE	0.0	11.2	18.3	21.4
Rel. prec.		1.5	1.4	1.0

<sup>a</sup> Relative precision = 1.96 SE/estimate.

who spent a total of 203 hours fishing. Only one steelhead was caught and kept by these anglers; another 51 were caught and released.

The estimated variance for effort, catch, and harvest of steelhead by stratum, sampling stage, and time of day for Sitkoh Creek for 1990 are shown in Appendix A2. These variances are useful for planning subsequent surveys.

A total number of 123 anglers were asked where their trip originated. The majority, or 51 (41.5%), were from Sitka; 23 (18.7%) were from Angoon, 22 (17.9%) from Juneau, 8 from other Alaska cities (including Anchorage), and 15 anglers (12.2%) were from out of state.

#### DISCUSSION

Compared to the escapement in 1982, the midpoint of the steelhead run in 1990 (May 3) was 5 days earlier than it was in 1982. In addition, the run was more protracted in 1990 than in 1982. In 1982, a much higher percentage of the run passed through on the days before the normal foot survey date. The Sitka Area Management Biologist normally conducts the foot survey between May 16 and 18 each year. In 1982, 61.8% of the run passed upstream through the weir in the two weeks before those dates. In 1990, the run was earlier, the peak not as pronounced, and only 38.7% of the total run passed through in the two weeks before the normal foot survey date. For future foot surveys it may be advisable to conduct two or three surveys between the last week of April and the second week of May. This would insure that one of the surveys would be done when peak numbers of steelhead are in the stream.

The estimated catch in our creel survey (277 steelhead) represented 42% of the total immigration through the weir. Release rates this year were high (87%), so the harvest only represented 5% of the total return. By comparison with past creel studies on Sitkoh Creek, catches have almost tripled, while the release rate increased from 50% in 1976 to 87% in this study. The increasing release rates have kept harvest relatively low (Figure 9, Table 4).

The rate at which anglers release steelhead at Sitkoh Creek is one of the highest in Southeast Alaska (Table 5) and is much higher than that seen at the Anchor River on the Kenai Peninsula in 1983 (Wallis and Balland 1984). It is also considerably higher than we saw at Peterson Creek on the Juneau roadside (Harding and Jones 1990) and at the Situk River (Johnson and Marshall *In press*). Many of the anglers we contacted during the creel survey fish Sitkoh Creek each year and were very concerned about the stocks. As a result, catch-and-release fishing is common and increasing. Jones (1976) concluded that wild steelhead populations are hard to maintain under heavy fishing pressure. In Sitkoh Creek, where 42% of the upstream migrants are caught at least once, future harvests may need to be closely monitored or catch-and-release fishing restrictions imposed.

We do not know the rate of mortality inflicted on Sitkoh Creek steelhead by catch-and-release fishing. We did, however, observe evidence of repeated catches from fishing tackle still attached to fish. Mortality resulting from catch-and-release fishing should also be investigated, since fishing pressure on many steelhead stocks in Southeast Alaska is rapidly increasing.

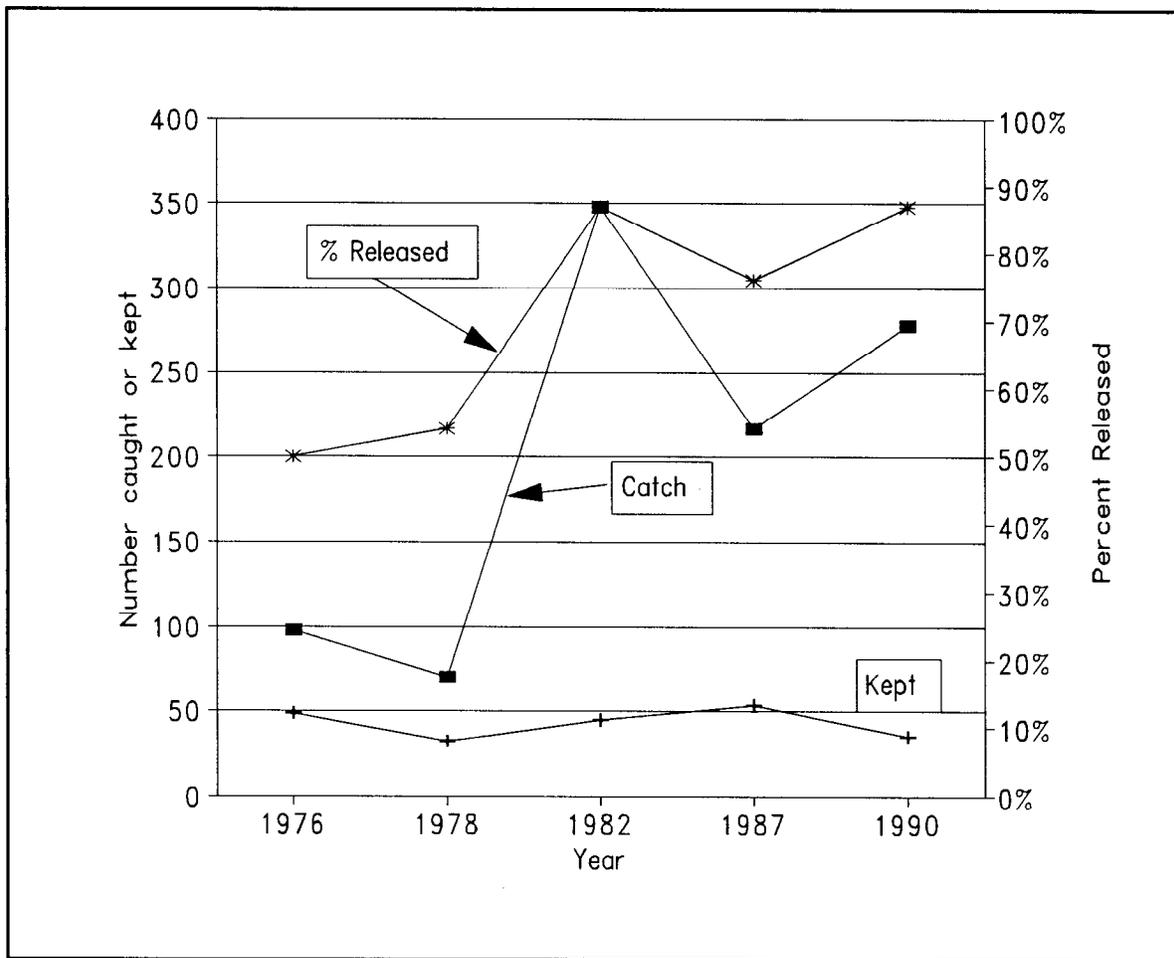


Figure 9. Sport catch and harvest of steelhead, and percent kept in Sitkoh Creek, 1976, 1978, 1982, 1987, and 1990.

Table 4. Summary of Sitkoh Creek creel survey information.

Year	No. of anglers	Angler hours	Total catch	No. of fish kept	Catch per hour	Percent released
1976	111	2,107	98	49	0.05	50.0%
1978 <sup>a</sup>	150	763	70	32	0.09	54.3%
1982 <sup>b</sup>	116	-- <sup>c</sup>	348	45	-- <sup>c</sup>	87.1%
1987	123	799	216	53	0.27	75.5%
1990	134	1,205	278	35	0.23	87.4%

<sup>a</sup> Marriott et al. (1979).

<sup>b</sup> Jones (1983).

<sup>c</sup> Data not comparable; 238 angler-days reported.

Table 5. Steelhead catch rates in selected Alaska streams, 1982-1990.

Year	Location	Effort	Steelhead		CPUE	Ratio released to kept
			Kept	Released		
1982 <sup>a</sup>	Anchor	29,079	375	667	0.04	1.8
1985 <sup>b</sup>	Situk	10,434	362	2,695	0.29	7.4
1986 <sup>c</sup>	Situk	12,283	287	2,094	0.19	7.3
1987 <sup>d</sup>	Situk	10,542	391	3,797	0.40	9.7
1988 <sup>e</sup>	Situk	16,379	423	4,991	0.33	11.8
1989 <sup>f</sup>	Situk	12,953	361	2,055	0.19	5.7
1990 <sup>f</sup>	Situk	15,661	321	1,319	0.09	3.5
1988 <sup>g</sup>	Thorne	2,331	67	93	0.07	1.4
1988 <sup>h</sup>	Ward	3,638	359	971	0.37	2.7
1989 <sup>i</sup>	Ward	4,778	384	293	0.14	0.8
1989 <sup>j</sup>	Karta	1,568	50	124	0.11	2.5
1988 <sup>k</sup>	Klawock	3,711	367	384	0.20	1.0
1989 <sup>l</sup>	Peterson	2,121	22	17	0.02	0.8
1990 <sup>m</sup>	Peterson	2,582	18	16	0.01	0.9
1990	Sitkoh	1,206	35	243	0.23	6.9

<sup>a</sup> Wallis and Balland (1984).

<sup>b</sup> Mecum and Suchanek (1986). Survey missed the early part of the run. Informal surveys indicated that at least 2,230 hours of effort were expended to harvest 66 steelhead and release another 1,889 steelhead between 4/15 and 4/29 (Bob Johnson, ADFG, Division of Sport Fish, Yakutat).

<sup>c</sup> Mecum and Suchanek (1987).

<sup>d</sup> Bingham, Suchanek, Sonnichsen, and Mecum (1988).

<sup>e</sup> Suchanek and Bingham (1989).

<sup>f</sup> Johnson and Marshall (*In press*).

<sup>g</sup> Freeman and Hoffman (1990)(September 26, 1988 through June 4, 1989).

<sup>h</sup> Hubartt (1989)(February 29 through June 19, 1989).

<sup>i</sup> Hubartt (1990)(October 10, 1988 through May 21, 1989).

<sup>j</sup> Hoffman et al. (1990).

<sup>k</sup> Freeman and Hoffman (1989)(December 21, 1987 through June 19, 1988).

<sup>l</sup> Harding and Jones (1990).

<sup>m</sup> Harding and Jones (*In press*).

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APPENDIX A



Appendix A1. Daily upstream steelhead counts at Sitkoh Creek weir, 1990.

DATE	TIME	COUNT	CUM. COUNT	WATER TEMP(C°)	WATER LEVEL	REMARKS
04/05/90	0930	0	0			WEIR FISH TIGHT
04/06/90	0800	0	0	2.0	30.0	
04/07/90	0800	0	0	2.0	28.0	
04/08/90	0800	0	0	2.0	27.0	
04/09/90	0830	0	0	2.0	25.0	
04/09/90	1300	1	1			
04/09/90	2205	1	2			
04/10/90			2	2.0	24.5	
04/11/90	0340	1	3	3.0	24.5	
04/12/90	0420	1	4	3.0	30.0	
04/12/90	2200	1	5			
04/13/90	0810	1	6	3.0	33.0	
04/14/90	0130	6	12		42.0	1 CUTTHROAT (CT) 368mm
04/14/90				3.0		
04/14/90	2345	1	13			2 DOLLY VARDEN (DV)
04/15/90	0740	1	14	3.0	42.0	1 CT
04/15/90	1445	1	15			
04/15/90	2100	1	16			3 CT, 10 DV
04/16/90	1105	4	20	3.5	42.0	2 CT (364 & 336mm)
04/16/90	2230	2	22			5 DV
04/17/90	1130	6	28	3.0	46.0	
04/17/90	1430	2	30			
04/17/90	2000	1	31			
04/18/90	0200	16	47	3.5	43.0	
04/18/90	1530	2	49			
04/18/90	2330	6	55			
04/19/90	1200	8	63	3.5	60.0	WATER LEVEL 53 AT 8am
04/19/90	2300	4	67			
04/20/90	1500	3	70	3.0	62.0	
04/20/90	2030	2	72			
04/21/90	1530	3	75	3.5	63.0	
04/21/90	2300	13	88			1 CT (362mm)
04/22/90	1600	2	90	3.8	55.0	
04/23/90	1400	7	97	3.8	50.0	
04/23/90	2245	32	129			1 CT (354mm)
04/24/90	1645	17	146		44.0	
04/24/90	2315	16	162	4.0		
04/25/90	1100	2	164	3.5	40.0	1 CT HEAD
04/25/90	2330	18	182			
04/26/90	0715	3	185	4.0	36.0	
04/26/90	1000	1	186			
04/26/90	1620	9	195			
04/26/90	2100	1	196			
04/27/90	0100	23	219	4.0	35.0	

DATE	TIME	COUNT	CUM. COUNT	WATER TEMP(C°)	WATER LEVEL	REMARKS
04/27/90	1800	5	224			
04/28/90	0200	15	239	3.5	35.0	
04/28/90	1930	2	241			3 DV
04/28/90	2300	30	271			1 CT (355mm)
04/29/90	1115	11	282	4.0	33.0	
04/30/90	0115	9	291	4.0	32.0	1 CT (383mm)
04/30/90	1420	1	292			
05/01/90	0200	11	303	4.5	32.0	3 CT (328,359,377mm)
05/01/90	1800	3	306			3 DV
05/01/90	2330	15	321			
05/02/90	0900	8	329	5.0	32.0	
05/03/90	0300	3	332	4.8	40.0	
05/03/90	2330	5	337			
05/04/90	1100	8	345	4.5	48.0	
05/04/90	1730	6	351			
05/05/90	0100	40	391	4.8	43.0	
05/05/90	1700	9	400			
05/06/90	0300	27	427	5.0	40.0	
05/06/90	1830	3	430			
05/07/90	0500	15	445	5.0	37.0	
05/08/90	0230	7	452	5.0	37.0	1 DEAD SH WASHUP
05/09/90	0030	8	460	5.5	38.0	
05/09/90	2330	10	470			
05/10/90	1530	11	481	7.0	41.0	
05/11/90	1100	29	510	6.5	40.0	
05/12/90	1130	14	524	6.0	38.0	2 CT(405,392mm)
05/13/90	0200	25	549	6.5	37.0	1 WITH TAIL PUNCH
05/14/90	0030	17	566	6.5	37.0	1 WITH TAIL PUNCH
05/14/90	1930	2	568			
05/14/90	2330	8	576			
05/15/90	1530	2	578	6.8	36.0	
05/15/90	2330	2	580			1 WITH TAIL PUNCH
05/16/90	1230	1	581	6.5	34.0	
05/17/90	0300	10	591	6.5	31.0	
05/17/90	1400	2	593			
05/18/90	0030	9	602	6.5	30.0	
05/18/90	2130	3	605			
05/19/90	1000	1	606	6.5	31.0	
05/19/90	2345	1	607			1 WITH TAIL PUNCH
05/20/90	1300	2	609	6.0	31.0	
05/20/90	2300	7	616			
05/21/90	2345	6	622	7.0	30.0	
05/22/90	0230	1	623	7.0	31.0	
05/23/90	0130	5	628	7.5	30.0	

-continued-

Appendix A1. (Page 3 of 3).

DATE	TIME	COUNT	CUM. COUNT	WATER TEMP(C°)	WATER LEVEL	REMARKS
05/24/90	0100	5	633	7.0	27.0	
05/25/90		0	633	7.5	26.0	
05/26/90	0130	2	635	7.5	25.0	
05/27/90	2100	3	638	7.5	25.0	
05/28/90	0015	4	642	8.5	28.0	One 153mm Smolt
05/28/90	2100	3	645			
05/29/90	0100	2	647	8.8	28.0	
05/29/90	1000	2	649			
05/30/90	0230	4	653	9.0	27.0	1 bright sockeye
05/30/90	2000	2	655			1 Ad clip got away
05/31/90	0130	4	659	11.0	26.0	
06/01/90	0100	2	661	11.0	24.0	
06/01/90	0900					WEIR OUT

Appendix A2. Estimated variances for effort, catch, and harvest of steelhead by stratum, sampling stage, time of day, Sitkoh Creek, 1990.

Sampling Stratum	Effort		Catch		Harvest	
	Stage 1	Stage 2	Stage 1	Stage 2	Stage 1	Stage 2
<b>Early Day</b>						
<b>Weekend</b>						
4/9-4/22	162.0	0.0	2.0	0.0	0.0	0.0
4/23-5/6	8.0	0.0	2.0	0.0	2.0	0.0
5/7-5/20	450.0	0.0	50.0	0.0	18.0	0.0
<b>Weekday</b>						
4/9-4/22	5.7	0.0	7.8	0.0	0.0	0.0
4/23-5/6	384.0	0.0	70.0	0.0	0.0	0.0
5/7-5/20	1,843.3	0.0	241.1	0.0	7.8	0.0
<b>Late Day</b>						
<b>Weekend</b>						
4/9-4/22	1,540.1	0.0	0.0	0.0	0.0	0.0
4/23-5/6	8.0	0.0	50.0	0.0	2.0	0.0
5/7-5/20	5,202.0	0.0	338.0	0.0	0.0	0.0
<b>Weekday</b>						
4/9-4/22	8.6	0.0	70.0	0.0	7.8	0.0
4/23-5/6	20,751.1	0.0	23.3	0.0	7.8	0.0
5/7-5/20	9,254.6	0.0	6,097.8	0.0	31.1	0.0

APPENDIX A3. Date and time of passage, length, age and sex of steelhead in Sitkoh Creek, 1990.

DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/09/90	1300	Weir	668	R.1S1	M	FRESH H2O REGEN
04/09/90	2205	Weir	864	3.2S1S1	F	HEALED GASH ON SIDE
04/11/90	0340	Weir	742	4.2	M	BITE ON TAIL, SNOUT GASHED
04/12/90	0420	Weir	804	3.3S1	M	BITE ON TAIL, SNOUT BANGED UP
04/12/90	2200	Weir	925	3.3S1	M	
04/13/90	0810	Weir	657	3.2	M	
04/14/90	0130	Weir	702	3.2	M	
04/14/90	0130	Weir	672	4.2	M	VERY BRIGHT
04/14/90	0130	Weir	862	3.3S1	M	HEALED TAIL BITE
04/14/90	0130	Weir	851	3.3	M	
04/14/90	0130	Weir	712	4.2	M	VERY BRIGHT
04/14/90	0130	Weir	678	4.2	M	
04/14/90	2345	Weir	861	4.3S1	F	VERY BRIGHT
04/15/90	0740	Weir	782	3.3	M	
04/15/90	1445	Weir	791	3.3	M	HEALED SCAR ON SIDE, RED
04/15/90	2100	Weir	666	3.2	M	HEALED SCAR BOTH SIDES
04/16/90	1105	Weir	816	4.3S1	F	LOST A FEW EGGS, VERY BRIGHT
04/16/90	1105	Weir	807	3.3S1	F	LOST A FEW EGGS, TAIL BITE
04/16/90	1105	Weir	661	3.2	M	VERY PINK
04/16/90	1105	Weir	756	3.2S1	F	DORSAL FIN BITE
04/16/90	2230	Weir	710	R.2	M	FRESH H2O REGEN ON SCALE
04/16/90	2230	Weir	784	3.2S1	M	
04/17/90	1130	Weir	878	3.2S1	M	DARK GREY
04/17/90	1130	Weir	754	R.1S1S1	F	FRESH H2O REGEN ON SCALE
04/17/90	1130	Weir	702	R.2	M	FRESH H2O REGEN ON SCALE
04/17/90	1130	Weir	777	4.2S1	F	
04/17/90	1130	Weir	742	4.2	M	TAIL BITE
04/17/90	1130	Weir	620	3.2	M	
04/17/90	1430	Weir	745	4.3S1	F	
04/17/90	1430	Weir	771	4.2	F	
04/17/90	2000	Weir	703	5.2	M	
04/18/90	0200	Weir	824	3.3	M	
04/18/90	0200	Weir	819	3.3S1	F	LOST A FEW EGGS, VERY BRIGHT
04/18/90	0200	Weir	803	3.3S1	F	
04/18/90	0200	Weir	834	3.3	M	TORN TAIL
04/18/90	0200	Weir	789	3.2S1S1	M	
04/18/90	0200	Weir	858	3.2S1	M	
04/18/90	0200	Weir	678	4.2	M	
04/18/90	0200	Weir	881	R.3S1	M	FRESH H2O REGEN ON SCALE
04/18/90	0200	Weir	758	4.3	M	
04/18/90	0200	Weir	861	R.2S1	M	SCRAPES ON FACE, HEALED TAIL BITE
04/18/90	0200	Weir	765	4.3	F	
04/18/90	0200	Weir	720	4.2S1S1	M	HEALED TAIL BITE

## Appendix A3. (Page 2 of 16).

DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/18/90	0200	Weir	690	3.2	M	
04/18/90	0200	Weir	693	3.2	M	PARTIAL FRESH H2O REGEN
04/18/90	0200	Weir	770	3.3	M	
04/18/90	0200	Weir	687	R.2	M	FRESH H2O REGEN ON SCALE
04/18/90	1530	Weir	838	4.2S1S1	F	
04/18/90	1530	Weir	644	4.2	F	
04/18/90	2330	Weir	721	R.2	M	FRESH H2O REGEN ON SCALE
04/18/90	2330	Weir	788	R.2S1S1	F	FRESH H2O REGEN ON SCALE
04/18/90	2330	Weir	954	3.2S1	M	MARGINAL FRESH H2O ON SCALE
04/18/90	2330	Weir	696	4.2S1	M	
04/18/90	2330	Weir	722	3.2S1	M	
04/18/90	2330	Weir	831	3.3S1	F	POSSIBLE GILLNET SCAR, HEALED
04/19/90	1200	Weir	835	3.3	F	HEALED TAIL NOTCH, MOUTH INJURY
04/19/90	1200	Weir	687	3.2	M	
04/19/90	1200	Weir	767	3.2S1	F	
04/19/90	1200	Weir	726	3.2S1	M	
04/19/90	1200	Weir	837	3.3S1	M	OLD BITE SCAR
04/19/90	1200	Weir	658	4.2	M	
04/19/90	1200	Weir	722	R.2S1	M	FRESH H2O REGEN ON SCALE
04/19/90	1200	Weir	821	4.3	M	TOOK EXTRA SCALE, (1 REFORMED)
04/19/90	2300	Weir	836	3.3S1	F	
04/19/90	2300	Weir	670	4.2	M	
04/19/90	2300	Weir	824	4.3S1	F	
04/19/90	2300	Weir	750	3.2	M	
04/20/90	1500	Weir	659	3.2	M	
04/20/90	1500	Weir	791	3.3S1	F	
04/20/90	1500	Weir	823	3.3S1	F	
04/20/90	2030	Weir	788	3.2S1	F	
04/20/90	2030	Weir	780	4.2S1S1	F	
04/21/90	1530	Weir	646	R.2	M	FRESH H2O REGEN ON SCALE
04/21/90	1530	Weir	799	4.2S1S1	F	HEALED SCAR ON SIDE
04/21/90	1530	Weir	875	4.3S1S1S1	F	BLISTERS
04/21/90	2300	Weir	698	4.2	M	
04/21/90	2300	Weir	777	3.2S1	M	
04/21/90	2300	Weir	716	3.3	M	MARGINAL FRESH H2O ON SCALE
04/21/90	2300	Weir	779	3.2S1S1S1	F	BELLY SCAR
04/21/90	2300	Weir	811	4.3S1	F	
04/21/90	2300	Weir	788	3.3S1	F	POSSIBLE GILLNET SCARS
04/21/90	2300	Weir	814	3.3S1	F	
04/21/90	2300	Weir	680	4.2	M	
04/21/90	2300	Weir	811	R.3	M	FRESH H2O REGEN ON SCALE
04/21/90	2300	Weir	800	3.3	F	AROUND HEAD GILLNET MARKS
04/21/90	2300	Weir	799	3.3S1	F	TAIL BITE

-continued-

Appendix A3. (Page 3 of 16).

DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/21/90	2300	Weir	678	R.2	F	HEALED TAIL BITE-FRESH H2O REGEN
04/21/90	2300	Weir	810	3.3S1	F	SLASH ON SIDE
04/22/90	1600	Weir	709	R.2	M	FRESH H2O REGEN ON SCALE
04/22/90	1600	Weir	817	4.2S1S1	F	
04/23/90	1400	Weir	814	R.2S1S1	F	CLAWR SCRAPES-PHOTO, FRESH REGEN
04/23/90	1400	Weir	746	4.3	F	
04/23/90	1400	Weir	834	R.2S1	M	HEALED VERTICAL SLASH-PHOTO
04/23/90	1400	Weir	650	4.2	M	
04/23/90	1400	Weir	752	3.3	F	
04/23/90	1400	Weir	819	R2S1	F	TORN MOUTH---HOOK
04/23/90	1400	Weir	752	R.3	F	FRESH WATER REGEN
04/23/90	2245	Weir	772	3.2S1	M	FRESH WATER REGEN
04/23/90	2245	Weir	758	3.3S1	F	TAIL BITE--HEALED
04/23/90	2245	Weir	818	3.3	M	
04/23/90	2245	Weir	796	5.3	F	
04/23/90	2245	Weir	778	4.3S1	M	
04/23/90	2245	Weir	756	4.2	M	
04/23/90	2245	Weir	762	2.2S1	M	
04/23/90	2245	Weir	784	3.3S1	F	HEALED SCAR--DEEP
04/23/90	2245	Weir	852	R.2S1S1	F	HEALED TAIL NOTCH-FRESH REGEN
04/23/90	2245	Weir	828	5.2S1S1	F	
04/23/90	2245	Weir	900	4.2S1S1S1	F	BELLY WOUNDPARASITER
04/23/90	2245	Weir	829	4.3	M	
04/23/90	2245	Weir	682	4.2	M	
04/23/90	2245	Weir	820	R.3S1	F	HOOK INJURY
04/23/90	2245	Weir	655	R.2	M	FRESH WATER REGEN
04/23/90	2245	Weir	709	R.2S1	F	FRESH WATER REGEN
04/23/90	2245	Weir	702	R.3S1	F	FRESH WATER REGEN
04/23/90	2245	Weir	792	3.3	M	SCALE HARD TO READ
04/23/90	2245	Weir	662	R.2	M	FRESH WATER REGEN
04/23/90	2245	Weir	758	5.2	M	
04/23/90	2245	Weir	798	R.3	M	FRESH WATER REGEN
04/23/90	2245	Weir	692	R.2S1	M	FRESH WATER REGEN
04/23/90	2245	Weir	774	3.3S1	F	
04/23/90	2245	Weir	792	R.3S1	F	MAJOR TAIL NOTCH, FRESH REGEN
04/23/90	2245	Weir	722	4.2	M	
04/23/90	2245	Weir	761	R.2S1S1	F	CIRCLED W/MARKS, PROBABLY NET
04/23/90	2245	Weir	640	3.2	M	
04/23/90	2245	Weir	660	4.2	M	"GIRDLE" SCAR NETR
04/23/90	2245	Weir	734	R.2	M	FRESH WATER REGEN
04/23/90	2245	Weir	741	R.2S1	F	FRESH WATER REGEN
04/23/90	2245	Weir	836	R.2S1	F	FRESH WATER REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/23/90	2245	Weir	654	R.2	F	FRESH WATER REGEN
04/24/90	1645	Weir	670	4.2	M	
04/24/90	1645	Weir	798	R.3S1	F	FRESH WATER REGEN
04/24/90	1645	Weir	714	4.2	M	BELLY SCAR
04/24/90	1645	Weir	778	R.3	F	FRESH WATER REGEN
04/24/90	1645	Weir	852	R.2S1	M	BAD PRESS FRESH WATER REGEN
04/24/90	1645	Weir	803		F	BELLY SCAR - REGENS
04/24/90	1645	Weir	821	3.2S1	M	
04/24/90	1645	Weir	852	4.3	M	
04/24/90	1645	Weir	820	4.3S1	F	
04/24/90	1645	Weir	618	3.2	M	
04/24/90	1645	Weir	761	3.3	F	PARTIAL FRESH WATER REGEN
04/24/90	1645	Weir	660	3.2	M	HOOK IN MOUTH
04/24/90	1645	Weir	672	3.2	F	VERY BRIGHT, PARTIAL FRESH REGEN
04/24/90	1645	Weir	642	3.2	F	SCAR ON SIDE
04/24/90	1645	Weir	872	3.2S1S1S1S1	F	
04/24/90	1645	Weir	676	R.2	F	FRESH WATER REGEN
04/24/90	1645	Weir	818	4.3	F	
04/24/90	2315	Weir	816	3.3S1	F	
04/24/90	2315	Weir	776	3.2S1	F	
04/24/90	2315	Weir	801	R.3	F	BACK SLASH-FRESH WATER REGEN
04/24/90	2315	Weir	862	4.2S1S1	F	
04/24/90	2315	Weir	802	R.3S1S1	F	FRESH WATER REGEN
04/24/90	2315	Weir	812	R.2S1	F	FRESH WATER REGEN
04/24/90	2315	Weir	653		M	BAD PRESS
04/24/90	2315	Weir	842	4.3S1	F	
04/24/90	2315	Weir	782	3.3	M	
04/24/90	2315	Weir	702		F	REGENS
04/24/90	2315	Weir	728	3.2S1S1	F	
04/24/90	2315	Weir	827	R.3	M	FRESH WATER REGEN
04/24/90	2315	Weir	631	4.1S1	M	
04/24/90	2315	Weir	819	4.3S1	M	LOOKS SPAWNED OUT
04/24/90	2315	Weir	821	3.3S1	F	
04/24/90	2315	Weir	607	3.2	F	
04/25/90	1100	Weir	680	4.2	M	
04/25/90	1100	Weir	870	R.2S1	M	CLAW MARK FRESH WATER REGEN
04/25/90	2330	Weir	640	3.2	M	
04/25/90	2330	Weir	781	3.3S1S1	F	HEALED TAIL NOTCH
04/25/90	2330	Weir	669	4.2	M	
04/25/90	2330	Weir	728		F	BAD PRESS
04/25/90	2330	Weir	752	4.2S1	F	
04/25/90	2330	Weir	690	4.2	M	
04/25/90	2330	Weir	876		F	REGENS
04/25/90	2330	Weir	640		F	BAD PRESS

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/25/90	2330	Weir	641		M	BAD PRESS
04/25/90	2330	Weir	620		M	BAD PRESS
04/25/90	2330	Weir	823	4.3S1	F	
04/25/90	2330	Weir	824	3.2S1S1	F	BLEEDING, TORN GILL PLATE
04/25/90	2330	Weir	841	3.3S1S1	F	
04/25/90	2330	Weir	682		M	BAD PRESS
04/25/90	2330	Weir	684		M	BAD PRESS
04/25/90	2330	Weir	836		F	BAD PRESS
04/25/90	2330	Weir	648		M	BAD PRESS
04/25/90	2330	Weir	849		F	BAD PRESS
04/26/90	0715	Weir	866	4.3	M	
04/26/90	0715	Weir	800	3.3S1	F	
04/26/90	0715	Weir	714	R.2	M	FRESH WATER REGEN
04/26/90	1000	Weir	842	4.3	M	BELLY INJURY
04/26/90	1620	Weir	662	4.2	M	
04/26/90	1620	Weir	803	4.3	M	TORN GILL PLATE
04/26/90	1620	Weir	852		F	BAD PRESS FRESH WATER REGEN
04/26/90	1620	Weir	704	R.3	F	FRESH WATER REGEN
04/26/90	1620	Weir	618	R.2	F	FRESH WATER REGEN
04/26/90	1620	Weir	682	4.2	F	
04/26/90	1620	Weir	664	R.2	F	FRESH WATER REGEN
04/26/90	1620	Weir	668	R.2	M	FRESH WATER REGEN
04/26/90	1620	Weir	771	R.2S1	F	FRESH WATER REGEN
04/26/90	2100	Weir		R		NO SCALES
04/27/90	0100	Weir	768	4.3	F	
04/27/90	0100	Weir	662	4.2	F	
04/27/90	0100	Weir	664	5.1S1	M	
04/27/90	0100	Weir	788	3.2S1S1	F	
04/27/90	0100	Weir	760	3.2S1	F	
04/27/90	0100	Weir	878	3.3	M	
04/27/90	0100	Weir	722	R.2	M	FRESH WATER REGEN
04/27/90	0100	Weir	874	3.2S1S1S1	F	"GIRDLE" - GILLNET
04/27/90	0100	Weir	790	4.3S1	F	
04/27/90	0100	Weir	762	4.3	F	
04/27/90	0100	Weir	800	R.3S1	F	FRESH WATER REGEN
04/27/90	0100	Weir	675	4.2	M	
04/27/90	0100	Weir	842	3.3	F	
04/27/90	0100	Weir	838	3.2S1S1S1	F	
04/27/90	0100	Weir	762	R.2S1	M	FRESH WATER REGEN
04/27/90	0100	Weir	659	R.2	F	VERY BRIGHT FRESH WATER REGEN
04/27/90	0100	Weir	701	3.3	F	
04/27/90	0100	Weir	770	R.2S1S1	F	FRESH WATER REGEN
04/27/90	0100	Weir	679	5.2	M	
04/27/90	0100	Weir	856	R.2S1S1S1	F	MANY WOUNDS-PHOTO, FRESH REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/27/90	0100	Weir	810	R.2S1	F	FRESH WATER REGEN
04/27/90	0100	Weir	542	3.2	M	VERY SMALL-JACK
04/27/90	0100	Weir	802	4.2S1S1	F	
04/27/90	1800	Weir	697	R.2	M	FRESH WATER REGEN
04/27/90	1800	Weir	704	4.2	M	
04/27/90	1800	Weir	894	3.2S1S1	F	
04/27/90	1800	Weir	676	R.2	M	FRESH WATER REGEN
04/27/90	1800	Weir	700	4.2	M	
04/28/90	0200	Weir	868	R.2S1S1	F	FRESH WATER REGEN
04/28/90	0200	Weir	794	R.3S1S1S1	F	FRESH WATER REGEN
04/28/90	0200	Weir	802	R.3	F	SCRAPED GILL PLATE, FRESH REGEN
04/28/90	0200	Weir	673	4.2	F	
04/28/90	0200	Weir	641	4.2	M	
04/28/90	0200	Weir	684	3.2	M	
04/28/90	0200	Weir	702	4.2	F	
04/28/90	0200	Weir	756	R.2S1	F	MANY BITE WOUNDS, FRESH REGEN
04/28/90	0200	Weir	634	3.2	M	
04/28/90	0200	Weir	672	4.2	M	
04/28/90	0200	Weir	821	R.2S1S1	F	FRESH WATER REGEN
04/28/90	0200	Weir	730	3.2S1	F	DENT ON BACK
04/28/90	0200	Weir	890	3.2S1S1	F	
04/28/90	0200	Weir	708	4.2	M	
04/28/90	0200	Weir	646	4.1	F	
04/28/90	1930	Weir	675	R.1S1	F	SEA LICE FRESH WATER REGEN
04/28/90	1930	Weir	809		F	MANY SMALL SCRAPES
04/28/90	2300	Weir	890		F	BACK BITE
04/28/90	2300	Weir	782		F	
04/28/90	2300	Weir	790		F	HEALED TAIL NOTCH
04/28/90	2300	Weir	709		M	
04/28/90	2300	Weir	813		F	MANY BITE SCARS
04/28/90	2300	Weir	801		F	
04/28/90	2300	Weir	818		F	
04/28/90	2300	Weir	689		F	
04/28/90	2300	Weir	668	4.2	M	
04/28/90	2300	Weir	840	4.2S1S1S1S1	F	
04/28/90	2300	Weir	839	3.2S1S1S1	F	
04/28/90	2300	Weir	778	3.3	M	
04/28/90	2300	Weir	842	4.2S1S1	F	TORN MOUTH
04/28/90	2300	Weir	830	3.2S1S1	F	HEALED TAIL NOTCH
04/28/90	2300	Weir	839	R.3S1	M	FRESH WATER REGEN
04/28/90	2300	Weir	636	3.2	M	MARGINAL SCALES
04/28/90	2300	Weir	817	R.3S1	F	FRESH WATER REGEN
04/28/90	2300	Weir	832	3.2S1	F	BAD PRESSR
04/28/90	2300	Weir	821	3.3S1	M	

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
04/28/90	2300	Weir	840	R.3	M	FRESH WATER REGEN
04/28/90	2300	Weir	791	R.2S1	M	FRESH WATER REGEN
04/28/90	2300	Weir	740	4.2	M	
04/28/90	2300	Weir	813	R.3S1	F	HEALED TAIL NOTCH, FRESH REGEN
04/28/90	2300	Weir	665	R.2	M	FRESH WATER REGEN
04/28/90	2300	Weir	775	R.2S1S1	F	FRESH WATER REGEN
04/28/90	2300	Weir	762		F	BAD PRESS FRESH WATER REGEN
04/28/90	2300	Weir	592	4.2	F	
04/28/90	2300	Weir	778	3.3S1	F	
04/28/90	2300	Weir	800	R.2S1S1S1	F	TAIL NOTCH FRESH WATER REGEN
04/28/90	2300	Weir	749	3.3	F	
04/29/90	1115	Weir	794	3.2S1S1	F	
04/29/90	1115	Weir	722	4.2	M	
04/29/90	1115	Weir	647	R.2	M	FRESH WATER REGEN
04/29/90	1115	Weir	671	4.2	M	
04/29/90	1115	Weir	810	R.3S1S1	F	FRESH WATER REGEN
04/29/90	1115	Weir	855	3.3	M	
04/29/90	1115	Weir	649	R.2	F	FRESH WATER REGEN
04/29/90	1115	Weir	835	5.3S1	F	1" DIAMETER WOUND ON TOP OF HEAD
04/29/90	1115	Weir	830	3.3	F	
04/29/90	1115	Weir	628	4.2	M	
04/29/90	1115	Weir	689	3.2	M	
04/30/90	0115	Weir	785	R.2S1	F	FRESH WATER REGEN
04/30/90	0115	Weir	915	R.2S1S1S1	F	TORN MOUTH FRESH WATER REGEN
04/30/90	0115	Weir	723	R.2	M	SCRAPED FRESH WATER REGEN
04/30/90	0115	Weir	748	R.2S1	F	FRESH WATER REGEN
04/30/90	0115	Weir	788	3.3S1	F	
04/30/90	0115	Weir	760	R.3	F	FRESH WATER REGEN
04/30/90	0115	Weir	802	4.2S1S1	F	
04/30/90	0115	Weir	682	3.2	M	BITE MARKS
04/30/90	0115	Weir	762	4.2S1	F	SCRAPED
04/30/90	1425	Weir	708	4.2	M	
05/01/90	0200	Weir	831	R.3	M	FRESH WATER REGEN
05/01/90	0200	Weir	665	3.2	M	
05/01/90	0200	Weir	671	R.2	M	FRESH WATER REGEN
05/01/90	0200	Weir	624	3.2	M	
05/01/90	0200	Weir	849	4.3S1S1	F	
05/01/90	0200	Weir	800	3.2S1S1	F	
05/01/90	0200	Weir	650	R.2	F	FRESH WATER REGEN
05/01/90	0200	Weir	620	R.2	M	OLD TAIL SPLIT-PHOTO, FRESH REGEN
05/01/90	0200	Weir	723	4.3	F	
05/01/90	0200	Weir	767	4.3	F	

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/01/90	0200	Weir	809	5.2S1	F	
05/01/90	1800	Weir	639	4.2	F	
05/01/90	1800	Weir	615	3.2	M	
05/01/90	1800	Weir	660	4.2	M	
05/01/90	2330	Weir	607	3.2	M	
05/01/90	2330	Weir	859	4.2S1S1	F	
05/01/90	2330	Weir	710	4.2	M	
05/01/90	2330	Weir	758	3.2S1	F	
05/01/90	2330	Weir	910	R.3S1S1S1S1	F	FRESH WATER REGEN
05/01/90	2330	Weir	835	R.3	F	FRESH WATER REGEN
05/01/90	2330	Weir	683	3.2	M	GILLNET---PHOTO
05/01/90	2330	Weir	673	R.2	M	HEALED TAIL NOTCH, FRESH REGEN
05/01/90	2330	Weir	717	4.2	M	
05/01/90	2330	Weir	814	3.3S1S1	F	
05/01/90	2330	Weir	824	3.2S1S1	F	
05/01/90	2330	Weir	698	R.2	M	FRESH WATER REGEN
05/01/90	2330	Weir	852	3.2S1S1S1	F	
05/01/90	2330	Weir	805	R.2S2S1	F	CAN'T READ FRESH WATER
05/01/90	2330	Weir	770	3.3	F	
05/02/90	0900	Weir	700		M	
05/02/90	0900	Weir	725		M	
05/02/90	0900	Weir	818		F	
05/02/90	0900	Weir	848		M	
05/02/90	0900	Weir	659		M	
05/02/90	0900	Weir	758		M	
05/02/90	0900	Weir	781		F	GASH ON SIDE---PHOTO
05/02/90	0900	Weir	707		M	
05/03/90	0300	Weir	750		F	INJURY ON SIDE
05/03/90	0300	Weir	672		M	
05/03/90	0300	Weir	707		F	
05/03/90	2300	Weir	728	3.2S1	F	
05/03/90	2300	Weir	630	3.2	F	
05/03/90	2300	Weir	809	3.2S1S1	F	
05/03/90	2300	Weir	803	2.2S1S1	F	
05/03/90	2300	Weir	659	3.2	F	
05/04/90	1100	Weir	820		F	
05/04/90	1100	Weir	708		M	
05/04/90	1100	Weir	780		F	
05/04/90	1100	Weir	774		F	GASH IN SIDE
05/04/90	1100	Weir	860		M	HOLE IN SIDE
05/04/90	1100	Weir	775		F	
05/04/90	1100	Weir	821		F	
05/04/90	1100	Weir	850		F	
05/04/90	1730	Weir	909		F	SLAB----PHOTO REGEN SCALES

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/04/90	1730	Weir	803	R.3	F	VERY BRIGHT FRESH WATER REGEN
05/04/90	1730	Weir	758	3.3	F	
05/04/90	1730	Weir	836	R.2S1S1S1	M	FRESH WATER REGEN
05/04/90	1730	Weir	768	3.3	M	
05/04/90	1730	Weir	645	4.2	M	
05/05/90	0100	Weir	669	3.2	M	
05/05/90	0100	Weir	700	3.2	M	
05/05/90	0100	Weir	735	4.3	F	
05/05/90	0100	Weir	694	R.2	M	FRESH WATER REGEN
05/05/90	0100	Weir	714	4.2	M	
05/05/90	0100	Weir	731	4.3	F	
05/05/90	0100	Weir	887		F	BAD PRESS FRESH WATER REGEN
05/05/90	0100	Weir	864	R.3S1S1	F	FRESH WATER REGEN
05/05/90	0100	Weir	792	3.2S1S1	M	
05/05/90	0100	Weir	838	R.3	M	FRESH WATER REGEN
05/05/90	0100	Weir	848		F	TORN MOUTH, HOOK INJURY
05/05/90	0100	Weir	772		F	SCAR ON SIDE
05/05/90	0100	Weir	792		M	POSSIBLE GILLNET MARKS
05/05/90	0100	Weir	690		M	
05/05/90	0100	Weir	768		M	HOOK INJURY
05/05/90	0100	Weir	787		M	TORN MOUTH, HOOK INJURY
05/05/90	0100	Weir	594		M	
05/05/90	0100	Weir	868		F	BAD CUT
05/05/90	0100	Weir	730		M	
05/05/90	0100	Weir	836		M	
05/05/90	0100	Weir	680	R.2	F	FRESH WATER REGEN
05/05/90	0100	Weir	810	4.3	F	
05/05/90	0100	Weir	800	4.3S1	M	
05/05/90	0100	Weir	751	4.2S1	M	
05/05/90	0100	Weir	638	4.2	F	LOST EGGS
05/05/90	0100	Weir	768	R.2S1	F	FRESH WATER REGEN
05/05/90	0100	Weir	841	4.3S1	F	
05/05/90	0100	Weir	814	3.3S1	F	TAIL NOTCH
05/05/90	0100	Weir	704	R.2	M	FRESH WATER REGEN
05/05/90	0100	Weir	846	R.2S1S1	F	FRESH WATER REGEN
05/05/90	0100	Weir	864	R.3	M	FRESH WATER REGEN
05/05/90	0100	Weir	800	5.2S1	F	POSSIBLE GILLNET MARKS
05/05/90	0100	Weir	640	4.2	F	
05/05/90	0100	Weir	666	4.2	M	
05/05/90	0100	Weir	691	R.2	F	FRESH WATER REGEN
05/05/90	0100	Weir	798	4.2S1S1	F	
05/05/90	0100	Weir	840	4.3S1	F	
05/05/90	0100	Weir	690	R.2	M	FRESH WATER REGEN
05/05/90	0100	Weir	791	R.2S1S1	F	TAIL NOTCH FRESH WATER REGEN
05/05/90	0100	Weir	682	3.2	F	

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/05/90	1700	Weir	652	3.2	M	
05/05/90	1700	Weir	835	4.3S1	F	SEA LICE
05/05/90	1700	Weir	693	4.2	F	
05/05/90	1700	Weir	825	R.2S1S1	F	HOOK IN MOUTH-FRESH WATER REGEN
05/05/90	1700	Weir	650	R.2	F	FRESH WATER REGEN
05/05/90	1700	Weir	672	4.2	M	TORN MOUTH & GILL PLATE-HOOK
05/05/90	1700	Weir	696	4.2	F	GILLNET
05/05/90	1700	Weir	762	4.2S1	F	
05/05/90	1700	Weir	675	R.2	F	FRESH WATER REGEN
05/06/90	0030	Weir	798	R.2S1S1	F	FRESH WATER REGEN
05/06/90	0030	Weir	819	4.2S1	F	
05/06/90	0030	Weir	847	R.3	M	FRESH WATER REGEN
05/06/90	0030	Weir	634	4.2	M	
05/06/90	0030	Weir	869	4.2S1S1	M	
05/06/90	0030	Weir	830	3.3S1	F	
05/06/90	0030	Weir	769	3.3S1	F	SCAR ON SIDE
05/06/90	0030	Weir	705	3.2	M	
05/06/90	0030	Weir	813	R.3S1S1	F	FRESH WATER REGEN
05/06/90	0030	Weir	860	R.2	M	FRESH WATER REGEN
05/06/90	0030	Weir	684	4.2	F	
05/06/90	0030	Weir	902	4.3S1S1	F	
05/06/90	0030	Weir	836	R.4S1S1	F	MARINE HARD TO READ, FRESH REGEN
05/06/90	0030	Weir	776	3.R	F	MARINE GROWTH UNREADABLE
05/06/90	0030	Weir	742	R.2	M	FRESH WATER REGEN
05/06/90	0030	Weir	804	R.3S1	F	FRESH WATER REGEN
05/06/90	0030	Weir	768	R.3	F	FRESH WATER REGEN
05/06/90	0030	Weir	672	4.2	F	
05/06/90	0030	Weir	749	3.2	M	
05/06/90	0030	Weir	790	3.2S1	F	
05/06/90	0030	Weir	747	4.2S1	F	
05/06/90	0030	Weir	772	3.3	F	
05/06/90	0030	Weir	636	4.2	F	
05/06/90	0030	Weir	772	R.2S1	F	TORN MOUTH, HOOK INJURY, REGEN
05/06/90	0030	Weir	661	4.2	F	
05/06/90	0030	Weir	794	R.2S1S1	F	FRESH WATER REGEN
05/06/90	0030	Weir	753	R.2S1S1	F	VERY BRIGHT, LOST EGGS, REGEN
05/06/90	1830	Weir	627	3.2	M	TORN GILL PLATE, HOOK INJURY
05/06/90	1830	Weir	734	R.3	F	FRESH WATER REGEN
05/06/90	1830	Weir	720	3.2	F	
05/07/90	0500	Weir	791	R.3S1	F	FRESH WATER REGEN
05/07/90	0500	Weir	812	R.1S1S1S1S1	F	FRESH WATER REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/07/90	0500	Weir	740	R.2	M	TORN MOUTH, HOOK INJURY, REGEN
05/07/90	0500	Weir	650	R.2	M	TORN MOUTH, HOOK INJURY & REGEN
05/07/90	0500	Weir	654	R.2	F	CLAWED TAIL BOTH SIDES, REGEN
05/07/90	0500	Weir	824	R.2S1	F	FRESH WATER REGEN
05/07/90	0500	Weir	848	4.3S1S1	F	
05/07/90	0500	Weir	689	3.2	M	TAIL NOTCH
05/07/90	0500	Weir	701	4.2	F	
05/07/90	0500	Weir	772	3.3	F	
05/07/90	0500	Weir	804	3.2S1	M	
05/07/90	0500	Weir	653	R.2	F	FRESH WATER REGEN
05/07/90	0500	Weir	750	4.3	F	
05/07/90	0500	Weir	791	4.2S1	F	
05/07/90	0500	Weir	660	R.2	F	FRESH WATER REGEN
05/08/90	0230	Weir	770	3.2S1	F	GIRDLE--GILLNET
05/08/90	0230	Weir	786	R.3	F	FRESH WATER REGEN
05/08/90	0230	Weir	648	3.2	F	SCRAPED
05/08/90	0230	Weir	732	3.2S1	F	
05/08/90	0230	Weir	750	R.2S1	F	FRESH WATER REGEN
05/08/90	0230	Weir	695	R.2	M	FRESH WATER REGEN
05/08/90	0230	Weir	682	4.2	M	
05/09/90	0300	Weir	789	3.2S1S1	F	PARTIAL GIRDLE, GILLNET
05/09/90	0300	Weir	669	4.2	F	
05/09/90	0300	Weir	739	3.2S1	M	
05/09/90	0300	Weir	882	R.3S1S1	F	FRESH WATER REGEN
05/09/90	0300	Weir	709	3.2	M	
05/09/90	0300	Weir	810	R.3S1S1	F	FRESH WATER REGEN
05/09/90	0300	Weir	792	3.3	F	
05/09/90	0300	Weir	648	3.2	M	
05/09/90	1130	Weir	673	R.2	M	FRESH WATER REGEN
05/09/90	1130	Weir	810	R.2S1S1	F	FRESH WATER REGEN
05/09/90	1130	Weir	786	3.3S1	F	
05/09/90	1130	Weir	667	3.2	M	
05/09/90	1130	Weir	864	4.3S1	F	
05/09/90	1130	Weir	758	4.2S1S1	F	
05/09/90	1130	Weir	714	4.2	M	
05/09/90	1130	Weir	665	R.2	F	FRESH WATER REGEN
05/09/90	1130	Weir	716	R.2	M	FRESH WATER REGEN
05/09/90	1130	Weir	722	R.2S1	F	FRESH WATER REGEN
05/10/90	1530	Weir	815	R.2S1	F	DRIPPING EGGS FRESH WATER REGEN
05/10/90	1530	Weir	800	3.3	F	
05/10/90	1530	Weir	770	R.3	F	GAPING HOLE IN SIDE & GILLNET MK

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/10/90	1530	Weir	662	R.2	M	FRESH WATER REGEN
05/10/90	1530	Weir	740	3.2S1	M	
05/10/90	1530	Weir	685	R.2	F	FRESH WATER REGEN
05/10/90	1830	Weir	735	R.2S1	M	FRESH WATER REGEN
05/10/90	1830	Weir	755	4.2	M	
05/10/90	1830	Weir	700	R.2S1	F	REGEN ONLY 1 READABLE SCALE
05/10/90	1830	Weir	640	4.2	F	
05/10/90	1830	Weir	844	3.3	M	
05/11/90	0015	Weir	840	4.2S1S1	F	
05/11/90	0015	Weir	645	R.3	M	FRESH WATER REGEN
05/11/90	0015	Weir	610	3.2	M	
05/11/90	0015	Weir	625	R.2	F	FRESH WATER REGEN
05/11/90	0015	Weir	795	3.2S1	F	DRIPPING EGGS
05/11/90	0015	Weir	785	4.2S1	F	
05/11/90	0015	Weir	790	R.3S1	F	FRESH WATER REGEN
05/11/90	0015	Weir	603		M	SCALES MOUNTED UPSIDE DOWN
05/11/90	0015	Weir	810		F	DRIPPING UNREADABLE SCALES
05/11/90	0015	Weir	880	4.3	F	DEFORMED FACE-FLATMANY PHOTOS
05/11/90	0015	Weir	770	3.3	F	DRIPPING
05/11/90	0015	Weir	805	4.2S1	F	NET MARKS
05/11/90	0015	Weir	778	3.3	F	
05/11/90	1230	Weir	645	R.2	F	FRESH WATER REGEN
05/11/90	1230	Weir	840	R.3	F	FRESH WATER REGEN
05/11/90	1230	Weir	825	4.2S1	F	DRIPPING
05/11/90	2015	Weir	840	4.2S1	M	
05/11/90	2015	Weir	780	R.3S1	F	FRESH WATER REGEN
05/11/90	2015	Weir	660	3.2	F	
05/11/90	2015	Weir	810	3.3S1	F	
05/11/90	2015	Weir	655	4.2	M	
05/11/90	2330	Weir	745	4.2S1	F	
05/11/90	2330	Weir	695	4.2S1	F	
05/11/90	2330	Weir	658	R.2	F	FRESH WATER REGEN
05/11/90	2330	Weir	882	3.3	M	BEAUTIFUL RAINBOW COLORED FISH
05/11/90	2330	Weir	795	3.2S1	F	
05/11/90	2330	Weir	654	R.2	F	FRESH WATER REGEN
05/11/90	2330	Weir	720	R.2	M	FLY & MONOFIL IN MOUTH
05/11/90	2330	Weir	715	3.2S1	F	
05/12/90	1130	Weir	754	R.3	F	BAD PRESS
05/12/90	1130	Weir	740	R.2	M	FRESH WATER REGEN
05/12/90	1130	Weir	748	4.2S1	F	
05/12/90	1130	Weir	778		F	BAD PRESS
05/12/90	1130	Weir	796	R.2S1S1	F	FRESH WATER REGEN
05/12/90	1130	Weir	772	4.2S1	F	GILLNET MARKS
05/12/90	1130	Weir	682	R.2	M	FRESH WATER REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/12/90	1130	Weir	783	R.2S1S1	F	FRESH WATER REGEN
05/12/90	1130	Weir	830	4.2S1S1S1	F	DORSAL FIN CLAWED AND SCRAPED
05/12/90	1130	Weir	810	R.3	F	CAN'T READ FRESH WATER GROWTH
05/12/90	1130	Weir	740	3.3S1	F	
05/12/90	1130	Weir	604	R.2	M	FRESH WATER REGEN
05/12/90	1130	Weir	690	4.2	F	
05/12/90	1130	Weir	672	5.2	F	
05/13/90	0200	Weir	814	3.3	F	
05/13/90	0200	Weir	768	R.2S1	F	FRESH WATER REGEN
05/13/90	0200	Weir	650	3.2	F	
05/13/90	0200	Weir	738	3.2S1	F	
05/13/90	0200	Weir	748	4.1S1S1	F	
05/13/90	0200	Weir	634	R.2	M	FRESH WATER REGEN
05/13/90	0200	Weir	688	R.2	M	FRESH WATER REGEN
05/13/90	0200	Weir	699	4.2	M	
05/13/90	0200	Weir	730	4.3	F	
05/13/90	0200	Weir	725	3.3	F	
05/13/90	0200	Weir	659	R.2	F	FRESH WATER REGEN
05/13/90	0200	Weir	738	R.2S1S1	M	FRESH WATER REGEN
05/13/90	0200	Weir	661	R.2	F	FRESH WATER REGEN
05/13/90	0200	Weir	712	R.2	M	FRESH WATER REGEN
05/13/90	0200	Weir	682	R.2	F	FRESH WATER REGEN
05/13/90	0200	Weir	783	3.3	F	
05/13/90	0200	Weir	698	R.2	M	FRESH WATER REGEN
05/13/90	0200	Weir	756	R.2	F	FRESH WATER REGEN
05/13/90	0200	Weir	816	R.2S1S1	F	FRESH WATER REGEN
05/13/90	0200	Weir	802	4.2S1S1	F	DRIPPING EGGS
05/13/90	0200	Weir	834	3.2S1S1S1	F	
05/13/90	0200	Weir	723	R.2	M	FRESH WATER REGEN
05/13/90	0200	Weir	780	R.2S1	F	BITES & SCRATCHES, REGEN
05/13/90	0200	Weir	790	4.2S1S1	F	
05/13/90	0200	Weir	774	3.2S1	F	FRESH WATER GROWTH HARD TO READ
05/14/90	0030	Weir	865	R.2S1S1S1S1	F	FRESH WATER REGEN
05/14/90	0030	Weir	678	4.2	F	
05/14/90	0030	Weir	850	4.2S1S1	F	
05/14/90	0030	Weir	689	4.2	F	
05/14/90	0030	Weir	825	5.2S1	F	POSSIBLE GILLNET MARKSPHOTOS
05/14/90	0030	Weir	637	3.2	F	TORN MOUTH--HOOK INJURY
05/14/90	0030	Weir	806	4.3	F	
05/14/90	0030	Weir	690	R.2	M	FRESH WATER REGEN
05/14/90	0030	Weir	742	R.3	F	TAIL BITE FRESH WATER REGEN
05/14/90	0030	Weir	731	5.2S1	M	
05/14/90	0030	Weir	895	4.2S1S1	F	BRUISED/BLOODY BELLY AND SNOUT

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/14/90	0030	Weir	682	4.2	M	GILLNET MARKS
05/14/90	0030	Weir	804	3.3	M	POSSIBLE GILLNET MARKS
05/14/90	0030	Weir	805	4.3	F	
05/14/90	0030	Weir	718	3.2	M	
05/14/90	0030	Weir	796	R.3	F	POSSIBLE GILLNET MARKS (PHOTO)
05/14/90	0030	Weir	760	3.3	F	FRESH WATER HARD TO READ
05/14/90	1930	Weir	745	3.3	F	
05/14/90	1930	Weir	652	R.1S1	M	FRESH WATER REGEN
05/14/90	2330	Weir	692	4.2	F	
05/14/90	2330	Weir	705	R.2	F	FRESH WATER REGEN
05/14/90	2330	Weir	880	4.3	F	GILLNET MARKS
05/14/90	2330	Weir	681	4.2	M	
05/14/90	2330	Weir	700	4.2	M	
05/14/90	2330	Weir	815	3.3S1	F	
05/14/90	2330	Weir	698	4.2	M	
05/14/90	2330	Weir	695	4.2	M	
05/15/90	1530	Weir	700	R.2	M	FRESH WATER REGEN
05/15/90	1530	Weir	769	R.2S1	F	BRIGHT FRESH WATER REGEN
05/15/90	2330	Weir	873	R.2S1S1S1	F	FRESH WATER REGEN
05/15/90	2330	Weir	852	3.2S1S1S1	F	
05/16/90	1230	Weir	789	3.3	F	
05/17/90	0300	Weir	659	4.2	M	
05/17/90	0300	Weir	752	R.2S1	F	FRESH WATER REGEN
05/17/90	0300	Weir	728	3.3	F	BRIGHT
05/17/90	0300	Weir	742	R.3	F	FRESH WATER REGEN
05/17/90	0300	Weir	744	R.3	F	BRIGHT, BAD PRESS, REGEN
05/17/90	0300	Weir	782	R.3	M	FRESH WATER REGEN
05/17/90	0300	Weir	778	R.3	F	FRESH WATER REGEN
05/17/90	0300	Weir	732		F	BRIGHT BAD PRESS
05/17/90	0300	Weir	753		F	BRIGHT BAD PRESS
05/17/90	0300	Weir	728	3.3S1	F	MARGINAL SCALES
05/17/90	1400	Weir	843	4.3S1	F	
05/17/90	1400	Weir	870	3.2S1	M	
05/18/90	3000	Weir	723	4.2	F	
05/18/90	3000	Weir	829	3.1S1S1S1	F	
05/18/90	3000	Weir	770	3.3	F	
05/18/90	3000	Weir	590	3.2	M	
05/18/90	3000	Weir	661	4.2	M	
05/18/90	3000	Weir	831	4.3	F	
05/18/90	3000	Weir	809	3.2S1S1	F	
05/18/90	3000	Weir	764	4.2S1	F	
05/18/90	3000	Weir	770	3.3	F	NASTY GASH
05/18/90	2130	Weir	715	R.2S1	F	FRESH WATER REGEN
05/18/90	2130	Weir	649	R.2	F	FRESH WATER REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/18/90	2130	Weir	689	4.2	M	BEAT UP NOSE
05/19/90	1000	Weir		4.2S1	F	
05/19/90	2345	Weir	620	3.2	M	
05/20/90	1300	Weir	630	4.2	F	VERY BRIGHT
05/20/90	1300	Weir	856	R.3	M	RED FRESH WATER REGEN
05/20/90	2300	Weir	825	4.3S1	F	DRIPPING EGGS
05/20/90	2300	Weir	760	R.2S1	F	DRIPPING EGGS FRESH WATER REGEN
05/20/90	2300	Weir	695	4.2	M	
05/20/90	2300	Weir	678	4.2	F	
05/20/90	2300	Weir	680	R.2	M	GILLNET-PHOTO FRESH WATER REGEN
05/20/90	2300	Weir	760	3.2S1	F	
05/20/90	2300	Weir	695	3.2S1	M	DEFORMED JAW
05/21/90	1145	Weir	680	3.2	F	
05/21/90	1145	Weir	660	4.2	F	
05/21/90	1145	Weir	858	R.2S1S1S1	F	FRESH WATER REGEN
05/21/90	1145	Weir	829	4.2S1S1S1	F	
05/21/90	1145	Weir	643	R.2	F	FRESH WATER REGEN
05/21/90	1145	Weir	685	4.2	M	
05/22/90	0230	Weir	799	R.2S1	F	FRESH WATER REGEN
05/23/90	0130	Weir	694	R.2	F	FRESH WATER REGEN
05/23/90	0130	Weir	747	R.2S1S1	F	FRESH WATER REGEN
05/23/90	0130	Weir	740	4.2S1	F	
05/23/90	0130	Weir	758	3.3	F	
05/23/90	0130	Weir	782	R.3S1	F	DRIPPING EGGS FRESH WATER REGEN
05/24/90	0100	Weir	712	5.2S1	F	
05/24/90	0100	Weir	793	4.3	F	
05/24/90	0100	Weir	652	R.2	M	FRESH WATER REGEN
05/24/90	0100	Weir	657	R.2	F	FRESH WATER REGEN
05/24/90	0100	Weir	579	R.2	M	FRESH WATER REGEN
05/26/90	0130	Weir	672	4.2	F	
05/26/90	0130	Weir	791	R.2S1S1	F	GILLNET MARKS (PHOTO) REGEN
05/27/90	0900	Weir	642	R.2	F	FRESH WATER REGEN
05/27/90	2100	Weir	731	3.3	F	SILVER, DRIPPING EGGS
05/27/90	2100	Weir	692	3.2	F	
05/28/90	1500	Weir	784	3.3S1	F	
05/28/90	1500	Weir	781	4.3	F	SLASHED BACK
05/28/90	1500	Weir	669	4.2	M	SEA LICE
05/28/90	1500	Weir	885	R.3S1S1	F	SLAB! FRESH WATER REGEN
05/28/90	2100	Weir	702	4.1S1	M	
05/28/90	2100	Weir	695	R.2S1	M	FRESH WATER REGEN
05/28/90	2100	Weir	790	3.2S1	F	
05/29/90	0100	Weir	797	R.3S1	F	FRESH WATER REGEN

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DATE	TIME	GEAR	LENGTH	AGE	SEX	COMMENTS
05/29/90	0100	Weir	828	3.3S1S1S1	F	
05/29/90	1000	Weir	787	4.2S1	F	
05/29/90	1000	Weir	770	4.2S1	M	
05/30/90	0230	Weir	710	R.2	M	FRESH WATER REGEN
05/30/90	0230	Weir	640	4.2	F	
05/30/90	0230	Weir	740	4.2S1	F	
05/30/90	0230	Weir	665	4.2	F	
05/30/90	2000	Weir	893	5.3S1	F	
05/30/90	2000	Weir	669	R.2	F	FRESH WATER REGEN
05/31/90	0130	Weir	810		F	REGEN SCALES
05/31/90	0130	Weir	807	4.3S1	F	
05/31/90	0130	Weir	756	3.3	F	
05/31/90	0130	Weir	865	4.3S1	F	
06/01/90	0100	Weir	688	4.2	M	
06/01/90	0100	Weir	861	3.3S1S1	F	
04/12/90	1520	Creel	813	5.2S1	M	BELOW WEIR
04/13/90	1535	Creel	805		M	TORN DORSAL, FRESH H2O REGEN
04/18/90		Creel	838		M	BELOW WEIR
04/23/90	1345	Creel	864		M	CAUGHT BELOW WEIR
04/27/90	1615	Creel	672		F	CAUGHT BELOW WEIR
04/28/90	1100	Creel	815	R.3S1	F	ABOVE WEIR, FRESH WATER REGEN
04/28/90	1830	Creel	675	R.1S1	M	ABOVE WEIR, FRESH WATER REGEN
04/29/90	1200	Creel	867	3.2S1S1	F	ABOVE WEIR
04/29/90	1800	Creel	668	R.2	M	ABOVE WEIR, FRESH WATER REGEN
04/29/90	1800	Creel	859	3.2S1	M	ABOVE WEIR
05/03/90	1600	Creel	815		M	BELOW WEIR
05/06/90		Creel	692		F	BELOW WEIR
05/08/90		Creel	845	3.2S1S1S1	F	
05/11/90		Creel	812	R.3S1	F	FRESH WATER REGEN
05/13/90		Creel	876	R.3S1	F	ABOVE WEIR, FRESH H2O REGEN
05/13/90		Creel	797	4.2S1	F	ABOVE WEIR PUNCHED
05/14/90		Creel	848	3.2S1S1	F	ABOVE WEIR PUNCHED
05/15/90		Creel	768	3.3	F	BELOW WEIR NO PUNCH
05/17/90		Creel	755	4.2S1	F	BELOW WEIR NO PUNCH
05/17/90		Creel	858	3.3S1	F	

