THE 1997 FALL GILLNET FISHERY IN NUIQSUT, ALASKA

FINAL REPORT

January 1999

Prepared by

Lawrence L. Moulton
MJM RESEARCH
1012 Shoreland Drive
Lopez Island, Washington 98261

for

ARCO Alaska, Inc.
700 G Street
Anchorage, Alaska 99510

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EXECUTIVE SUMMARY

Moulton, L.L. The 1997 fall gill net fishery in Nuiqsut, Alaska.

Objectives of the 1997 study were to 1) continue obtaining estimates of the total effort and catch for the Nuiqsut fall gill net fishery in the Colville River delta, which targets on arctic cisco, and 2) evaluate the harvest predictions made prior to the fishing season. Similar to previous years, the number of nets fishing were counted daily from mid October to late November. Fishers were interviewed as they tended their nets to obtain estimates of catch rate.

The fishery began in mid October, which is slightly later than normal. The 1997 fishery was characterized by a high catch rate on arctic cisco throughout the season. Fishing effort was near the 1990-1995 average, while the village harvest of arctic cisco was the highest since 1993. The least cisco catch was the highest in the last twelve years. Catch rates of least cisco in the Nigliq Channel were among the lowest recorded, but a high level of effort in the Outer Delta led to the high total harvest . In the commercial fishery, effort was down 55% from that recorded in 1995, however, high catch rates resulted in an arctic cisco catch 52% above the previous year. Bering cisco, which had been unusually abundant in 1990, remained at an incidental level in 1997.

In 1997, salinity was higher in the delta that has been seen in recent years prior to 1996 and this may have created favorable conditions for arctic cisco and contributed to high catch rates by bringing a high proportion of the fish into the main fishing areas.

The 1998 catch rate for arctic cisco is expected to be similar to that observed in 1997 and is expected to be composed mostly of fish from the 1992 year class. Based on the estimated abundance of juvenile fish in coastal sampling, catches should decline after 1998 and be low through the year 2000.

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Lawrence L. Moulton

INTRODUCTION

For nearly 30 years, there were concerns that causeways built in the coastal region of the Alaskan Beaufort Sea to support coastal developments were causing changes in the summer feeding habitat of anadromous fishes in the region (Furniss 1975; USACE 1980, 1984). A variety of studies have been conducted in the coastal region since the mid-1970's to gain basic biological, distribution and habitat utilization information needed to address these concerns (Furniss 1975; Bendock 1979; Craig and Haldorson 1981; Griffiths and Gallaway 1982; Critchlow 1983; Griffiths et al. 1983; Woodward-Clyde Consultants 1983; Moulton and Fawcett 1984; Envirosphere 1987, LGL 1990, 1992, 1994, 1996, 1997).

The anadromous fishes that are the subject of these studies provide an important food resource for the Inupiat communities of the Alaskan Arctic Coastal Plain and have been fished for many generations. The arctic cisco (*Coregonus autumnalis*), in particular, is a highly prized food resource. This species is harvested near Kaktovik in the late summer and in the Colville River delta after ice forms in the fall. In addition to subsistence harvests, there is a commercial fishery that has operated in the Colville River delta since the early 1950's. Prior to 1985, there was little information on the subsistence harvests of anadromous fishes, although detailed information existed on the commercial fishery (Craig and Haldorson 1981; Gallaway et al. 1983; Moulton et al. 1986a; Craig 1987).

The concerns expressed over possible effects of causeways to the anadromous fishes of the region, especially arctic cisco, raised concerns among local people that their traditional fishery resource would, in turn, be affected. The local government for the Arctic Coastal Plain region, the North Slope Borough, requested that information be collected to assess the fisheries in the Colville River, which were considered to be most at risk. The study reported here was begun in 1985 in response to that request. During the initial year of investigation, fish use of the Colville River delta region was studied and both summer and fall fisheries were evaluated (Fawcett et al. 1986; Moulton et al.

1986b). The following years (1986 to 1997) focused on the fall fishery for arctic cisco and least cisco (*C. sardinella*).

Arctic cisco targeted by the fall fishery are derived from spawning stocks in the Mackenzie River and that the young fish recruit into the Colville region early in life, as described by Gallaway et al. (1983). The recruitment of age 0 arctic cisco into the Colville River region is aided by westerly currents generated by the predominantly easterly winds in the Beaufort Sea region. The strength of recruitment has been correlated to the percentage of easterly winds from June to September (Fechhelm and Fissel 1988). The arctic cisco return to the Mackenzie River at maturity to spawn, thus are only available to the fishery for two or three years prior to maturity. The anadromous least cisco population being harvested spawns and winters entirely in the Colville Delta and lower river.

This study of the 1997 fishery constitutes the thirteenth consecutive year that a harvest estimate has been obtained for the Nuiqsut fishery. The previous twelve years of survey (1985 to 1996) are reported in Moulton and Field (1988) and previous editions of the Endicott Monitoring Program Annual Report Series. Additional information on the fall gill net fishery in the Colville River was developed by George and Nageak (1986) and George and Kovalsky (1986).

The objectives of the 1997 survey were to 1) continue to obtain estimates of the total effort and catch for the Nuiqsut fall fishery in the Colville River delta, which targets arctic cisco, and 2) evaluate the harvest predictions made prior to the fishing season.

METHODS

The study area includes the Colville River from the Itkillik River downstream to Harrison Bay (Fig. 1). The 1997 study used four areas of concentrated fishing effort as described in Moulton and Field (1988): 1) Outer Colville Delta, 2) Upper Nigliq Channel near Nuiqsut, 3) Nanuk Lake area of the Nigliq Channel, and 4) Nigliq Delta (Fig. 2).

The assessment and monitoring of the fall under-ice fishery based in Nuiqsut began on 15 October and continued through the fourth week in November. The onset of fishing, approximately 13 October, was about one week later than the average start date (Table 1).

Salinity measurements were taken almost every day with a YSI Model 33 salinometer at standard locations in three monitoring areas on the Nigliq Channel (Fig. 2). Salinity was measured from a vertical profile of the water column at 0.5 m increments.

During the main fishing season, village catches were sampled daily for species composition, number of fish caught, and fork length to the nearest mm. Fish were examined for tags, fin clips, and dye marks applied by other fish studies in the region. Whenever catch data were collected, set duration, net length, net depth (e.g. the width of the net) and mesh size data were also recorded so that catch-per-unit-effort (CPUE) could be calculated for the net set. Effort was calculated in net-days by using the start and end dates for each net. Effort data were adjusted for the various net lengths and set durations by standardizing net length to 18 m and set duration to 24 h.

The nets are of variable length with 18 and 24-m nets being the most common. In 1997, net depth was measured on nets used in the Nigliq Channel. Eight of the 49 nets (or 16%) were 1.2 m deep with 76% being 1.8 m deep and the remainder either 2.1 or 2.4 m. In 1993 and 1994, estimates of the total catch were made both with and without a correction for net depth. The 1993 estimate containing the correction for net depth was 4.4% greater than the estimate based solely on net length and set duration, while in 1994 the depth correction resulted in an error 3% less than the uncorrected estimate.

Within the main sampling areas, each net was identified and monitored throughout the entire time the net was deployed between 13 October and 23 November. The CPUE was estimated by obtaining daily catch and effort data by mesh size in each fishing area during the season. The total effort expended by each mesh size in each area, and the associated CPUE estimate, was calculated. Estimated catches for each mesh size by area were then calculated and summed to provide the estimates of total catch.

Two village groups fished in the Kupigruak Channel of the Outer Colville Delta during late October. Their catch was estimated by using the commercial catch rate from the East Channel for the same time period.

The preferred mesh in the village fishery was 76-mm stretched. Catch rate indices used for comparisons among areas and years and evaluation of changes in length distributions were based on 76-mm mesh.

Information obtained from annual measurements of length frequency, length/weight relationships and estimated catches by mesh size was used to estimate the annual harvested biomass for arctic cisco and least cisco from 1985 to 1997. Length/weight relationships from previous years and length frequency data were used to estimate the mean weight of a harvested fish by mesh size, then the estimated harvest for that mesh size was multiplied by the mean weight. A composite length frequency was generated for mesh sizes in which length frequencies were not determined on an annual basis.

RESULTS

Distribution of Fishing Effort

The total estimated effort by Nuiqsut villagers in the fall fishery was 1,446 net-days, about 19% below the average for the 1990-1996 period (Fig. 3). From 1985 to 1997 the number of Nuiqsut

fishing groups (a family or group of families fishing cooperatively) participating in the under-ice fishery ranged between 22 and 35 (Fig. 3a); in 1997, 28 fishing groups were identified. Effort in 1997 was highest in the Nanuk Lake area, followed by the Upper Nigliq area (Fig. 3b).

Effort has gradually shifted downstream in the Nigliq Channel during the last thirteen years (Fig. 4). From 1985 to 1989, between 65 to 74% of the effort within the channel was expended in the Upper Nigliq area. In 1993, effort in the Nanuk Lake area exceeded that of the Upper Nigliq area for the first time. In 1997 this trend continued with 32% of the Nigliq Channel effort in the Upper Nigliq area, and 46% in the Nanuk Lake area. The remaining 22% was in the Nigliq Delta area. During 1997, fishing in the Outer Colville Delta was by 2 groups commuting from Nuiqsut. These groups accounted for 4% of the estimated village effort.

In 1997, salinity in the Nigliq Channel was similar to the high levels seen in 1990 and 1996 (Fig. 5). By early November, salinity at Nuiqsut was approaching 15‰. Similarly, in the Nanuk Lake region, salinity was in excess of 22‰ and the Nigliq Delta was over 25‰. From 1985 to 1993, with the exception of 1988, salinity in the Nigliq Channel near the village reached 10 to 15‰ by the beginning of November (Fig. 6). In 1994 and 1995, the salinity remained low in both the Upper Nigliq and Nanuk Lake areas through the season.

Catch Composition

Arctic cisco, the target species, comprised nearly 75% of the observed catch in the Nigliq Channel in 1997 (Table 2). Least cisco accounted 23% of the observed catch, which is near the ten-year average (21%) for this species. Humpback whitefish were scarce at 0.9% of the observed catch. This was a continuation of the normal catch pattern for humpback whitefish, which had contributed more than 20% to the observed Nigliq Channel harvest in 1995 before returning to low levels in 1996. In 1997, Bering cisco (*C. laurettae*) abundance remained low. In 1990, the species was more numerous than in the past and an effort was made to quantify their contribution to the 1990 harvest. Since 1991, their occurrence in the harvest has remained low. Round whitefish (*Prosopium cylindraceum*) occur in high abundance within the lower Colville River and delta (Fawcett et al.

1986), but rarely appear in the harvest. Their small size and narrow body allow them to pass through the meshes used in the fishery.

Comparative Catch Rates

Overall, the arctic cisco catch rates in the Nigliq Channel were among the higher rates recorded, increasing substantially over the low rates observed in 1994 and 1995 (Table 3). Least cisco mean catch rates were the highest yet recorded in the Upper Nigliq and Nanuk Lake areas, but were near the ten-year average in the Nigliq Delta area (Table 4).

Estimated Total Catch

The estimated catch of arctic cisco by Nuiqsut residents (33,274 fish, 14,487 kg) was 57% above the ten-year average in numbers and 72% above in biomass (Fig. 7, Tables 5, 6). The least cisco total catch was the third highest observed, behind the 1985 and 1996 estimated harvests (Table 5).

Size and Age of Harvested Fish

A comparison of the length frequencies of arctic cisco captured in 76-mm mesh gill nets to those captured in fyke nets is used to evaluate the effect of strong and weak year-classes on the fishery, for both catch rate and size of harvested fish (Fig. 8). The movement of dominant year classes through the fishery has a profound effect on the size of fish harvested, even when mesh size is held constant. The length frequency of arctic cisco from fyke nets in the coastal region during late summer of 1996 (after 14 August) indicated that there was a group of fish, primarily from the 1992 recruitment (LGL Alaska 1992), that was just becoming large enough to be caught by 76-mm mesh gill nets in 1996 (Fig. 8). In 1997, much of this group were of sufficient size to be harvested, but there was still a substantial portion that was not fully recruited into the fishery. The 1997 fyke net data reveal a size mode between 320-350 mm, which represents the 1990 year class, and a secondary mode at 280-300 mm, centered at 290 mm, representing the 1992 year class. Arctic cisco around 310-330 mm are the

size most vulnerable to the 76-mm meshes, thus, the mode representing the 1992 year-class was not fully recruited to the fishery in 1997. A secondary length mode at 260-280 mm, which may represent fish from either the 1991 or 1992 year class, should enter the fishery in 1997.

The length frequency of least cisco caught in the 76-mm mesh nets was similar to that observed in previous years (Fig. 9). In the mid- to late 1980's, the peak of abundance was in the 310-320 mm range, while in the early 1990's, the 300-310 mm ranges have become more dominant. The 1997 length frequency is quite similar to that obtained from 1985 samples.

Selectivity of Colville Delta Gill Nets

Gillnets are highly selective, with small changes in mesh size leading to substantial changes in the size and number of fish being caught. A 6 mm (0.25 inch) incremental increase in mesh size leads to 10-20 mm increases in the length of arctic cisco, depending on the mesh (Moulton 1995). For both Arctic and least cisco, an increase from 64 to 76-mm mesh increases the mean length by approximately 30 mm. These length increases equate to weight gains of 148 gm in arctic cisco and 68 gm in least cisco.

Catch rates expressed as biomass (kg/day/18-m of net) are, on average, highest in 76-mm mesh for arctic cisco, but highest in 64-mm mesh for least cisco (Table 7). For both species combined, the 64-mm mesh produces the greatest rate of biomass yield. Despite this high biomass yield, 64-mm mesh averages around 10% of the total annual effort in the Nigliq Channel. The small size of individual fish in the 64-mm mesh does not produce a desirable catch for most fishers, although some prefer the small fish when acquiring dog food. For most fishers, the 76-mm mesh provides enough fish of desirable species and size to offset the reduction in biomass yield, and this mesh averages 56% of the total effort (range: 42-71%).

Information from Returned Tagged Fish

Tag returns continue to dwindle, since tags have not been released since 1993 (Table 8). During

1997, 16 tagged least cisco released during or after 1990 were recovered by village fishers during the fall fishery (Appendix Table 14). All tagged arctic cisco have apparently matured and left the Colville region.

Predictability in Arctic Cisco Harvest Rates

The village catch rate for arctic cisco is correlated with the commercial catch rate, thus the relationship can be used to estimate the catch rate in the Nigliq Channel (Table 9, Fig. 10). This correlation is not as strong as the correlation between the commercial catch rates and the fyke nets, and is significant at an alpha level of 0.05, thus the predictions based on this relationship are weaker. The correlation produced a predicted catch rate of 12.2 fish per day for the 1997 fishery, compared to the 25.4 fish per day actually observed, thus the village fishery, as with the commercial fishery, performed better than expected. For 1998, the predicted commercial catch rate of 67 fish per day indicates the village catch rate should be around 27 fish per day (Table 9). As with the commercial fishery, if the residual members of the 1990 year class remain in significant numbers and the salinity distribution is favorable, the actual catch rate is likely to exceed the prediction.

DISCUSSION

The 1997 fishery was characterized by high abundance of arctic cisco, as expected because the strong recruitment in 1990. A greater catch than expected was observed, however, as the recruitment was likely stronger than anticipated and high salinities induced fish to move upstream into the main fishing areas early in the fishing season. Studies from previous years have established that arctic cisco move into the Colville River channels as salinity increases after ice formation (Moulton and Field 1988; Moulton 1994). For years in which salinity does not increase, such as 1994 and 1995, the catch of arctic cisco is lower than expected. Salinity measurements in the Outer Delta, provided by J. Helmericks, also demonstrated similar patterns as those observed in the Nigliq Channel, with lower than normal salinity in both 1994 and 1995. In 1997, salinity was high in all

areas. High salinity that encourages arctic cisco into the delta usually displaces least cisco, which seem to prefer lower salinity, but this pattern did not occur in 1997, as least cisco catch rates were above the recent 10-year average. Bering cisco, which had been unusually abundant and a dominant portion of the catch in 1990, remained essentially absent in 1997. Humpback whitefish returned to a low harvest level after several years of high abundance.

Prior to the fishing season, it was predicted that arctic cisco catch rates in 1997 would decrease from the 17.5 fish per day recorded in 1996 and would consist primarily of the 1990 and 1992 year classes (Moulton 1997). The mean catch rates in the Nigliq Channel in 1997 were among the higher recorded to date, with 20.8 fish per day in the Upper Nigliq area in 1997 compared to the previous ten-year average of 9.0 fish day, and 25.3 in the Nanuk Lake area in 1997, compared to the ten-year average of 18.2. The overall average for the Nigliq Channel, 25.4 fish per day, is second only to the 25.7 fish per day recorded in 1992, and double the predicted rate.

The extension of the commercial prediction to the Nigliq Channel fishery has not been very successful. It is not yet know if this is because of inherent error in the correlation or the effect of low salinities in 1994 and 1995 that may have kept arctic cisco downstream from the main fishing areas, thus artificially reducing the apparent abundance of fish. The 1997 prediction for the commercial fishery was much lower than the actual harvest rate. This larger error could be caused in part by the reduced fyke net effort in the Prudhoe Bay region, which may lead to less accurate measurement of fish abundance during the summer, and to early cessation of fishing while catch rates were still high.

In the past, knowledge of arctic cisco juvenile recruitment into the region as a whole and information on growth rates prior to recruitment into the fishery has allowed some prediction of impending increases or decreases in the arctic cisco catch rate. Unpredictable variables, such as the distribution of saline water in the delta, and possible variations in natural mortality, growth and maturation rates, make accurate predictions of catch rates unlikely. In 1997, the fishery responded better than expected, with both the 1990 and 1992 year classes contributing to the fishery. For 1998, it is likely that the 1990 year class will return to the Mackenzie River and will no longer be a significant portion of the harvest. The fishery will likely be supported by the remaining members of the 1992

year class that were not fully recruited to the fishery in 1997. Size structure of fish in the coastal region indicates there are few 1991 or 1993 year class arctic cisco available for 1998. In 1998, the fishery will depend on the 1992 year class being fully recruited. Based on the abundance of 260-300 mm fish in 1997, it appears that catch rates will be similar to those observed in 1997. No additional strong recruitments have been observed since 1992.

PREDICTIONS FOR 1998

It is likely that the 1998 catch rates will be similar to those observed in 1997. The 1997 harvest was supported by the 1990 and 1992 year classes, which combined to support relatively high catch rates. Most of the 1998 harvest will be composed of remnants from 1992 year class that were too small to be caught in 1997.

If catches of 260-300 mm arctic cisco from fyke nets in the Prudhoe Bay region in 1997 are used as predictors of abundance, then the catches in the Colville Delta commercial fishery (76-mm mesh) will be around 67 fish per day for fish in the range of 300-340 mm (Moulton and Helmericks 1998). Most of the remaining catch will be remnants of the 1990 year class, which will be in the range of 340-370 mm. A catch rate in the predicted range should be accompanied by a harvest rate near 28 fish per day in the Nigliq Channel. Variability in this estimate could result from salinity distribution, competing fishers, or reduced growth rates during the summer of 1998.

Catch rates after 1998 should decline as the 1992 year class matures and moves out of the fishery. The 1995 year class may be the next with sufficient strength to support the fishery. This year class is not likely be recruited into the fishery until 2000.

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Table 1. Estimated onset of fishing effort in the Nuiqsut fall fishery, 1985-1997.

Year	Onset of Fishing
1985	Oct 2
1986	Oct 3
1987	Oct 8
1988	Oct 14
1989	Oct 22
1990	Oct 6
1991	Oct 12
1992	Sep 26
1993	Oct 3
1994	Oct 3
1995	Oct 16
1996	Sep 28
1997	Oct 13

Average start date for 1985-1996 = October 6.

Table 2. Catch contribution by species as observed during fisherman interviews in the Nigliq Channel, by percent of sampled catch (does not include commercial fishery).

Species	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	
Arctic cisco	69.5	95.9	71.8	90.6	66.2	39.6	62.8	89.2	85.4	39.6	34.7	81.9	
Bering Cisco	(a)	(a)	(a)	(a)	(a)	21.8	1.2	0.1	0.02	0.1	0.2	0.0	
Least cisco	14.8	3.8	18.7	8.3	23.7	30.2	30.0	6.0	11.1	44.6	35.0	4.8	
Broad whitefish	15.1	0.3	5.5	0.6	7.0	5.3	1.0	0.2	0.3	2.2	7.6	0.1	
Humpback whitefish	0.5	0.03	3.8	0.5	3.1	2.9	3.8	0.1	0.4	13.2	22.3	0.4	
Arctic grayling	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Rainbow smelt	0.2	0.03	0.01	0.0	0.03	0.2	1.0	0.0	0.04	0.3	0.2	0.1	
Round whitefish	0.0	0.01	0.0	0.0	0.0	0.0	0.03	0.0	0.0	0.0	0.0	0.0	
Dolly Varden char	0.0	0.0	0.03	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
Saffron cod	0.0	0.0	0.03	0.0	0.03	0.03	0.04	0.0	0.01	0.0	0.0	0.02	
Burbot	0.0	0.0	0.06	0.1	0.03	0.01	0.09	0.0	0.0	0.0	0.1	0.02	
Arctic flounder	0.0	0.0	0.00	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.0	0.02	
Fourhorn sculpin	(b)	(b)	(b)	(b)	(b)	(b)	(b)	4.4	2.7	(b)	(b)	12.5	
Total Observed:	2,705	8,952	6,826	2,948	2,946	7,911	7,576	24,305	17,155	3,792	7,155	5,730	19

(a) = included with Arctic cisco prior to 1990
(b) = always present but not counted

Table 3. Mean catch rate of Arctic cisco in 76-mm mesh gill nets in the Nuiqsut fall fishery, 1985-1997 (in fish per day per 18 m of net).

Area	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-1996 Mean	1987-1996 Standard Deviation
Nigliq Channel (village effort)															
Upper Nigliq	12.1	17.1	11.5	6.1	10.3	3.4	4.1	14.5	18.5	3.8	1.1	16.2	20.8	9.0	6.0
Nanuk	NA	27.9	43.0	5.1	18.0	7.0	6.9	30.0	44.7	4.4	3.2	19.5	25.3	18.2	15.4
Nigliq Delta	NA	78.5	39.3	56.4	24.7	8.1	5.9	126.0	44.1	--	22.3	--	33.2	40.8	38.2
Outer Colville Delta															
Main Channel	76.1	62.0	47.6	19.3	NA	NA	NA	54.1	207.1	35.5	21.4	28.6	NA	59.1	57.9
East Channel	--	--	--	--	--	--	--	--	--	--	7.6	45.8	--		

NA = not available, -- = no effort

Table 4. Mean catch rate of least cisco in 76-mm mesh gill nets in the Nuiqsut fall fishery, 1985-1997 (in fish per day per 18 m of net).

Area	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1987-1996 Mean	1987-1996 Standard Deviation
Nigliq Channel (village effort)															
Upper Nigliq	3.6	1.8	5.5	1.8	3.3	5.3	0.9	2.9	2.1	4.0	4.7	0.6	11.4	3.1	1.7
Nanuk	NA	0.9	2.8	0.5	1.1	3.8	2.3	1.0	3.8	6.3	2.8	1.4	10.6	2.6	1.7
Nigliq Delta	NA	0.0	1.1	3.0	0.7	9.3	0.0	3.2	2.7	--	7.8	--	3.1	3.5	3.4
Outer Colville Delta															
Main Channel	47.4	18.3	15.4	57.9	NA	NA	NA	8.1	NA	NA	NA	NA	NA	27.1	21.8

NA = not available, -- = no effort

Table 5. Estimated harvest during the Nuiqsut fall fisheries by species, in number of fish, 1985-1997.

Year	Arctic Cisco	Least Cisco	Humpback Whitefish	Broad Whitefish
1985	46,681	15,814		1,148
1986	33,523	6,805	79	229
1987	20,847	6,114	957	1,239
1988	6,098	2,320	70	58
1989	12,892	6,035	421	1,306
1990	11,224	9,100	200	416
1991	8,269	3,193	634	206
1992	45,401	2,659	30	130
1993	46,944	7,599	1,057	534
1994	10,956	8,669	2,736	936
1995	8,573	8,573	6,395	1,514
1996	41,205	15,854	6,105	326
1997	33,274	10,002	365	486
10-year Mean: (1987-1996)	21,241	7,011	1,860	667

Table 6. Estimated numbers and biomass of harvested Arctic cisco and least cisco by year in the Nuiqsut fall fishery, 1985-1997 (Bering cisco included for 1990).

	Arctic Cisco		Least Cisco		Bering Cisco	
Year	Catch (in fish)	Biomass (kg)	Catch (in fish)	Biomass (kg)	Catch (in fish)	Biomass (kg)
1985	46,681	19,478	15,814	5,308	trace	
1986	33,522	14,449	6,804	2,181	trace	
1987	20,926	9,893	6,178	1,927	trace	
1988	6,098	2,986	2,321	789	trace	
1989	12,892	6,425	6,036	1,845	trace	
1990	11,224	4,409	9,100	2,619	8,652	5,474
1991	8,269	2,860	3,193	816	trace	
1992	45,402	15,728	2,658	787	trace	
1993	46,944	18,707	7,599	2,107	trace	
1994	10,956	4,525	8,669	2,475	trace	
1995	8,573	3,471	8,573	2,495	trace	
1996	41,205	15,387	15,854	4,648	trace	
1997	33,274	14,487	10,002	2,985	trace	
10-year Mean: (1987-1996)	21,249	8,439	7,018	2,051		

Table 7. Biomass catch per day by mesh size in the Nigliq Channel, 1986-1997 (expressed as Kg/day/18 m net).

Mesh (mm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	86-97 Mean
Arctic Cisco													
64	4.69	2.95	1.15	1.53	6.43	7.42	11.24	9.91	1.48	1.36	8.37	3.82	5.03
70		10.24	2.54				4.78	3.76	0.76	1.34			3.90
76	10.07	7.56	5.99	6.46	4.30	1.62	9.12	13.30	1.84	1.12	6.48	10.68	6.54
83	7.01	3.99	0.76	1.53	2.66	1.58	6.78	7.30	0.30	2.61	1.23	8.05	3.65
89	4.76	6.14	0.52	2.41	4.53	0.64	2.23	5.45	0.95	1.48	1.00	9.38	3.29
Least Cisco													
64	3.63	4.62	0.72	4.96	8.39	3.29	1.36	4.47	3.81	5.22	2.71	6.99	4.18
70		3.50	0.42				0.15	0.43	1.10	3.10			1.45
76	0.38	1.42	0.60	1.00	1.48	0.16	0.37	1.09	1.65	0.90	0.32	2.75	1.01
83	0.17	0.62	0.68	0.37	0.10	0.12	0.04	0.41	0.19	0.21	0.21	0.89	0.33
89	0.24	0.34	0.05	0.05	0.15	0.01	0.14	0.52	0.52	0.20	0.19	0.55	0.25
Arctic Cisco + Least Cisco													
64	8.33	7.57	1.87	6.50	14.82	10.71	12.61	14.37	5.28	6.57	11.08	10.81	9.21
70		13.74	2.96				4.93	4.19	1.86	4.44		0.00	4.59
76	10.45	8.97	6.59	7.46	5.78	1.78	9.49	14.40	3.49	2.02	6.80	13.43	7.56
83	7.18	4.60	1.45	1.90	2.76	1.70	6.82	7.71	0.48	2.82	1.44	8.94	3.98
89	5.00	6.48	0.57	2.45	4.68	0.65	2.38	5.97	1.47	1.68	1.19	9.93	3.54

Table 8. Tags recaptured during the Colville Delta fall fishery, village and commercial recoveries combined,. 1980-1997.

Arctic Cisco

Release Year	Study	Number Released	No. Tags Recaptured In: pre-1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Percent Recaptured to Date[a]
1976	ADF&G	?	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	NA
1977-78	Simpson Lag.	?	NA	0	0	0	0	0	0	0	0	0	0	0	0	0	NA
1980	OCSEAP	229	16	0	0	0	0	0	0	0	0	0	0	0	0	0	7.0
1981	Waterflood	1,756	70	5	0	0	0	0	0	0	0	0	0	0	0	0	4.3
1982	Endicott	439	12	1	0	0	0	0	0	0	0	0	0	0	0	0	3.0
1982	Waterflood	435	16	3	1	0	0	0	0	0	0	0	0	0	0	0	4.6
1984	Waterflood	5,840	88	89	59	25	4	1	0	0	0	0	0	0	0	0	4.6
1985	Endicott	11,695	--	342	220	98	21	4	1	1	0	0	0	0	0	0	5.9
1985	Colville	164	--	5	7	2	2	0	1	0	0	0	0	0	0	0	10.4
85-90	USFWS	?	--	1	1	2	0	1	9[b]	5	1	0	0	0	0	0	NA
1988	Endicott (Prudhoe)	899	--	--	--	--	30[c]	28	2[c]	1	0	0	0	0	0	0	6.8
1988	Endicott (Colville)	178	--	--	--	--	6	7	2[d]	2	0	0	0	0	0	0	9.6
1990	Endicott	716	--	--	--	--	--	--	17	6	6	1	0	0	0	0	4.2
1991	Endicott (Prudhoe)	2,407	--	--	--	--	--	--	--	52	45	32	5	2	0	0	5.7
1991	Endicott (Colville)	154	--	--	--	--	--	--	--	6	4	5	1	0	0	0	10.4
1992	Endicott (Prudhoe)	3,628	--	--	--	--	--	--	--	--	76	46	9	0	0	0	3.6
1992	Endicott (Colville)	379	--	--	--	--	--	--	--	--	4	13	3	0	0	0	5.3
1993	Endicott (Prudhoe)	1,591	--	--	--	--	--	--	--	--	--	76	14	4	0	0	5.9
Total			202	446	288	127	33	41	19	73	136	173	32	6	0	0	

a = returns from all fisheries operating in the Colville Delta, 1980-1995

b = 1990 includes 1 adipose clip

c = 1988 recovery of 88 Endicott (Prudhoe) includes 2 Arctic cisco recovered as Bering cisco, 1990 recovery includes 2 Arctic cisco recovered as Bering cisco.

d = 1990 recovery of 88 Endicott (Colville) includes 2 Arctic cisco recovered as Bering cisco.

Table 8. (continued)

Least Cisco

Release Year	Study	Number Released	No. Tags Recaptured In: pre-1985	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	Percent Recaptured to Date[a]
1976	ADF&G	?	NA	4	1	0	1	0	0	0	0	0	0	0	0	0	NA
1977-78	Simpson Lag.	?	NA	9	1	2	3	0	1	1	0	0	0	0	0	0	NA
1980	OCSEAP	1,067	75	4	2	1	3	1	0	0	0	0	0	0	0	0	8.1
1981	Waterflood	6,157	458	107	19	19	14	11	4	1	0	0	0	0	0	0	10.3
1982	Endicott	1,798	225	28	8	8	8	3	1	1	0	2	0	0	0	1	15.9
1982	Waterflood	2,131	158	20	5	2	4	2	0	0	0	0	0	0	0	0	9.0
1984	Waterflood	14,126	304	434	197	133	182	86	55	14	7	4	4	0	1	0	10.1
1985	Endicott	9,915	--	762	171	159	164	77	48	14	9	8	4	2	3	0	14.3
1985	Colville	940	--	23	10	7	11	7	7	1	0	0	2	0	0	0	7.2
85-90	USFWS	?	--	0	0	1	0	1	0	0	0	0	0	0	0	0	NA
1988	Endicott (Prudhoe)	499	--	--	--	--	34	15	7	2	0	0	0	1	0	0	11.8
1988	Endicott (Colville)	368	--	--	--	--	17	5	5	1	0	0	1	0	0	0	7.9
1990	Endicott	5,803	--	--	--	--	--	--	176	70	47	29	43	18	9	11	6.9
1991	Endicott (Prudhoe)	10,834	--	--	--	--	--	--	--	153	73	72	101	73	23	32	4.9
1991	Endicott (Colville)	396	--	--	--	--	--	--	--	2	1	0	3	3	1	0	2.5
1992	Endicott (Prudhoe)	6,744	--	--	--	--	--	--	--	--	125	58	148	57	36	24	6.6
1992	Endicott (Colville)	820	--	--	--	--	--	--	--	--	4	5	7	3	2	2	2.8
1993	Endicott (Prudhoe)	8,514	--	--	--	--	--	--	--	--	--	106	129	101	43	42	4.9
Total			1220	1391	414	332	441	208	304	260	266	284	442	258	118	112	

Table 9. Relationship between arctic cisco CPUE for village and commercial 76-mm mesh 1985-1997 with predicted 1998 village CPUE.

Year	Village CPUE (18-m of net)	Commercial CPUE (18-m of net)	Commercial CPUE (45-m of net)
1985	19.7	27.8	69.4
1986	23.5	80.5	201.3
1987	16.1	33.2	82.9
1988	12.4	10.9	27.1
1989	14.9	15.4	38.5
1990	11.0	10.5	26.1
1991	5.3	8.9	22.2
1992	25.7	27.5	68.7
1993	33.0	64.7	161.7
1994	4.6	13.8	34.6
1995	3.0	15.5	38.7
1996	17.5	58.0	145.0
1997	25.4	31.1	77.7
1998	**27.5**	**26.6**	**66.6**

bold = predicted values

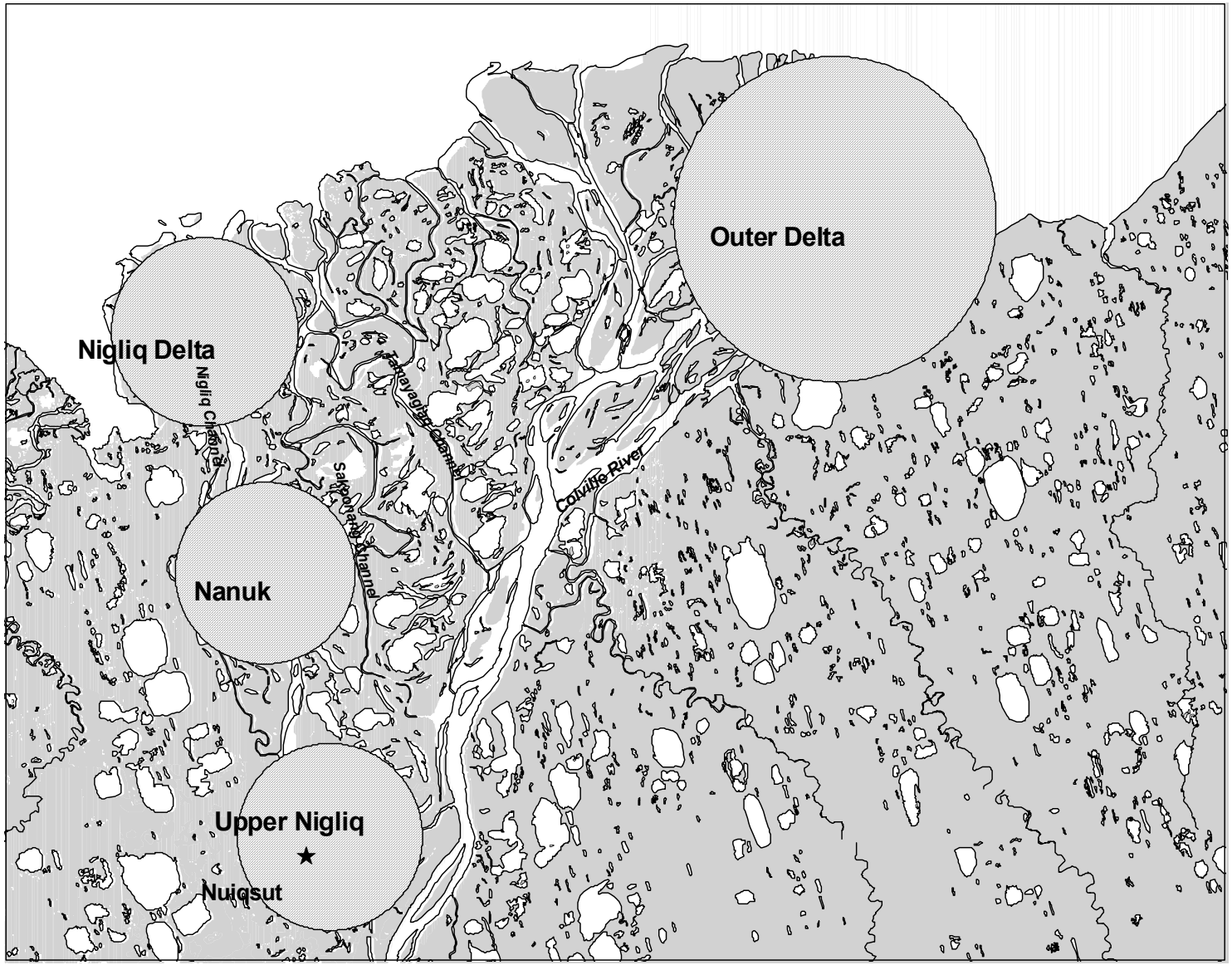


Figure 1. Colville Delta region showing locations of major fishing areas.

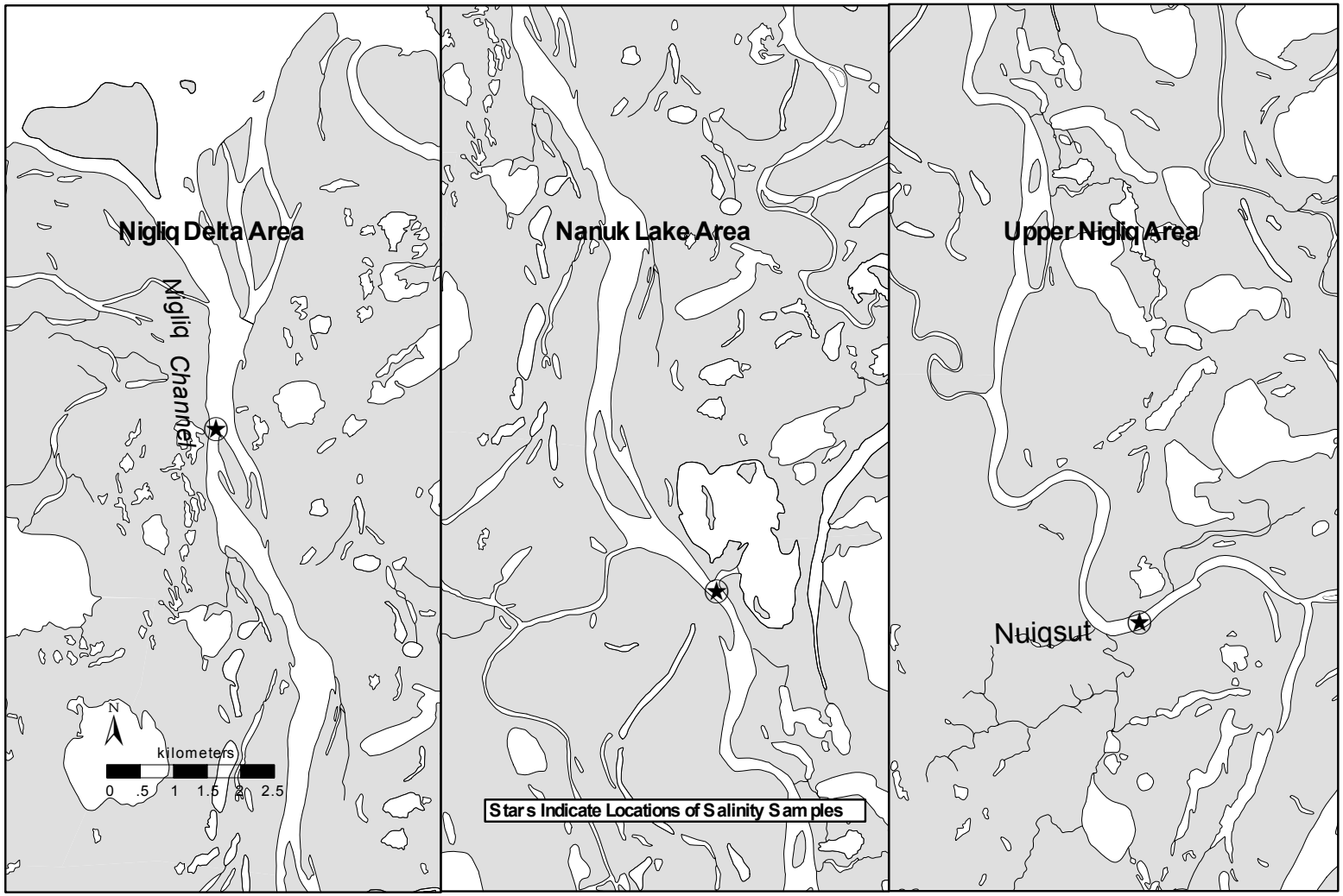
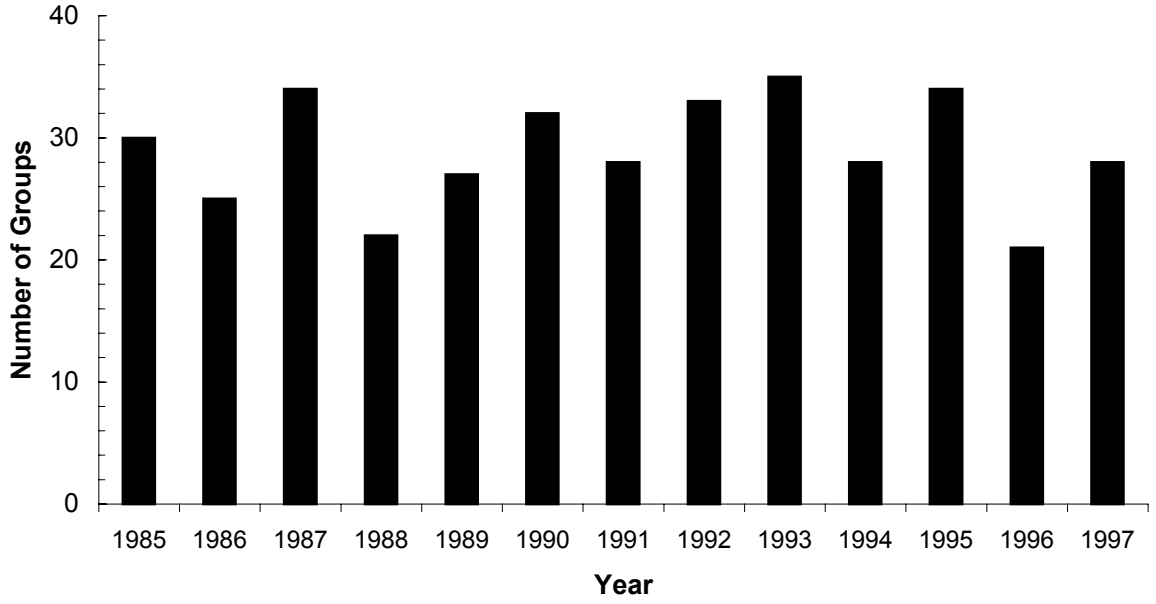
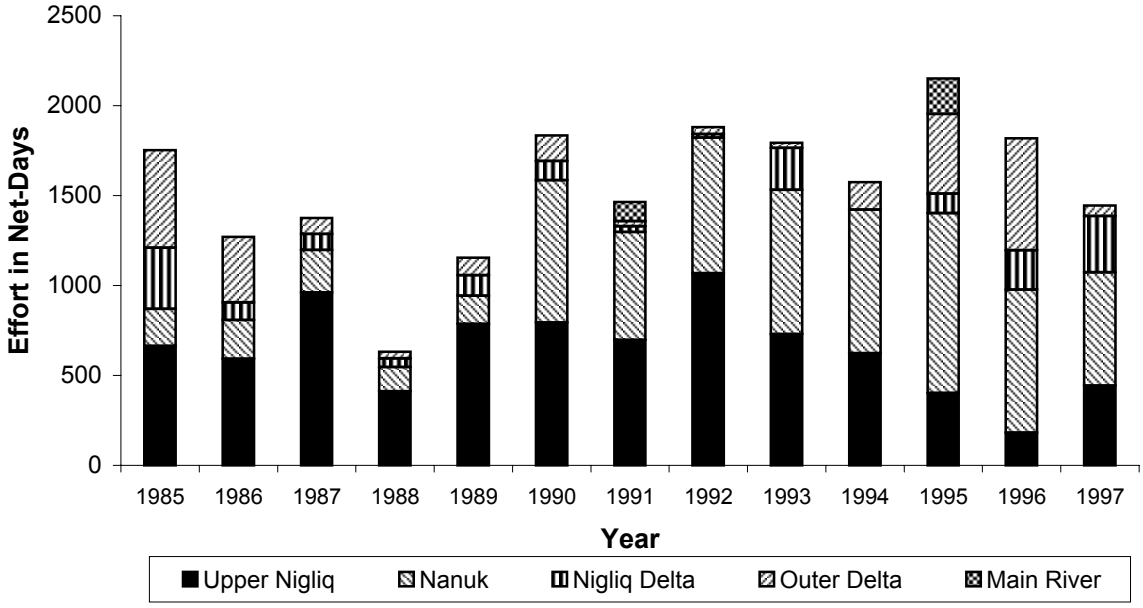


Figure 2. Major fishing areas on the Nigliq Channel with location of salinity monitoring stations.



a. Number of Fishing Groups



b. Estimated Fishing Effort

Figure 3. Estimated fishing effort in the Colville Delta fall Fishery, 1985-1997 by number of fishing groups and effort in net-days (1 net-day = 24 hrs fishing per 18 m of net, all meshes combined).

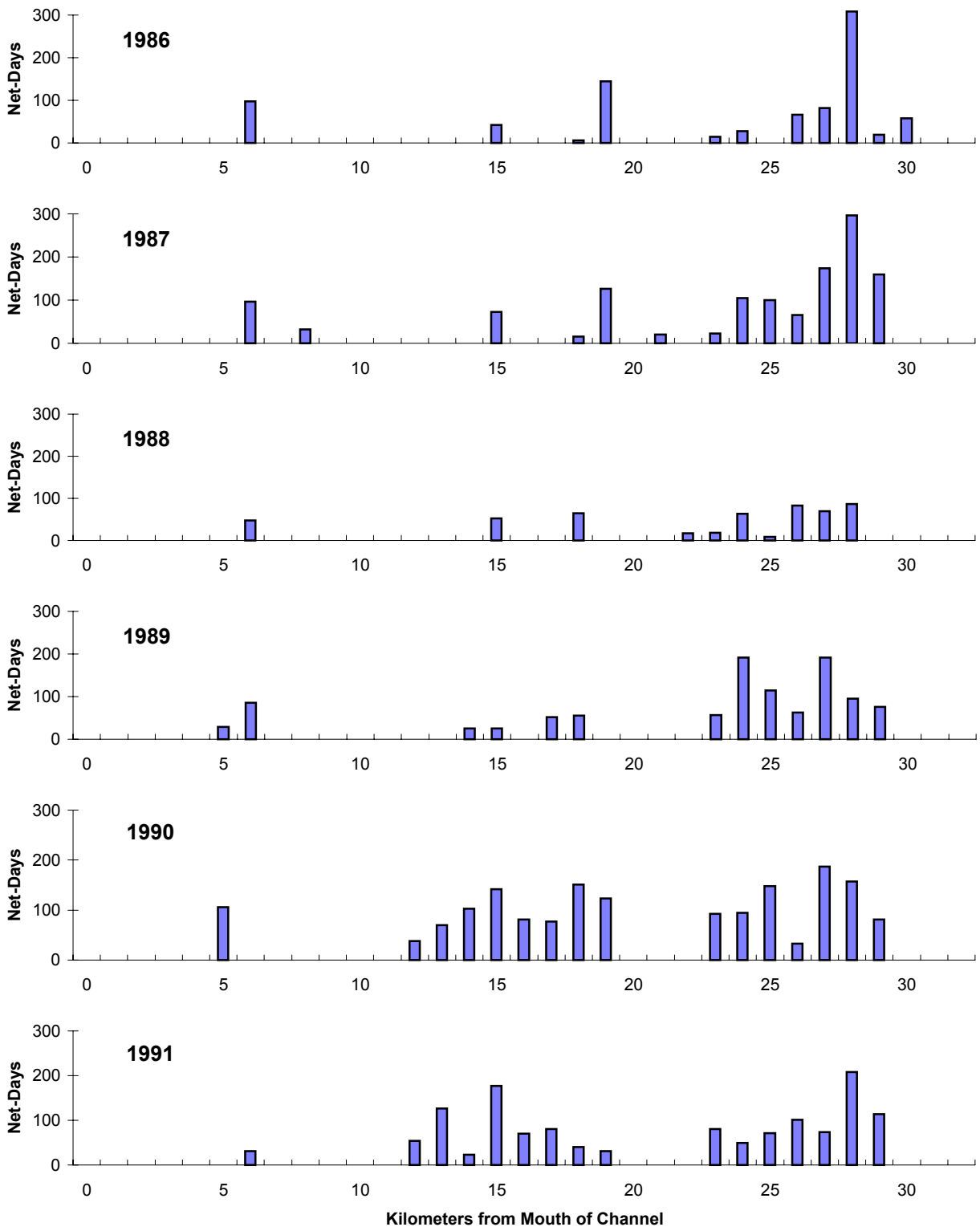
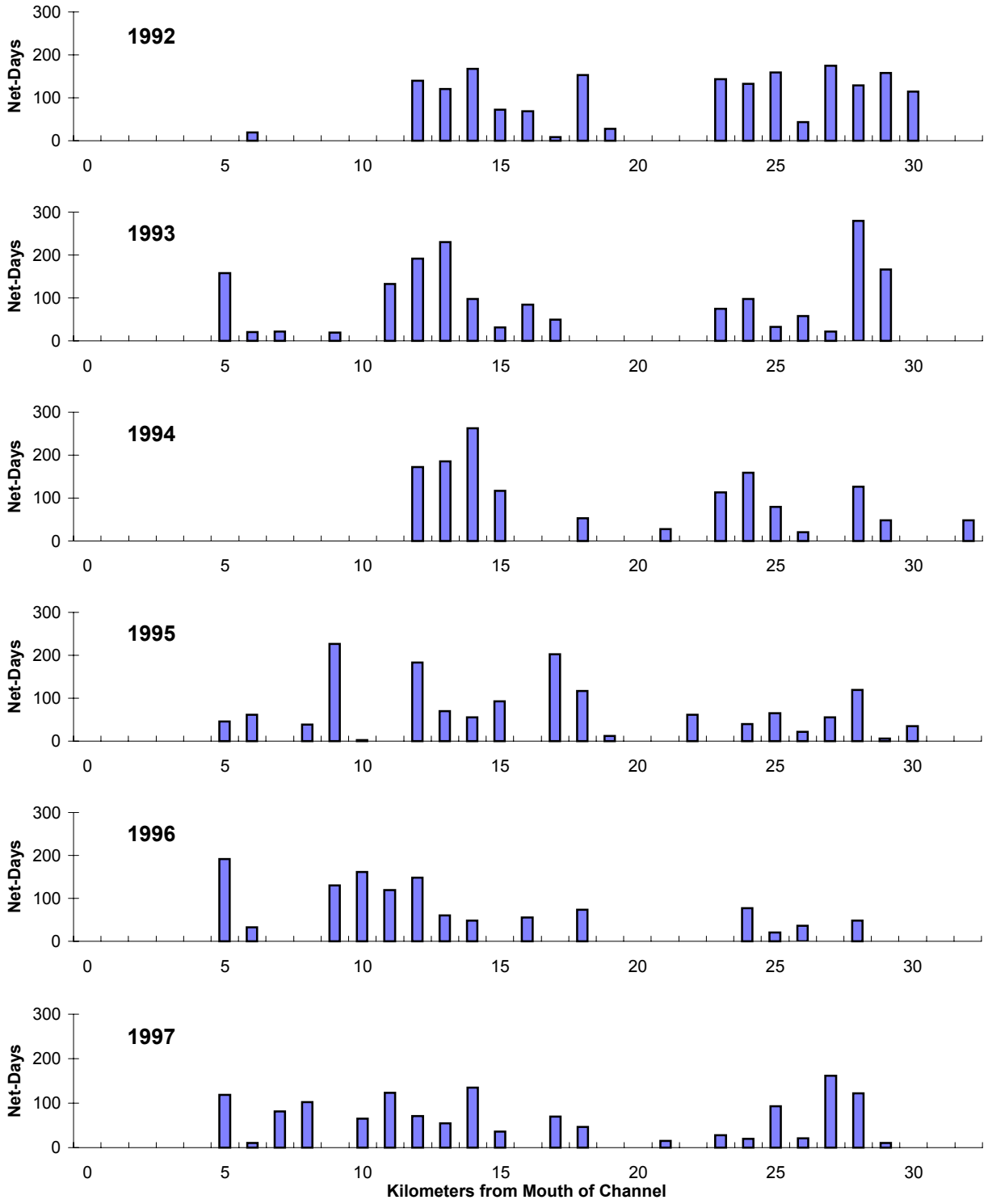


Figure 4. Distribution of fishing effort on the Nigliq Channel, Colville Delta, 1986-1997.



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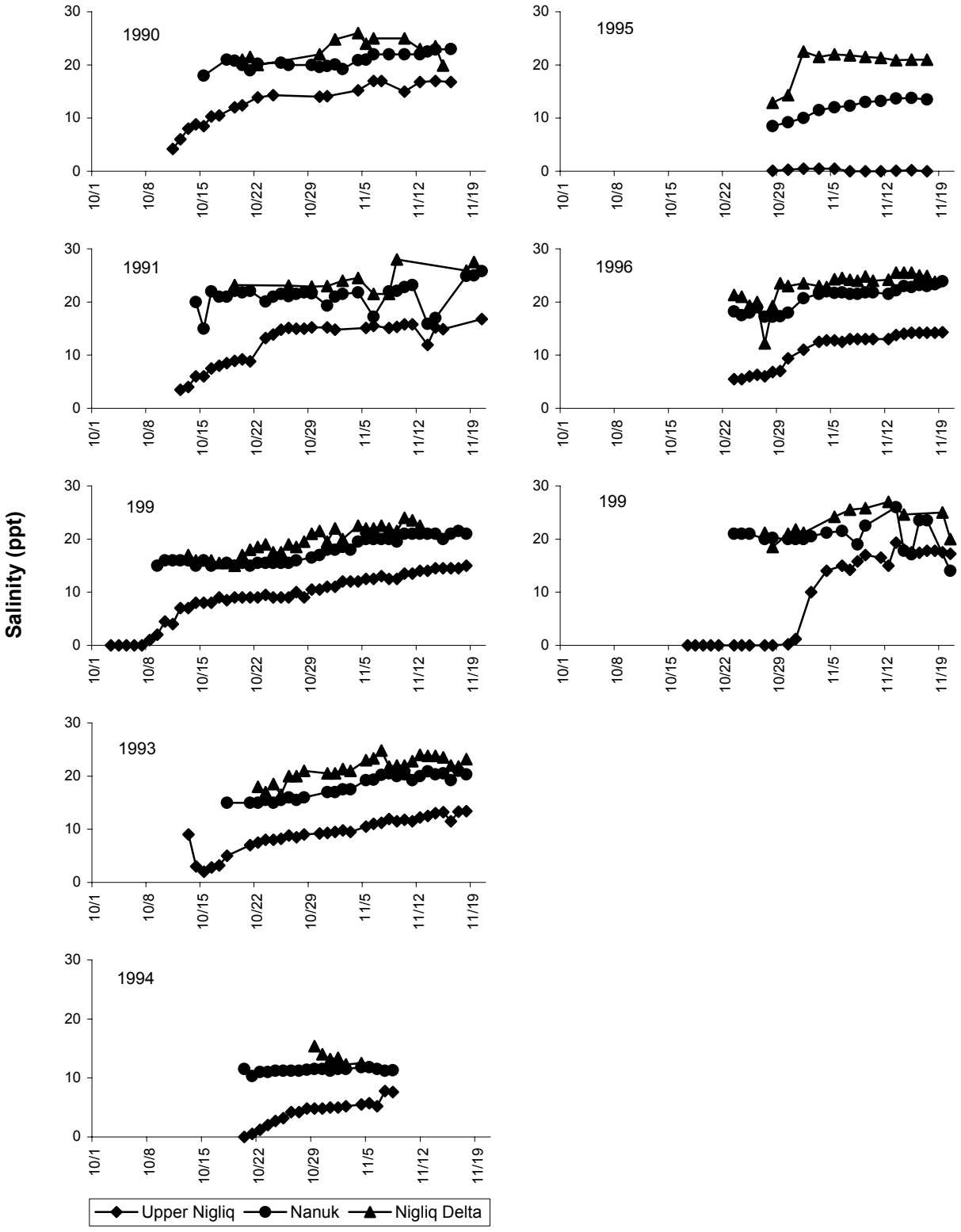


Figure 5. Salinities measured at 3 m below the ice surface at Nigliq Channel fishing areas, 1990-1997.

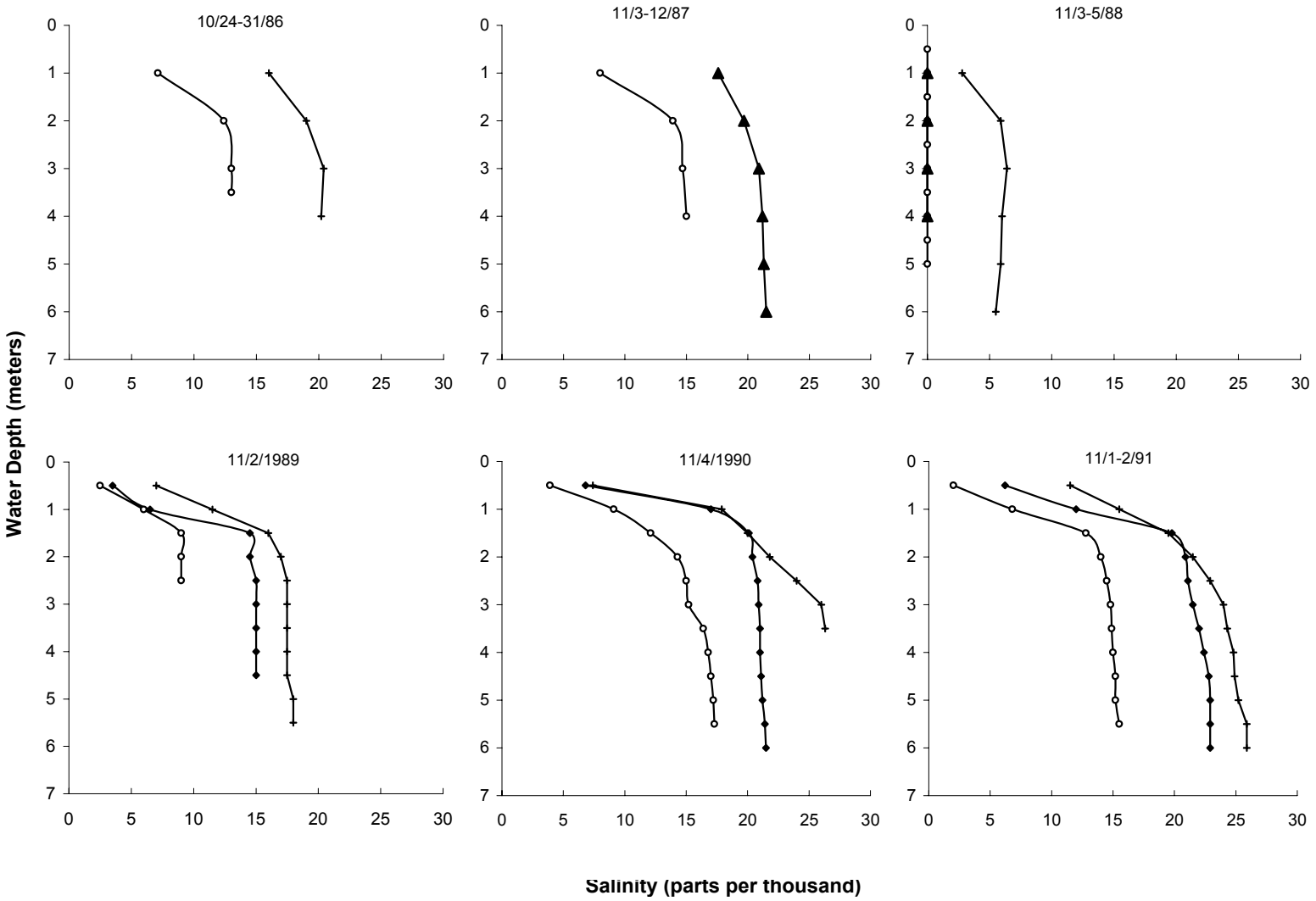


Figure 6. Salinity distribution in the Nigliq Channel, Colville Delta, during the fall gill net fishery, 1986-1997.

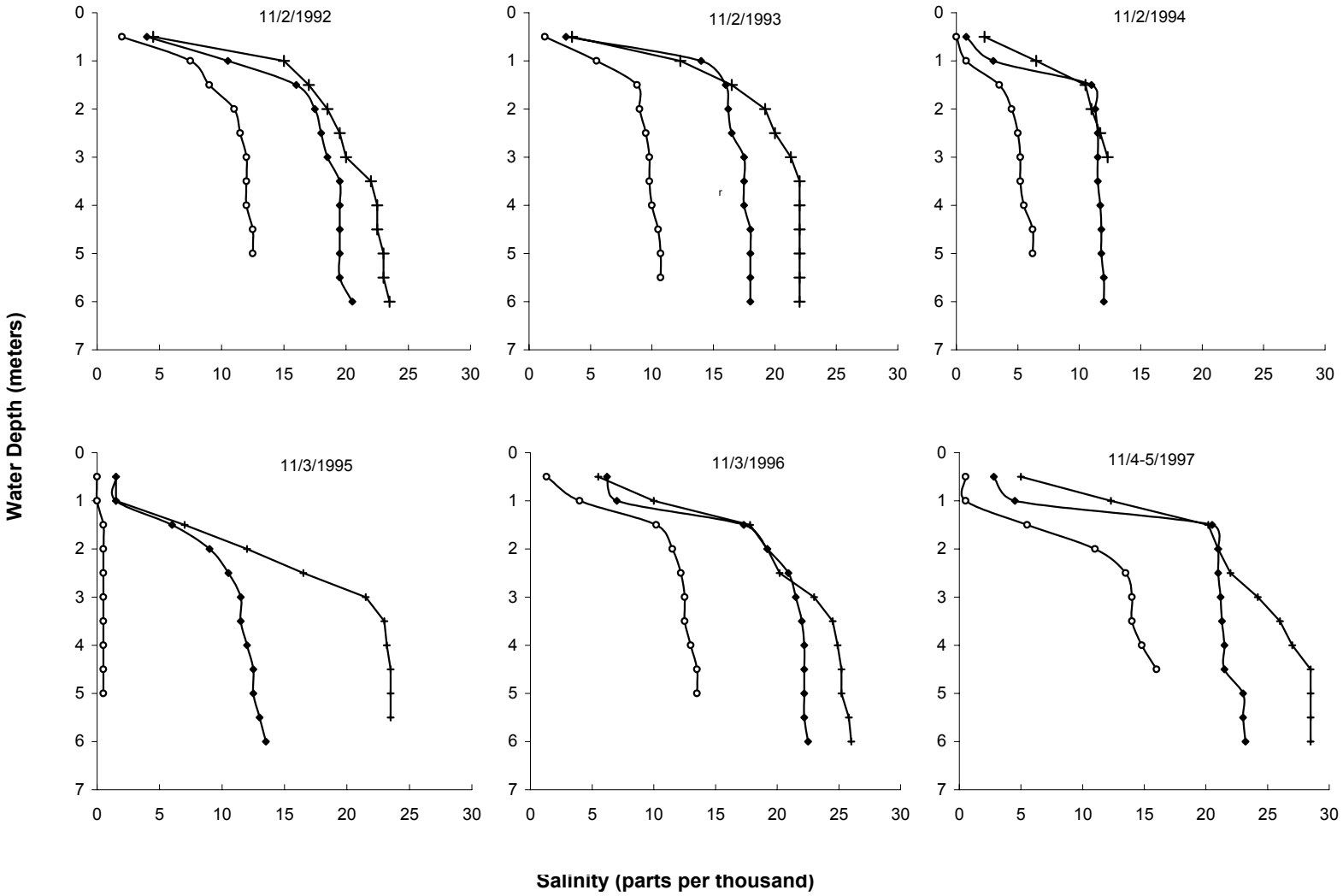
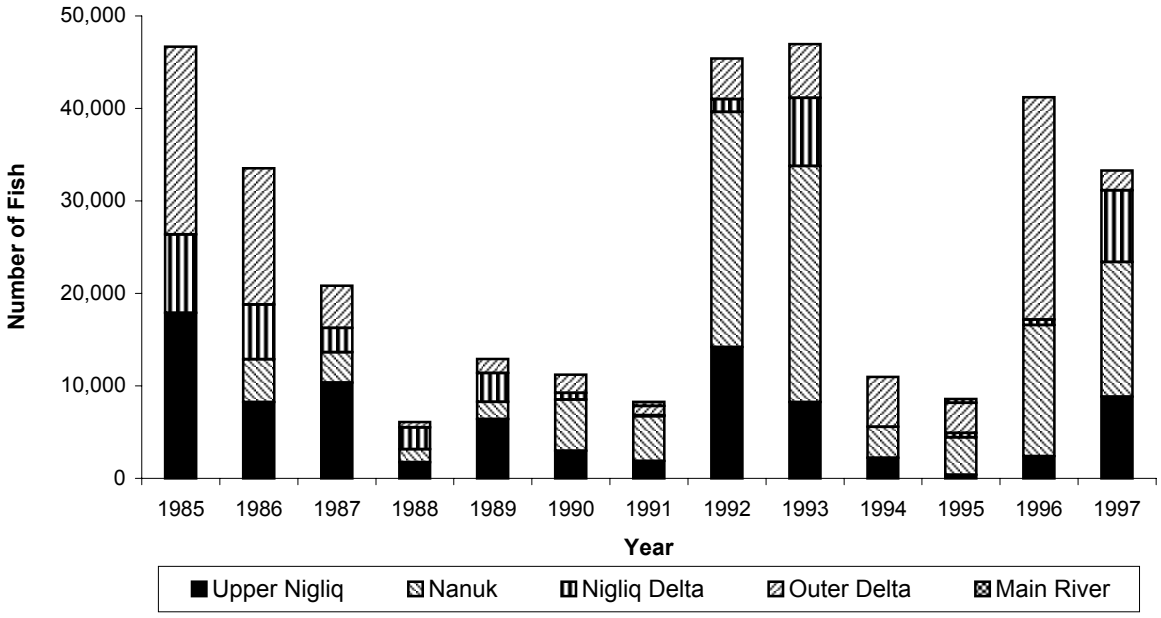
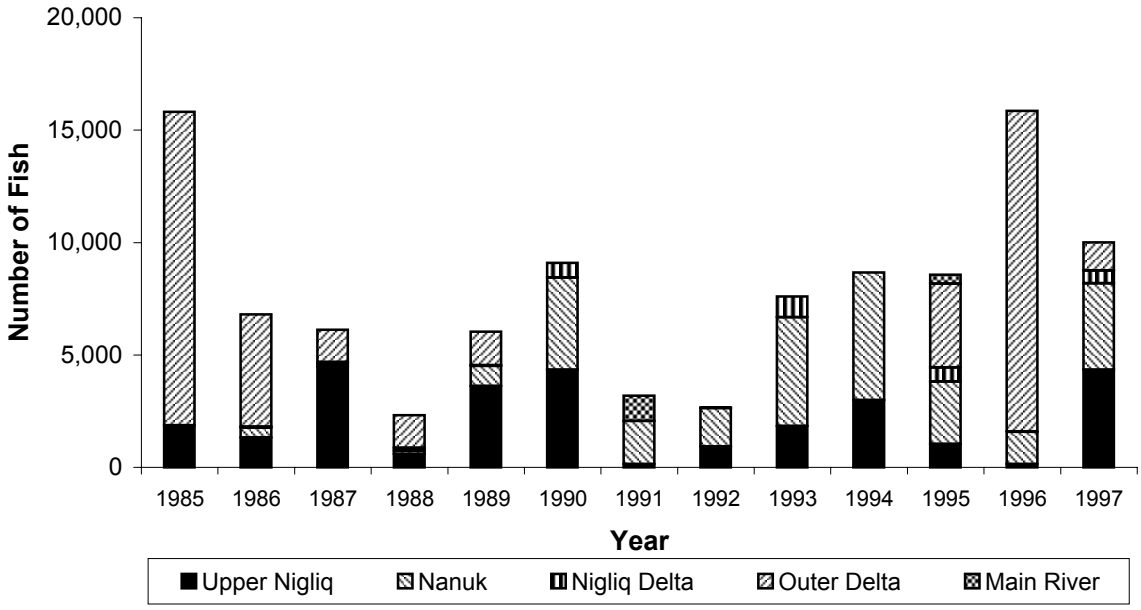


Figure 6. Salinity distribution in the Nigliq Channel, Colville Delta, during the fall gill net fishery, 1986-1997.



a. Arctic Cisco



b. Least Cisco

Figure 7. Catch of arctic cisco and least cisco by harvest area in the Colville Delta, 1985 to 1997.

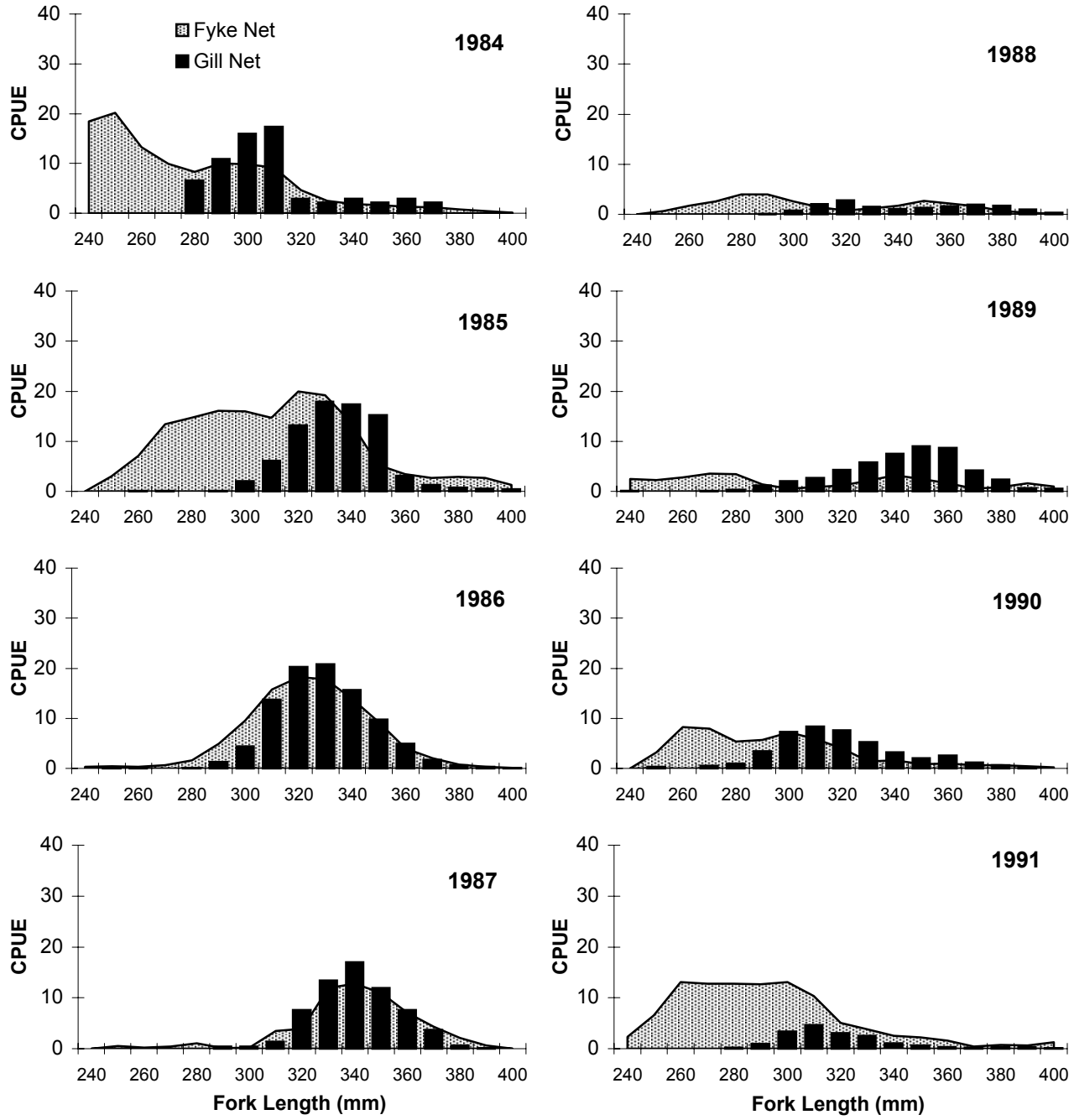
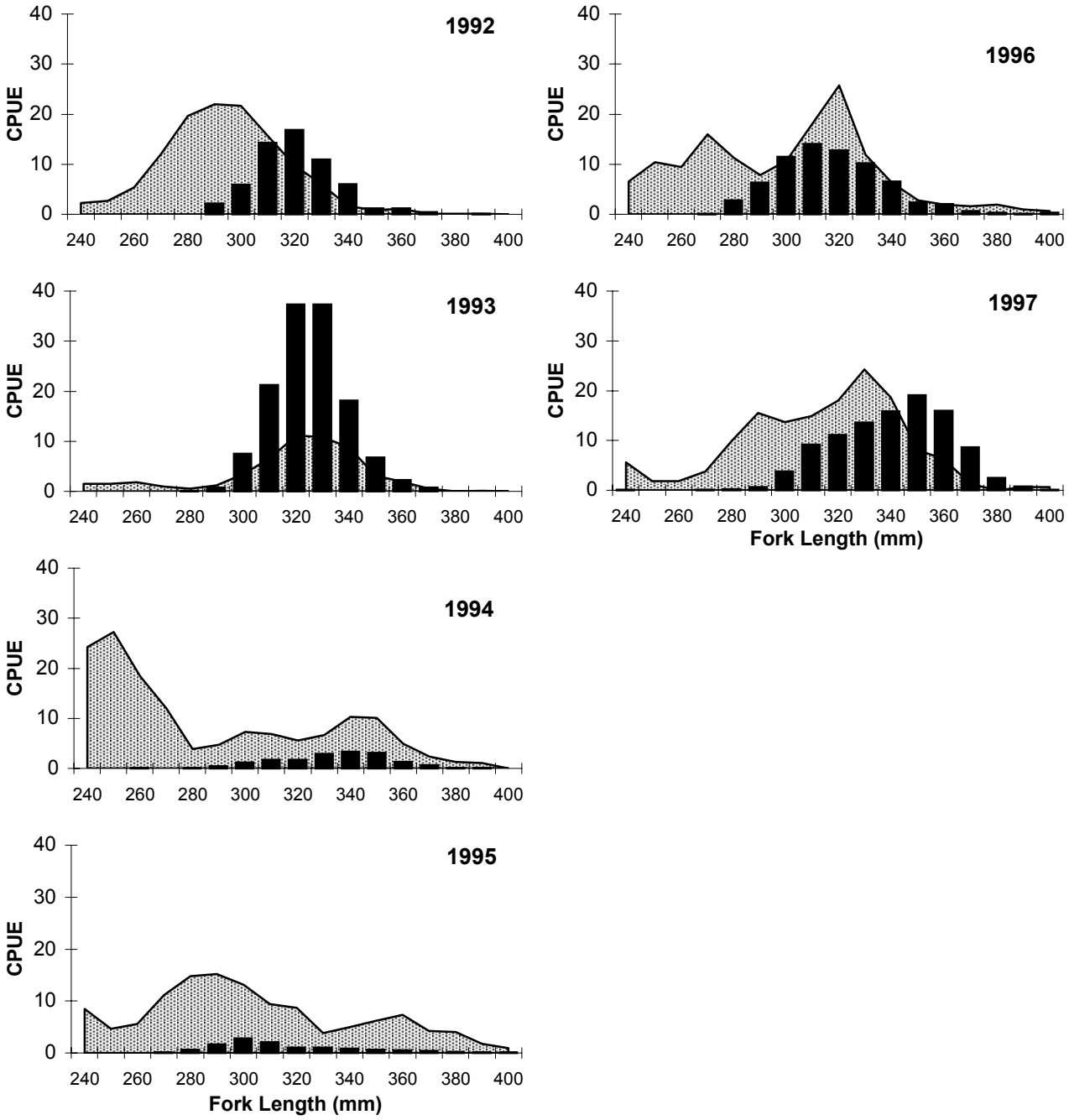


Figure 8. Length frequencies of Arctic cisco caught in fyke nets near Prudhoe Bay compared to those caught by 76-mm gill nets in the Nuiqsut fishery, 1984-1997 (fyke net length frequencies for fish caught after August 15, i.e. after summer growth period). (Length frequencies scaled by CPUE to reflect annual changes in Arctic cisco abundance)



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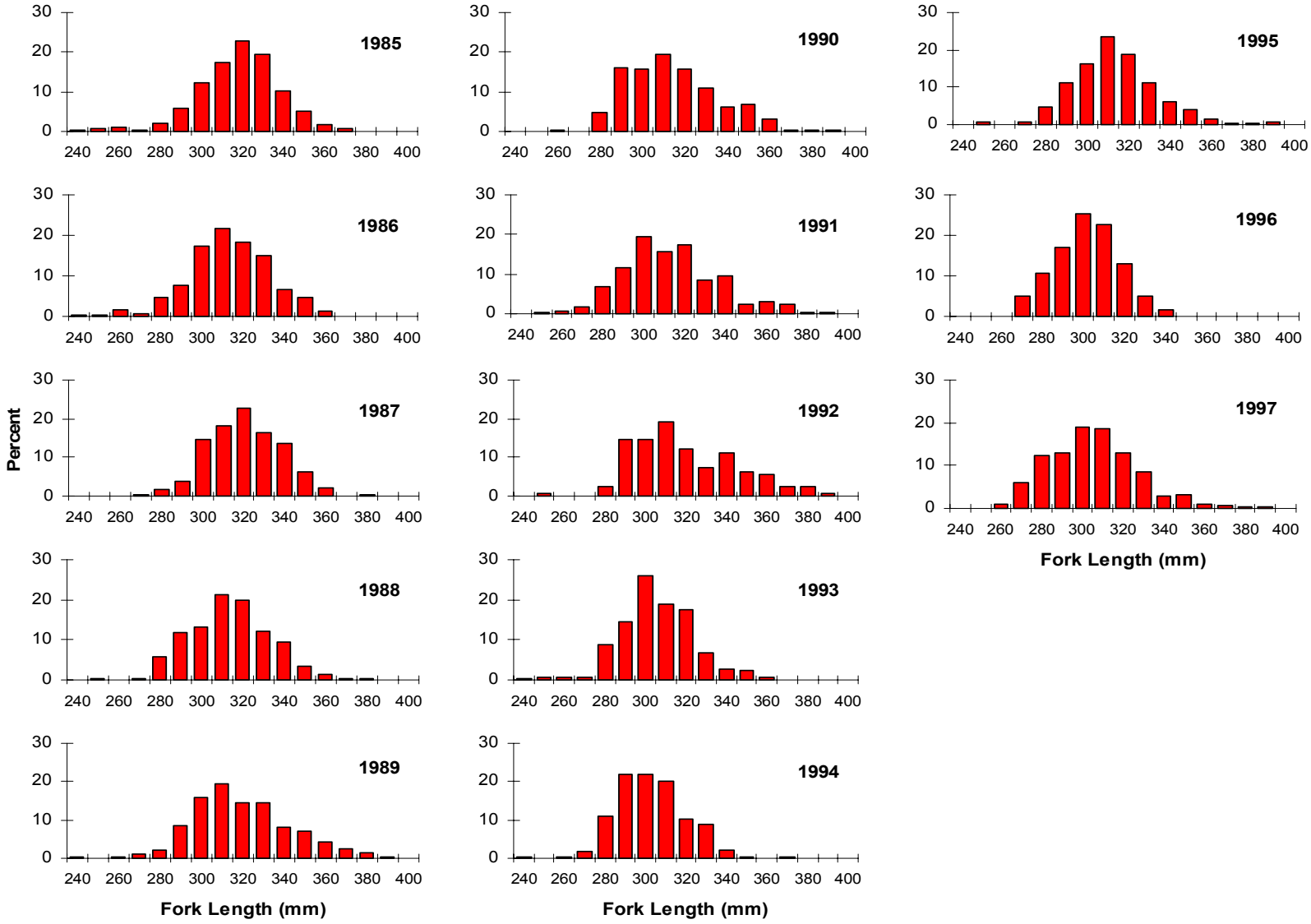

Figure 9. Length frequency distributions of least cisco captured in 76-mm gill nets in the Colville Delta fishery, 1985-1997.

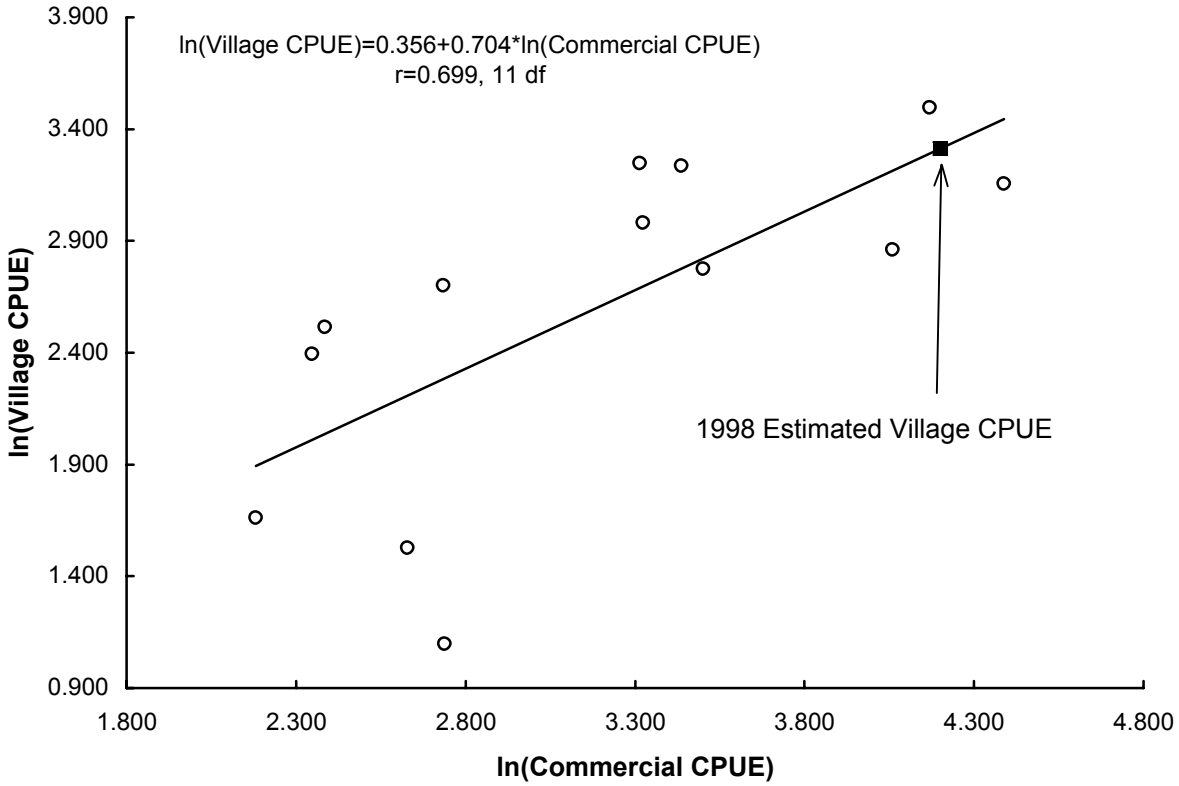

Figure 10. Relationship between village and commercial catch rates of Arctic cisco in 76-mm mesh and predicted catch rate for the Nuiqsut fishery in 1998.

DATA APPENDIX

LIST OF APPENDIX TABLES

Appendix Table 1. Total estimated fishing effort by Nuiqsut in the Colville River fall fishery, 1985-1997 (in net-days per 18-m of gill net).

Year	Upper Nigliq	Nanuk	Nigliq Delta	Outer Delta	Main River	**Total Effort**
1985	663	207	340	543		1,753
1986	592	216	97	365		1,270
1987	961	236	90	89		1,376
1988	411	136	47	37		631
1989	786	157	114	98		1,155
1990	793	793	106	142		1,834
1991	697	601	31	28	108	1,465
1992	1,067	755	19	39		1,880
1993	730	802	233	28		1,793
1994	622	800	0	152		1,574
1995	403	1,000	108	443	198	2,151
1996	182	795	219	622		1,818
1997	443	631	313	59		1,446

Appendix Table 2. Total estimated catch of arctic cisco in the Nuiqsut fall fishery, 1985-1997 (in numbers of fish).

Area	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	199
Nigliq Channel (village effort)												
Upper Nigliq	17,878	8,239	10,331	1,736	6,403	2,979	1,866	14,182	8,243	2,230	379	2,40
Nanuk	NA	4,636	3,310	1,401	1,866	5,538	4,853	25,444	25,525	3,326	4,037	14,17
Nigliq Delta	8,500	5,924	2,635	2,374	3,123	706	91	1,375	7,375	0	489	59
Main River	NA	NA	NA	NA	NA	NA	434	NA	NA	NA	415	
Outer Colville Delta												
Main Channel	12,397	14,724 a	4,571 a	587 a	1,500	2,000	1,025	4,400	5,800	5,400	1,400	13,57
East Channel	7,906	0	0	0	0	0	0	0	0	0	1,853	10,46
Total Village	46,681	33,523	20,847	6,098	12,892	11,224 c	8,269	45,401	46,944	10,956	8,573	41,20

a Entire catch counted

Appendix Table 3. Total estimated catch of least cisco in the Nuiqsut fall fishery, 1985-199
(in numbers of fish)

Area	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Nigliq Channel (village effort)													
Upper Nigliq	1,871	1,329	4,483	600	3,621	4,348	136	927	1,832	2,990	1,039	136	4,344
Nanuk	NA	440	124	143	898	4,098	1,929	1,706	4,839	5,679	2,782	1,450	3,845
Nigliq Delta	0	38	74	123	16	654	0	26	928	0	615	15	572
Main River	NA	NA	NA	NA	NA	NA	1,128	NA	NA	NA	406	0	0
Outer Colville Delta													
Main Channel	8,698	4,998 a	1,433 a	1,454 a	1,500	NA	NA	NA	NA	NA	NA	7,982	1,241
East Channel	5,245	0	0	0	0	0	0	0	0	0	3,731	6,271	0
Total Village	15,814	6,805	6,114	2,320	6,035	9,100	3,193	2,659	7,599	8,669	8,573	15,854	10,002

Appendix Table 4. Fishing effort in the Nigliq Channel and Outer Colville Delta by fisher, 1997.

Fisher Code	Net	Fishing Area	Net Length (m)	Net Depth (m)	Mesh (mm)	Start Date	End Date
01	A	610	30	1.8	83	10/23/1997	11/16/1997
04	A	610	18	1.2	64	10/13/1997	10/27/1997
04	B	610	18	1.8	76	10/14/1997	11/29/1997
04	C	650	18	1.8	89	10/30/1997	11/29/1997
04	D	610	18	1.8	76	11/7/1997	11/29/1997
10	A	610	24	1.8	76	11/11/1997	11/19/1997
12	A	650	30	1.8	76	11/1/1997	11/29/1997
15	A	650	18	1.8	76	10/23/1997	11/16/1997
15	B	650	18	1.8	64	10/23/1997	11/1/1997
19	A	100	30		76	10/18/1997	10/29/1997
19	B	100	30		76	10/18/1997	10/29/1997
19	C	100	30		76	10/18/1997	10/29/1997
24	A	650	24	1.8	76	11/1/1997	11/29/1997
24	B	610	18	1.8	76	11/8/1997	11/29/1997
24	C	100	24	1.8	76	10/26/1997	10/29/1997
25	A	670	18	1.8	76	10/30/1997	10/31/1997
25	B	610	18	1.8	76	11/1/1997	11/29/1997
25	C	650	24	1.8	89	11/2/1997	11/29/1997
31	A	650	24	1.8	76	10/18/1997	11/29/1997
31	B	650	24	1.8	76	10/19/1997	11/29/1997
32	A	650	30	1.2	89	10/25/1997	11/6/1997
33	A	650	30	1.8	89	10/26/1997	11/29/1997
33	B	650	24	1.2	64	10/26/1997	10/30/1997
33	C	650	24	1.8	76	11/22/1997	11/29/1997
35	A	650	24	1.8	76	10/31/1997	11/18/1997
37	A	670	24	1.8	76	11/1/1997	11/29/1997
37	B	670	24	1.8	76	11/1/1997	11/29/1997
41	A	670	24	1.8	89	10/26/1997	11/29/1997
43	A	610	30	2.4	89	10/23/1997	11/11/1997
43	B	610	24	2.4	89	10/23/1997	11/19/1997
48	A	650	24	1.8	89	11/4/1997	11/29/1997
51	A	670	24	1.8	76	10/31/1997	11/29/1997
52	A	610	30	1.8	76	11/8/1997	11/23/1997
54	A	670	18	1.2	83	11/1/1997	11/7/1997
54	B	670	30	2.1	83	11/3/1997	11/6/1997
54	C	650	30	2.1	83	11/6/1997	11/23/1997
54	D	650	18	1.2	83	11/7/1997	11/23/1997

Appendix Table 4. Fishing effort in the Nigliq Channel and Outer Colville Delta by fisher, 1997.

Fisher Code	Net	Fishing Area	Net Length (m)	Net Depth (m)	Mesh (mm)	Start Date	End Date
56	A	610	18	1.2	76	10/18/1997	11/2/1997
56	B	650	24	1.8	89	10/19/1997	11/29/1997
60	A	610	24	1.8	89	10/27/1997	11/29/1997
60	B	610	18	1.8	76	11/1/1997	11/29/1997
61	A	650	24	1.2	89	10/26/1997	11/16/1997
64	A	670	24	1.8	89	10/26/1997	11/29/1997
64	B	650	24	1.8	76	11/16/1997	11/29/1997
65	A	670	24	1.8	89	10/28/1997	11/29/1997
65	B	670	24	1.8	76	11/1/1997	11/29/1997
66	A	610	30	1.8	76	10/18/1997	11/19/1997
66	B	610	24	1.2	64	10/19/1997	10/23/1997
66	C	610	18	1.8	83	10/23/1997	11/23/1997
69	A	670	18	1.8	76	11/1/1997	11/7/1997
69	B	650	18	1.8	76	11/7/1997	11/23/1997
73	A	610	24	1.8	76	11/14/1997	11/29/1997
75	A	670	24	1.8	76	10/28/1997	11/5/1997

Fisher Code: numerical code used to identify individual fishers, used constantly across years.
Area: 610 = Upper Nigliq; 650 = Nanuk; 670 = Nigliq Delta; 100 = Outer Delta
Start = Date net was set at a location
End = Date net was removed from a location

Appendix Table 5. Estimated effort by Nuiqsut fishermen by mesh size and fishing area, 1997.

Estimated Effort in Net-Days by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	76	0	9.8	49.5	0.0	0.0	0.0	0.0	59.4	
	89	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.4
Upper Nigliq	64	0	0.0	8.3	11.0	0.0	0.0	0.0	19.3	
	76	0	0.0	11.3	36.7	50.3	100.7	70.0	269.0	
	83	0	0.0	0.0	18.7	26.7	21.7	4.0	71.0	
	89	0	0.0	0.0	25.0	43.3	30.0	13.3	111.7	471.0
Nanuk	64	0	0.0	0.0	12.3	2.0	0.0	0.0	14.3	
	76	0	0.0	4.0	33.7	74.7	89.7	83.3	285.3	
	83	0	0.0	0.0	0.0	7.0	26.7	10.7	44.3	
	89	0	0.0	1.3	33.7	81.0	76.0	66.7	258.7	602.7
Nigliq Delta	76	0	0.0	0.0	2.7	59.0	53.3	53.3	168.3	
	83	0	0.0	0.0	0.0	11.0	0.0	0.0	11.0	
	89	0	0.0	0.0	13.3	40.0	40.0	40.0	133.3	312.7

Estimated Outer Delta Total: 59.4
Estimated Nigliq Total: 1,386.3
Estimated Nuiqsut Total: 1,445.7

Appendix Table 6. Estimated catch of Arctic cisco in the Nuiqsut fishery, 1997.

Estimated Arctic Cisco CPUE by 10-day Interval (numbers in bold are estimates)

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29
Outer Delta	64							
	76							
	89							
Upper Nigliq	64			1.8	3.0			
	76			3.3	5.9	31.0	20.6	24.3
	83				11.8	13.6	20.5	21.7
	89				8.1	22.3	21.1	**21.1**
Nanuk	64				27.0	**27.0**		
	76			**21.3**	21.3	37.9	22.3	18.9
	83					48.7	14.6	12.9
	89			**19.1**	19.1	35.1	23.0	12.5
Nigliq Delta	76				95.3	51.2	28.5	14.8
	83					20.6		
	89				22.5	20.5	11.7	8.6

Estimated Arctic Cisco Harvest by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64									
	76			estimated from commercial CPUE						
	89									2,144
Upper Nigliq	64	0	0	15	33	0	0	0	48	
	76	0	0	38	216	1,562	2,070	1,702	5,588	
	83	0	0	0	220	364	445	87	1,116	
	89	0	0	0	201	966	633	281	2,082	8,834
Nanuk	64	0	0	0	333	54	0	0	387	
	76	0	0	85	715	2,833	2,001	1,575	7,210	
	83	0	0	0	0	341	390	138	869	
	89	0	0	26	645	2,839	1,746	833	6,088	14,554
Nigliq Delta	76	0	0	0	254	3,020	1,519	790	5,583	
	83	0	0	0	0	227	0	0	227	
	89	0	0	0	300	822	466	345	1,933	7,743

Estimated Outer Delta Harvest:	2,144
Estimated Nigliq Channel Harvest:	31,130
Estimated Nuiqsut Harvest:	33,274

Appendix Table 7. Estimated catch of Bering cisco in the Nuiqsut fishery, 1997.

Estimated Bering Cisco CPUE by 10-day Interval (numbers in bold are estimates)

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29
Outer Delta	64							
	76							
	89							
Upper Nigliq	64			0.0	0.0			
	76			0.0	0.0	0.0	0.0	0.0
	83				0.0	0.0	0.0	0.0
	89				0.0	0.1	0.0	**0.0**
Nanuk	64				0.0	**0.0**		
	76			**0.0**	0.0	0.0	0.0	0.0
	83					0.0	0.0	0.0
	89			**0.0**	0.0	0.0	0.0	0.0
Nigliq Delta	76				0.0	0.0	0.0	0.0
	83					0.0		
	89				0.0	0.0	0.0	0.0

Estimated Bering Cisco Harvest by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64									
	76		not estimated							
	89									
Upper Nigliq	64	0	0	0	0	0	0	0	0	
	76	0	0	0	0	2	0	0	2	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	3	0	0	3	5
Nanuk	64	0	0	0	0	0	0	0	0	
	76	0	0	0	0	0	0	0	0	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	0	0	0	0	0
Nigliq Delta	76	0	0	0	0	0	0	0	0	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	0	0	0	0	0

Estimated Total Main River Harvest:	0
Estimated Nigliq Channel Harvest:	5
Estimated Nuiqsut Harvest:	5

Appendix Table 8. Estimated catch of least cisco in the Nuiqsut fishery, 1997.

Estimated Least Cisco CPUE by 10-day Interval (numbers in bold are estimates)

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29
Outer Delta	64							
	76							
	89							
Upper Nigliq	64			45.5	37.7			
	76			16.0	8.5	16.9	10.8	9.2
	83				3.4	5.2	3.8	3.0
	89				0.9	2.8	0.9	**0.9**
Nanuk	64				12.4	**12.4**		
	76			**9.2**	9.2	16.2	10.9	5.9
	83					0.2	0.0	3.4
	89			**4.4**	4.4	2.2	2.9	0.8
Nigliq Delta	76				22.1	2.8	3.0	2.6
	83					0.0		
	89				0.0	0.3	0.1	0.8

Estimated Least Cisco Harvest by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64									
	76			estimated from commercial CPUE						
	89									1,241
Upper Nigliq	64	0	0	379	415	0	0	0	794	
	76	0	0	181	311	852	1,086	641	3,070	
	83	0	0	0	63	140	82	12	297	
	89	0	0	0	21	122	28	12	183	4,344
Nanuk	64	0	0	0	153	25	0	0	177	
	76	0	0	37	309	1,213	977	494	3,030	
	83	0	0	0	0	2	0	36	38	
	89	0	0	6	147	179	219	50	601	3,845
Nigliq Delta	76	0	0	0	59	163	160	140	522	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	14	5	30	49	572

Estimated Outer Delta Harvest:	1,241
Estimated Nigliq Channel Harvest:	8,761
Estimated Nuiqsut Harvest:	10,002

Appendix Table 9. Estimated catch of broad whitefish in the Nuiqsut fishery, 1997.

Estimated Broad Whitefish CPUE by 10-day Interval (numbers in bold are estimates)

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29
Outer Delta	64							
	76							
	89							
Upper Nigliq	64			4.7	3.8			
	76			2.0	0.6	0.3	0.6	0.8
	83				1.4	0.4	0.7	0.0
	89				0.6	0.5	0.4	**0.4**
Nanuk	64				0.0	**0.0**		
	76			**0.0**	0.0	1.0	0.3	0.2
	83					0.0	0.0	0.0
	89			**0.0**	0.0	0.0	0.0	0.0
Nigliq Delta	76				0.0	0.0	0.0	0.0
	83					0.0		
	89				0.0	0.1	0.0	0.0

Estimated Broad Whitefish Harvest by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64									
	76		not estimated							
	89									
Upper Nigliq	64	0	0	39	41	0	0	0	80	
	76	0	0	23	23	15	56	58	174	
	83	0	0	0	26	10	16	0	52	
	89	0	0	0	15	20	12	5	51	357
Nanuk	64	0	0	0	0	0	0	0	0	
	76	0	0	0	0	75	30	19	125	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	0	0	0	0	125
Nigliq Delta	76	0	0	0	0	0	0	0	0	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	5	0	0	5	5

Estimated Total Main River Harvest:	0
Estimated Nigliq Channel Harvest:	486
Estimated Nuiqsut Harvest:	486

Appendix Table 10. Estimated catch of humpback whitefish in the Nuiqsut fishery, 1997.

Estimated Humpback Whitefish CPUE by 10-day Interval (numbers in bold are estimates)

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29
Outer Delta	64							
	76							
	89							
Upper Nigliq	64			1.5	0.0			
	76			0.0	0.2	1.1	0.3	1.4
	83				0.0	0.2	0.6	0.3
	89				0.1	0.0	0.1	**0.1**
Nanuk	64				2.3	**2.3**		
	76			**0.1**	0.1	0.3	0.4	0.2
	83					0.0	0.0	0.0
	89			**0.1**	0.1	0.0	0.0	0.0
Nigliq Delta	76				0.0	0.0	0.0	0.0
	83					0.0		
	89				0.0	0.0	0.0	0.0

Estimated Humpback Whitefish Harvest by 10-day Interval

Area	Mesh (mm)	Sep 21-30	Oct 1-10	Oct 11-20	Oct 21-30	Oct 31-Nov 9	Nov 10-19	Nov 20-29	Mesh Total	Area Total
Outer Delta	64									
	76		not estimated							
	89									
Upper Nigliq	64	0	0	13	0	0	0	0	13	
	76	0	0	0	8	57	35	101	201	
	83	0	0	0	0	6	13	1	20	
	89	0	0	0	3	0	4	2	10	243
Nanuk	64	0	0	0	28	5	0	0	32	
	76	0	0	0	2	24	39	19	85	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	4	2	0	0	5	122
Nigliq Delta	76	0	0	0	0	0	0	0	0	
	83	0	0	0	0	0	0	0	0	
	89	0	0	0	0	0	0	0	0	0

Estimated Total Main River Harvest:	0
Estimated Nigliq Channel Harvest:	365
Estimated Nuiqsut Harvest:	365

Appendix Table 11. Length frequency by mesh size for Arctic cisco and least cisco, 1997 Colville Delta fall fishery.

ARCTIC CISCO

Fork Length (mm)	Mesh Size (mm)			
	64	76	83	89
200				
210				
220				
230		1		
240				
250				
260		1		
270		2		
280		5		1
290		29	1	4
300	1	71	5	11
310		86	11	26
320	2	105	16	42
330		123	45	125
340	1	148	70	232
350	1	124	55	234
360		67	41	140
370		19	10	49
380	1	6	5	10
390		1		
400		1		1
410				
420				
430				
440				
450			1	
Total:	6	789	260	875

LEAST CISCO

Fork Length (mm)	Mesh Size (mm)			
	64	76	83	89
200				
210				
220				
230				
240				
250	1			1
260	6	3		1
270	4	14	1	1
280	7	19	4	3
290	2	28	6	7
300	2	30	2	5
310	2	33	8	7
320	1	17	3	6
330		12	4	4
340		4	3	5
350		6	2	2
360		3	1	6
370		2	3	3
380		1	2	2
390		1	2	
400				1
410				
420				
430				
440				
450				
Total:	25	173	41	54

Appendix Table 12. Mean weight and CPUE by mesh size in the Nigliq Channel fishery, 1986-1997.

Arctic Cisco

Mean Weight (kg) by Mesh Size

Mesh (mm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
51	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160
64	0.306	0.297	0.313	0.289	0.287	0.279	0.253	0.298	0.219	0.295	0.307	0.296
70	0.367	0.384	0.399	0.404	0.340	0.322	0.311	0.350	0.331	0.334	0.339	0.358
76	0.429	0.471	0.484	0.518	0.393	0.365	0.369	0.403	0.444	0.374	0.371	0.420
83	0.475	0.472	0.515	0.514	0.475	0.431	0.454	0.469	0.477	0.491	0.400	0.460
89	0.462	0.539	0.653	0.539	0.555	0.556	0.477	0.469	0.547	0.513	0.451	0.468
95	0.462	0.539	0.653	0.539	0.555	0.556	0.477	0.469	0.547	0.513	0.513	0.513

Mean CPUE by Mesh Size

Mesh (mm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
51					5.7	44.5						
64	15.4	9.9	3.7	5.3	22.4	26.6	44.5	33.3	6.7	4.6	27.2	12.9
70		26.7	6.4				15.4	10.7	2.3	4.0		
76	23.5	16.1	12.4	12.5	11.0	4.4	24.7	33.0	4.2	3.0	17.5	25.4
83	14.7	8.4	1.5	3.0	5.6	3.7	14.9	15.6	0.6	5.3	3.1	17.5
89	10.3	11.4	0.8	4.5	8.2	1.2	4.7	11.6	1.7	2.9	2.2	20.1
95							3.1	19.3				

Least Cisco

Mean Weight (kg) by Mesh Size

Mesh (mm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
51	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160	0.160
64	0.263	0.248	0.263	0.255	0.250	0.237	0.247	0.246	0.253	0.236	0.235	0.242
70	0.296	0.296	0.304	0.305	0.284	0.236	0.296	0.272	0.279	0.272	0.268	0.271
76	0.329	0.344	0.346	0.355	0.317	0.236	0.345	0.297	0.306	0.308	0.302	0.300
83	0.382	0.393	0.412	0.406	0.366	0.385	0.386	0.345	0.371	0.335	0.367	0.336
89	0.382	0.393	0.412	0.406	0.366	0.385	0.386	0.345	0.371	0.335	0.335	0.335
95	0.382	0.393	0.412	0.406	0.366	0.385	0.386	0.345	0.371	0.335	0.335	0.335

Mean CPUE by Mesh Size

Mesh (mm)	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
51					46.6	43.0						
64	13.8	18.7	2.8	19.5	33.5	13.9	5.5	18.1	15.0	22.1	11.5	28.8
70		11.8	1.4				0.5	1.6	3.9	11.4		
76	1.2	4.1	1.7	2.8	4.7	0.7	1.1	3.7	5.4	2.9	1.1	9.2
83	0.5	1.6	1.7	0.9	0.3	0.3	0.1	1.2	0.5	0.6	0.6	2.6
89	0.6	0.9	0.1	0.1	0.4	0.0	0.4	1.5	1.4	0.6	0.6	1.7
95							0.2	0.1				

Appendix Table 13. Calculation of harvested biomass for Arctic cisco and least cisco in the Nuiqsut fall fishery, 1985-1997.

Arctic Cisco

Estimated Mean Weight by Mesh Size

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)
64	381	0.284	381	0.306	381	0.297	381	0.313	381	0.289	381	0.287	381	0.279
76	629	0.425	1,428	0.429	830	0.471	773	0.484	1,601	0.518	470	0.393	1,327	0.365
83	883	0.465	883	0.475	883	0.472	883	0.515	883	0.514	883	0.475	883	0.431
89	1,162	0.516	346	0.462	122	0.539	63	0.653	212	0.539	223	0.555	211	0.556

Estimated Nigliq Catch

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
51											36	10	178	50
64	5,465	1,553	1,058	323	581	172	61	19	839	243	2,143	616	2,912	812
70					801	377	263	127						
76	14,940	6,353	14,990	6,424	10,502	4,941	5,066	2,453	6,092	3,157	5,542	2,176	3,401	1,242
83	1,812	843	1,928	916	2,448	1,156	43	22	3,349	1,721	145	69	283	122
89	4,161	2,147	822	380	1,945	1,048	57	37	1,112	599	1,358	753	470	261
95														
102							5	3						
114							16	10						
Total:	26,378	10,897	18,798	8,044	16,277	7,695	5,511	2,673	11,392	5,720	9,224	3,624	7,244	2,486

Estimated Outer Delta Catch

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
64	682	194		0		0		0		0		0		0
70														
76	19,148	8,143	13,102	5,615	4,487	2,111	420	203	1,500	777	2,000	785	1,025	374
83		0	390	185		0		0		0		0		0
89	473	244	1,232	569	162	87	167	109		0		0		0
Total:	20,303	8,581	14,724	6,370	4,649	2,199	587	312	1,500	777	2,000	785	1,025	374

Appendix Table 13. continued.

Arctic Cisco

Estimated Mean Weight by Mesh Size

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)
64	525	0.253	979	0.298	125	0.219	1,185	0.295	1,273	0.307	1,273	0.296
76	1,596	0.369	1,965	0.403	520	0.444	824	0.374	1,539	0.371	788	0.420
83	233	0.454	920	0.469	2,036	0.477	389	0.491	83	0.400	259	0.460
89	325	0.477	870	0.469	166	0.547	289	0.513	296	0.451	875	0.468

Estimated Nigliq Catch

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
51	0	0	0	0	0	0	0	0		0		0
64	11,050	2,794	6,861	2,044	1,665	364	307	91	1,770	544	435	129
70	1,921	708	1,877	756	258	115	134	50		0		0
76	25,440	9,381	24,612	9,913	3,242	1,438	2,257	844	13,376	4,961	18,381	7,717
83	582	265	1,080	507	15	7	850	417	512	205	2,211	1,017
89	1,948	929	5,844	2,743	375	205	1,357	696	1,514	683	10,103	4,724
95	61	29	869	408		0		0		0		0
102												
114												
Total:	41,002	14,106	41,144	16,371	5,556	2,130	4,905	2,099	17,172	6,393	31,130	13,587

Estimated Outer Delta Catch

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
64		0		0		0	90	27	2,267	697		0
70							232	87		0		0
76	4,400	1,623	5,800	2,336	5,400	2,396	3,287	1,230	18,963	7,033	2,144	900
83		0		0		0	55	27		0		0
89		0		0		0	4	2	2,803	1,265		0
Total:	4,400	1,623	5,800	2,336	5,400	2,396	3,669	1,372	24,033	8,994	2,144	900

Appendix Table 13. continued.

Least Cisco

Estimated mean weight by mesh size

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)
64	572	0.251	572	0.263	572	0.248	572	0.263	572	0.255	572	0.250	572	0.237
76	449	0.342	370	0.329	400	0.344	285	0.346	388	0.355	267	0.317	292	0.236
83	36	0.397	36	0.382	36	0.393	36	0.412	36	0.406	36	0.366	36	0.385

Estimated Nigliq Catch

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
51											545	136	172	41
64	492	123	951	250	1,090	270	46	12	3,086	786	3,633	909	2,261	536
70					355		33							
76	1,271	434	746	245	2,695	926	715	247	1,247	443	4,696	1,491	726	171
83	27	11	59	23	456	179	48	20	190	77	15	6	24	9
89	81	32	50	19	149	59	8	3	13	5	211	77	11	4
95														
102							1							
114							16							
Total:	1,871	601	1,806	537	4,745	1,434	867	282	4,536	1,311	9,100	2,619	3,193	761

Estimated Outer Delta Catch

Mesh	1985		1986		1987		1988		1989		1990		1991	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
64	692	173	32	8		0		0		0		0		0
76	13,175	4,504	4,924	1,619	1,417	487	1,392	481	1,500	533		0		0
83		0	12	5		0		0		0		0		0
89	76	30	31	12	16	6	62	26		0		0		0
Total:	13,943	4,707	4,998	1,643	1,433	493	1,454	507	1,500	533	0	0	0	0

Appendix Table 13. continued.

Least Cisco

Estimated mean weight by mesh size

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)	Samp. Size	Ave Wgt (kg)
64	697	0.247	778	0.246	778	0.253	833	0.236	886	0.235	886	0.242
76	124	0.345	311	0.297	218	0.306	234	0.308	123	0.302	173	0.300
83	39	0.386	62	0.345	62	0.371	92	0.335	92	0.367	133	0.336

Estimated Nigliq Catch

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
51	0	0	0	0		0		0		0		0
64	1,381	341	3,739	921	3,714	939	1,476	348	600	141	971	235
70	65	22	274	81	442	135	380	117		0		0
76	1,078	372	2,745	814	4,200	1,284	2,196	676	890	269	6,623	1,985
83	4	2	82	28	12	4	102	34	15	6	335	112
89	127	49	754	260	301	112	283	95	96	35	833	280
95	3	1	4	1		0		0		0		0
102												
114												
Total:	2,658	787	7,599	2,107	8,669	2,475	4,437	1,270	1,601	451	8,761	2,613

Estimated Outer Delta Catch

Mesh	1992		1993		1994		1995		1996		1997	
(mm)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)	No.	(kg)
64		0		0		0	708	167	1,552	365		0
76		0		0		0	3,333	1,026	12,700	3,833	1,241	372
83		0		0		0	95	32		0		0
89		0		0		0	1	0		0		0
Total:	0	0	0	0	0	0	4,137	1,225	14,253	4,198	1,241	372

Appendix Table 14. Tags recovered by Nuiqsut fishers in 1997.

Tag Code	Species	Length at Recapture	Recapture Date	Recapture Location	Length at Release	Release Date	Release Location
LGL9001408	LSCS	350		100	349	07/17/90	218
LGL9107194	LSCS	312		100	281	07/17/91	220
LGL9107930	LSCS	317		100	303	07/20/91	223
LGL9203764	LSCS	346		100	337	07/13/92	223
LGL9216540	LSCS	311		100	304	08/07/92	214
LGL9307354	LSCS	313		100	294	08/05/93	231
LGL9308842	LSCS	303		100	271	08/03/93	211
LGL9310621	LSCS	297		100	268	07/15/93	206
LGL9108930	LSCS	300	11/17/1997	610	282	07/23/91	222
LGL9110609	LSCS	332		610	312	07/22/91	220
LGL9301454	LSCS	330		610	315	07/15/93	220
LGL9310778	LSCS	323		610	289	07/16/93	204
LGL9314252	LSCS	313		610	297	08/01/93	220
LGL9209521	LSCS	293		650	357	07/23/92	214
LGL9313384	LSCS	324		650	287	08/27/93	223
LGL9116226	LSCS	317	11/1/1997	670	260	08/18/91	211

Location Code: 100 = Outer Colville Delta
610 = Upper Nigliq area
650 = Nanuk Lake area
670 = Nigliq Delta area
Release Station Numbers = station numbers as reported for release year summer study

Appendix Table 15. Summary of tag returns by the Nuiqsut fishery, fall 1997.

Study		Arctic Cisco	Least Cisco
81 Waterflood			
82 Endicott			
84 Waterflood			
85 Endicott			
85 Colville			
USFWS			
88 Endicott	Prudhoe		
	Colville		
90 Endicott	Prudhoe		1
91 Endicott	Prudhoe		5
	Colville		
92 Endicott	Prudhoe		3
	Colville		
93 Endicott	Prudhoe		7
Total:		0	16

Appendix Table 16. Length frequencies of Arctic cisco and least cisco by mesh size, 1986-1997. (data used to evaluate mesh selectivity)

Fork Length (mm)	Arctic Cisco Mesh Sizes in mm					Least Cisco Mesh Sizes in mm				
	64	70	76	83	89	64	70	76	83	89
200	0	0	1	0	0	1	0	1	0	0
210	0	0	0	0	0	7	0	2	0	2
220	1	1	2	1	0	15	0	1	0	3
230	0	0	5	0	0	60	0	5	1	4
240	3	0	1	0	0	117	0	4	1	11
250	7	0	8	0	1	171	0	11	0	11
260	63	0	3	0	1	139	4	82	1	5
270	141	8	28	0	4	110	3	229	2	11
280	187	19	230	3	3	68	5	296	11	7
290	241	53	674	5	16	62	6	364	7	17
300	202	130	1,681	33	47	33	2	327	14	23
310	153	197	2,438	132	122	25	3	241	27	21
320	107	127	2,339	305	304	10	1	159	10	21
330	49	71	2,032	459	673	3	0	87	12	20
340	23	32	1,399	527	983	1	2	54	10	21
350	10	7	834	317	807	0	0	25	4	10
360	1	5	480	227	582	1	0	13	2	11
370	1	3	228	139	286	1	0	9	4	6
380	2	2	99	48	154	0	0	1	2	4
390	1	0	59	18	61	0	0	1	2	1
400	0	0	31	9	39	0	0	0	0	3
410	0	0	11	2	21	0	0	0	0	0
420	0	0	2	4	9	0	0	0	0	0
430	0	0	1	1	1	0	0	0	0	0
440	0	0	1	1	2	0	0	0	0	0
450	0	0	0	1	0	0	0	0	0	0
Total:	1,192	655	12,587	2,232	4,116	824	26	1,912	110	212
	1186	655	11798	1972	3241	799	26	1739	69	158

Appendix Table 17. Salinity profiles from the Nigliq Channel, Colville Delta, 1997.

RK = River Kilometer, as measured from the mouth of Nigliq Channel
Depth in meters from upper surface of ice, salinity in ppt

Upper Nigliq (RK 29)

Depth	Salinity (ppt)											
(m)	Oct 17	Oct 18	Oct 19	Oct 20	Oct 21	Oct 23	Oct 24	Oct 25	Oct 27	Oct 28	Oct 30	Oct 31
0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.2
3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.8
4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.0	3.5
4.5			0.0	0.0	0.0	0	0.0	0.0		0.2	2.0	4.8

Upper Nigliq (continued)

Depth	Salinity (ppt)											
(m)	Nov 1	Nov 2	Nov 4	Nov 6	Nov 7	Nov 8	Nov 9	Nov 11	Nov 12	Nov 13	Nov 14	Nov 15
0.5	0.0	0.0	0.5	1.0	2.0	1.2	1.1	0.5	1.3	1.5	1.8	1.0
1.0	0.0	0.2	0.5	8.5	6.5	9.0	5.0	3.1	10.0	5.0	7.9	10.0
1.5	0.0	0.5	5.5	12.0	12.5	14.0	15.0	6.0	13.9	16.5	16.0	15.0
2.0	0.2	4.5	11.0	13.0	12.8	14.8	16.0	13.5	14.7	18.4	17.5	17.0
2.5	0.8	8.0	13.5	14.0	14.0	15.5	16.5	16.0	15.0	19.0	18.0	17.4
3.0	1.0	10.0	14.0	15.0	14.2	15.8	17.0	16.5	15.0	19.3	18.0	17.5
3.5	1.0	11.0	14.0	15.2	15.0	16.0	17.0	17.0	15.0	19.3	18.1	17.8
4.0	1.8	12.0	14.8	16.0	15.3	16.5	17.3	17.5	15.0	19.8	18.2	18.0
4.5	3.8	13.0	16.0	16.2	16.0	16.5	18.1	17.5	15.2	20.0	18.5	18.3

Upper Nigliq (continued)

Depth	Salinity (ppt)						
(m)	Nov 16	Nov 17	Nov 18	Nov 19	Nov 20	Nov 21	Nov 22
0.5	2.4	3.2	2.8	2.5	3.0	3.2	3.9
1.0	10.0	13.0	11.0	10.5	13.8	13.0	16.5
1.5	15.0	16.9	15.2	15.8	16.8	16.5	18.0
2.0	16.0	17.0	16.0	17.0	17.0	17.0	18.0
2.5	17.0	17.6	17.3	17.5	17.2	17.1	18.0
3.0	17.4	17.8	17.8	17.5	17.2	17.5	18.0
3.5	17.5	18.0	17.8	17.9	17.2	17.5	18.0
4.0	17.9	18.0	18.0	18.0	17.9	17.5	18.2
4.5	18.0	18.1	17.9	18.0	17.9	17.5	18.2

Figure 17 (cont.)

Nanuk Lake (RK 15)

Depth	Salinity (ppt)											
(m)	Oct 23	Oct 24	Oct 25	Oct 27	Oct 28	Oct 30	Oct 31	Nov 1	Nov 2	Nov 4	Nov 6	Nov 8
0.5	1.0	1.2	1.8	0.5	0.8	1.2	1.2	1.8	0.0	2.8	3.2	2.0
1.0	2.0	1.8	1.8	2.3	7.4	4.4	5.0	4.0	0.0	4.5	5.0	4.5
1.5	16.0	2.0	17.0	18.0	19.0	19.0	17.5	19.2	15.5	20.5	20.8	4.5
2.0	19.0	19.4	19.5	18.3	19.3	19.8	20.0	20.0	19.0	21.0	21.2	5.0
2.5	20.0	20.0	20.0	19.9	19.9	20.0	20.0	20.0	20.0	21.0	21.3	10.5
3.0	21.0	21.0	21.0	20.0	20.2	20.0	20.0	20.0	20.5	21.2	21.5	19.0
3.5	21.0	21.0	21.0	20.2	20.4	20.0	20.0	20.4	20.5	21.3	21.8	20.5
4.0	21.0	21.0	21.0	20.2	20.4	20.0	20.0	21.0	20.5	21.5	21.8	21.0
4.5	21.0	21.0	21.0	20.5	20.5	20.0	20.0	21.0	20.5	21.5	21.8	21.5
5.0	21.0	21.0	21.0	20.5	20.5	20.0	20.0	21.0	20.5	23.0	23.3	22.0
5.5	21.0	21.0	21.0	20.7	20.5	20.0	20.0	21.0	20.5	23.0	23.5	22.1
6.0	21.0	21.0	21.0	20.8	20.8	20.0	20.0	21.0	21.0	23.2	23.5	22.8
6.5	21.0	21.0	21.0	20.2	20.8	20.0	20.0	21.0	21.0	23.2	24.0	22.8
7.0	21.0	21.0	21.5	20.2	20.8	20.2	20.2	21.0	21.5	23.2	24.4	22.8

Nanuk Lake (continued)

Depth	Salinity (ppt)								
(m)	Nov 9	Nov 13	Nov 14	Nov 15	Nov 16	Nov 17	Nov 20	Nov 21	Nov 22
0.5	3.9	6.0	4.0	4.0	7.2	7.8	7.0	7.5	9.0
1.0	6.5	23.8	5.0	4.6	12.0	15.0	10.0	11.0	17.8
1.5	20.5	25.0	11.4	10.5	21.4	21.0	12.0	12.0	22.7
2.0	21.5	25.5	12.8	12.5	23.0	23.0	13.0	13.2	23.0
2.5	22.2	26.0	15.3	15.0	23.2	23.3	14.0	14.6	23.5
3.0	22.5	26.0	17.8	17.1	23.5	23.5	14.0	14.6	23.8
3.5	23.0	27.0	20.0	19.9	23.8	23.8	15.0	15.3	23.8
4.0	23.5	27.5	21.0	21.0	23.8	24.5	15.0	15.4	24.0
4.5	23.8	28.0	22.8	22.5	24.0	24.6	16.0	16.5	24.2
5.0	24.0	28.2	23.0	22.8	24.5		16.0	16.5	24.2
5.5	24.0	28.2	23.7	23.3	24.8		18.0	18.0	24.2
6.0	24.0	28.2	23.8	23.8	24.8		18.0	18.5	24.2
6.5	24.2	28.2	23.8	24.0	25.0		19.0	20.0	24.2
7.0	24.4						20.0		24.2

Figure 17 (cont.)

Nigliq Delta (RK 6)

Depth	Salinity (ppt)											
(m)	Oct 27	Oct 28	Oct 30	Oct 31	Nov 1	Nov 5	Nov 7	Nov 9	Nov 12	Nov 14	Nov 19	Nov 20
0.5	0.8	1.0	2.5	4.0	3.0	5.0	4.5	4.5	7.0	3.4	13.0	11.0
1.0	9.5	4.5	16.0	15.6	14.5	12.3	17.8	18.0	20.5	6.2	18.0	16.0
1.5	18.8	7.0	19.6	18.5	19.3	20.2	20.0	19.9	23.9	20.0	20.0	18.0
2.0	20.0	15.0	20.0	20.3	20.2	21.0	23.0	24.0	24.2	22.4	21.0	19.0
2.5	21.0	15.0	20.3	21.0	20.8	22.0	23.9	24.2	26.0	23.8	22.0	20.0
3.0	21.2	18.5	21.0	21.8	21.2	24.2	25.5	25.8	27.0	24.6	25.0	20.0
3.5	21.7	21.0	22.2	23.0	22.0	26.0	26.0	26.5	27.4	24.8	26.0	22.0
4.0	22.0	22.0	22.6	23.0	22.2	27.0	26.5	27.1	28.0	25.4	27.2	23.0
4.5	22.6	22.5	23	23.0	22.4	28.5	27.0	28.8	28.6	25.6	27.5	25.0
5.0	23.6	22.5	23	23.0	22.8	28.5	28.3	29.1	29.0	25.4	27.5	26.0
5.5	23.3	23	23	23.0	23.0	28.5	29.0	29.5	29.5	24.5	27.5	26.0
6.0	23.3	23.2	23.2	23.5	23.1	28.5	29.5	30.0	30.1	24.5	28.0	27.0
6.5		23.8	23.2	23.8	23.3	28.8	29.5	30.3	30.5	24.5	28.1	27.0
7.0		23.8			23.5	28.4	29.5	30.5	30.8	24.5		27.2

Nigliq Delta (continued)

Depth	Salinity (ppt)
(m)	Nov 22
0.5	12.0
1.0	14.0
1.5	15.0
2.0	17.0
2.5	18.0
3.0	18.0
3.5	18.0
4.0	23.0
4.5	23.0
5.0	23.5
5.5	24.8
6.0	25.5
6.5	26.3
7.0	

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
1	610	A	10/15/1997	18	64	24	4	ARCS	1	0	1.00	1.0
1	610	A	10/15/1997	18	64	24	4	BDWF	6	0	1.00	6.0
1	610	A	10/15/1997	18	64	24	4	HBWF	4	0	1.00	4.0
1	610	A	10/15/1997	18	64	24	4	LSCS	31	0	1.00	31.0
2	610	A	10/17/1997	18	64	48	4	ARCS	6	0	2.00	3.0
2	610	A	10/17/1997	18	64	48	4	BDWF	11	0	2.00	5.5
2	610	A	10/17/1997	18	64	48	4	BURB	1	0	2.00	0.5
2	610	A	10/17/1997	18	64	48	4	HBWF	3	0	2.00	1.5
2	610	A	10/17/1997	18	64	48	4	LSCS	122	0	2.00	61.0
3	610	A	10/18/1997	18	64	24	4	ARCS	3	3	1.00	3.0
3	610	A	10/18/1997	18	64	24	4	BDWF	5	5	1.00	5.0
3	610	A	10/18/1997	18	64	24	4	HBWF	2	0	1.00	2.0
3	610	A	10/18/1997	18	64	24	4	LSCS	64	0	1.00	64.0
4	610	B	10/18/1997	18	76	24	4	ARCS	5	5	1.00	5.0
4	610	B	10/18/1997	18	76	24	4	BDWF	4	4	1.00	4.0
4	610	B	10/18/1997	18	76	24	4	BURB	1	0	1.00	1.0
4	610	B	10/18/1997	18	76	24	4	LSCS	22	10	1.00	22.0
5	610	A	10/20/1997	18	64	48	4	ARCS	1	1	2.00	0.5
5	610	A	10/20/1997	18	64	48	4	BDWF	6	6	2.00	3.0
5	610	A	10/20/1997	18	64	48	4	BURB	1	0	2.00	0.5
5	610	A	10/20/1997	18	64	48	4	LSCS	56	10	2.00	28.0
6	610	B	10/20/1997	18	76	48	4	ARCS	5	5	2.00	2.5
6	610	B	10/20/1997	18	76	48	4	BDWF	2	2	2.00	1.0
6	610	B	10/20/1997	18	76	48	4	BURB	1	0	2.00	0.5
6	610	B	10/20/1997	18	76	48	4	LSCS	26	5	2.00	13.0
7	610	A	10/23/1997	18	64	48	4	ARCS	3	0	2.00	1.5
7	610	A	10/23/1997	18	64	48	4	BDWF	8	0	2.00	4.0
7	610	A	10/23/1997	18	64	48	4	LSCS	87	0	2.00	43.5
8	610	B	10/23/1997	18	76	48	4	ARCS	7	0	2.00	3.5
8	610	B	10/23/1997	18	76	48	4	BDWF	5	0	2.00	2.5
8	610	B	10/23/1997	18	76	48	4	BURB	1	0	2.00	0.5
8	610	B	10/23/1997	18	76	48	4	LSCS	35	0	2.00	17.5
9	610	A	10/23/1997	30	76	24	66	ARCS	2	2	1.67	1.2
9	610	A	10/23/1997	30	76	24	66	BDWF	1	1	1.67	0.6
9	610	A	10/23/1997	30	76	24	66	LSCS	5	5	1.67	3.0
10	610	B	10/23/1997	24	64	24	66	ARCS	2	2	1.33	1.5
10	610	B	10/23/1997	24	64	24	66	BDWF	11	11	1.33	8.3
10	610	B	10/23/1997	24	64	24	66	LSCS	47	15	1.33	35.3
12	650	A	10/23/1997	49	76	24	31	ARCS	24	12	2.67	9.0
12	650	A	10/23/1997	49	76	24	31	HBWF	1	0	2.67	0.4
12	650	A	10/23/1997	49	76	24	31	LSCS	14	7	2.67	5.3
14	610	A	10/24/1997	55	89	24	43	ARCS	18	0	3.00	6.0
14	610	A	10/24/1997	55	89	24	43	BDWF	1	0	3.00	0.3
14	610	A	10/24/1997	55	89	24	43	LSCS	3	0	3.00	1.0
16	610	A	10/24/1997	30	83	24	1	ARCS	7	0	1.67	4.2
16	610	A	10/24/1997	30	83	24	1	BDWF	2	0	1.67	1.2
16	610	A	10/24/1997	30	83	24	1	LSCS	1	0	1.67	0.6
18	610	A	10/25/1997	55	89	24	43	ARCS	14	14	3.00	4.7
18	610	A	10/25/1997	55	89	24	43	BDWF	1	1	3.00	0.3
18	610	A	10/25/1997	55	89	24	43	HBWF	1	1	3.00	0.3
18	610	A	10/25/1997	55	89	24	43	LSCS	3	3	3.00	1.0
20	650	A	10/25/1997	49	76	48	31	ARCS	85	21	5.33	15.9
20	650	A	10/25/1997	49	76	48	31	LSCS	64	15	5.33	12.0
22	650	A	10/26/1997	24	89	24	61	ARCS	37	0	1.33	27.8
22	650	A	10/26/1997	24	89	24	61	LSCS	24	0	1.33	18.0
23	650	A	10/26/1997	30	89	24	32	ARCS	18	0	1.67	10.8
23	650	A	10/26/1997	30	89	24	32	LSCS	1	0	1.67	0.6
24	610	A	10/27/1997	18	64	48	4	ARCS	11	0	2.00	5.5
24	610	A	10/27/1997	18	64	48	4	BDWF	1	0	2.00	0.5
24	610	A	10/27/1997	18	64	48	4	LSCS	67	0	2.00	33.5
25	610	B	10/27/1997	18	76	48	4	ARCS	6	0	2.00	3.0
25	610	B	10/27/1997	18	76	48	4	BURB	1	0	2.00	0.5
25	610	B	10/27/1997	18	76	48	4	HBWF	1	0	2.00	0.5
25	610	B	10/27/1997	18	76	48	4	LSCS	34	0	2.00	17.0
26	610	A	10/27/1997	55	89	48	43	ARCS	41	27	6.00	6.8
26	610	A	10/27/1997	55	89	48	43	BDWF	3	2	6.00	0.5
26	610	A	10/27/1997	55	89	48	43	CHAR	1	0	6.00	0.2
26	610	A	10/27/1997	55	89	48	43	HBWF	1	0	6.00	0.2
26	610	A	10/27/1997	55	89	48	43	LSCS	3	2	6.00	0.5
28	670	A	10/27/1997	24	89	24	64	ARCS	6	6	1.33	4.5
29	650	A	10/27/1997	30	89	24	32	ARCS	16	0	1.67	9.6
30	650	A	10/28/1997	24	89	24	61	ARCS	38	0	1.33	28.5
30	650	A	10/28/1997	24	89	24	61	LSCS	28	0	1.33	21.0

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
31	650	A	10/28/1997	30	89	24	32	ARCS	66	0	1.67	39.6
32	610	A	10/28/1997	18	76	48	56	ARCS	10	0	2.00	5.0
32	610	A	10/28/1997	18	76	48	56	HBWF	1	0	2.00	0.5
32	610	A	10/28/1997	18	76	48	56	LSCS	6	0	2.00	3.0
33	670	A	10/28/1997	24	89	24	64	ARCS	26	0	1.33	19.5
34	670	A	10/29/1997	24	76	24	75	ARCS	95	95	1.33	71.3
34	670	A	10/29/1997	24	76	24	75	LSCS	28	0	1.33	21.0
35	670	A	10/29/1997	24	89	24	65	ARCS	56	51	1.33	42.0
36	650	A	10/29/1997	49	76	72	31	ARCS	231	130	8.00	28.9
36	650	A	10/29/1997	49	76	72	31	LSCS	69	0	8.00	8.6
38	650	A	10/29/1997	30	89	24	32	ARCS	26	25	1.67	15.6
39	650	A	10/29/1997	24	89	24	61	ARCS	53	53	1.33	39.8
39	650	A	10/29/1997	24	89	24	61	LSCS	21	0	1.33	15.8
40	610	A	10/29/1997	30	83	24	1	ARCS	26	0	1.67	15.6
40	610	A	10/29/1997	30	83	24	1	BDWF	2	0	1.67	1.2
40	610	A	10/29/1997	30	83	24	1	LSCS	6	0	1.67	3.6
41	610	A	10/30/1997	30	83	24	1	ARCS	26	26	1.67	15.6
41	610	A	10/30/1997	30	83	24	1	BDWF	3	3	1.67	1.8
41	610	A	10/30/1997	30	83	24	1	LSCS	10	0	1.67	6.0
42	610	A	10/30/1997	30	89	72	43	ARCS	47	47	5.00	9.4
42	610	A	10/30/1997	30	89	72	43	BDWF	5	5	5.00	1.0
42	610	A	10/30/1997	30	89	72	43	LSCS	4	4	5.00	0.8
43	610	B	10/30/1997	24	89	72	43	ARCS	37	0	4.00	9.3
43	610	B	10/30/1997	24	89	72	43	HBWF	1	0	4.00	0.3
43	610	B	10/30/1997	24	89	72	43	LSCS	4	0	4.00	1.0
44	610	A	10/30/1997	24	89	24	60	ARCS	23	0	1.33	17.3
44	610	A	10/30/1997	24	89	24	60	BDWF	3	0	1.33	2.3
44	610	A	10/30/1997	24	89	24	60	LSCS	2	0	1.33	1.5
45	650	A	10/30/1997	30	89	48	33	ARCS	64	0	3.33	19.2
45	650	A	10/30/1997	30	89	48	33	HBWF	2	0	3.33	0.6
45	650	A	10/30/1997	30	89	48	33	LSCS	5	0	3.33	1.5
46	650	B	10/30/1997	24	64	48	33	ARCS	72	0	2.67	27.0
46	650	B	10/30/1997	24	64	48	33	HBWF	6	0	2.67	2.3
46	650	B	10/30/1997	24	64	48	33	LSCS	33	0	2.67	12.4
47	650	B	10/30/1997	24	89	48	56	ARCS	23	23	2.67	8.6
49	670	A	10/30/1997	24	76	24	75	ARCS	159	20	1.33	119.3
49	670	A	10/30/1997	24	76	24	75	LSCS	31	0	1.33	23.3
50	650	A	10/30/1997	30	89	24	32	ARCS	10	0	1.67	6.0
50	650	A	10/30/1997	30	89	24	32	LSCS	1	0	1.67	0.6
51	670	A	10/30/1997	24	89	24	65	ARCS	32	32	1.33	24.0
52	610	A	10/30/1997	18	76	48	56	ARCS	32	15	2.00	16.0
52	610	A	10/30/1997	18	76	48	56	LSCS	2	0	2.00	1.0
53	670	A	10/31/1997	18	76	24	25	ARCS	5	0	1.00	5.0
53	670	A	10/31/1997	18	76	24	25	LSCS	2	0	1.00	2.0
54	650	C	10/31/1997	18	89	24	4	ARCS	8	8	1.00	8.0
54	650	C	10/31/1997	18	89	24	4	LSCS	2	0	1.00	2.0
55	670	A	10/31/1997	24	89	24	65	ARCS	32	32	1.33	24.0
55	670	A	10/31/1997	24	89	24	65	LSCS	1	1	1.33	0.8
56	650	A	10/31/1997	30	89	24	32	ARCS	9	9	1.67	5.4
56	650	A	10/31/1997	30	89	24	32	LSCS	1	1	1.67	0.6
57	610	A	10/31/1997	55	89	24	43	ARCS	71	25	3.00	23.7
57	610	A	10/31/1997	55	89	24	43	BDWF	3	3	3.00	1.0
57	610	A	10/31/1997	55	89	24	43	LSCS	9	5	3.00	3.0
59	610	A	10/31/1997	24	89	24	60	ARCS	13	13	1.33	9.8
59	610	A	10/31/1997	24	89	24	60	BDWF	2	2	1.33	1.5
59	610	A	10/31/1997	24	89	24	60	LSCS	1	1	1.33	0.8
60	650	A	10/31/1997	30	89	24	33	ARCS	36	15	1.67	21.6
60	650	A	10/31/1997	30	89	24	33	HBWF	1	0	1.67	0.6
60	650	A	10/31/1997	30	89	24	33	LSCS	1	1	1.67	0.6
61	650	A	11/1/1997	49	76	48	31	ARCS	44	44	5.33	8.3
61	650	A	11/1/1997	49	76	48	31	BDWF	1	0	5.33	0.2
61	650	A	11/1/1997	49	76	48	31	LSCS	86	0	5.33	16.1
63	670	A	11/1/1997	24	89	24	65	ARCS	20	20	1.33	15.0
64	670	A	11/1/1997	24	76	24	51	ARCS	88	20	1.33	66.0
65	670	A	11/1/1997	24	76	48	75	ARCS	85	20	2.67	31.9
65	670	A	11/1/1997	24	76	48	75	LSCS	35	1	2.67	13.1
66	650	A	11/1/1997	24	76	24	35	ARCS	10	10	1.33	7.5
66	650	A	11/1/1997	24	76	24	35	BDWF	1	0	1.33	0.8
67	610	A	11/1/1997	30	83	48	1	ARCS	15	15	3.33	4.5
67	610	A	11/1/1997	30	83	48	1	BDWF	3	3	3.33	0.9
67	610	A	11/1/1997	30	83	48	1	HBWF	2	0	3.33	0.6
67	610	A	11/1/1997	30	83	48	1	LSCS	34	17	3.33	10.2
68	610	A	11/2/1997	24	89	24	60	ARCS	9	0	1.33	6.8

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
68	610	A	11/2/1997	24	89	24	60	BDWF	1	0	1.33	0.8
68	610	A	11/2/1997	24	89	24	60	LSCS	1	0	1.33	0.8
69	650	B	11/1/1997	24	89	48	56	ARCS	25	0	2.67	9.4
70	650	A	11/1/1997	24	76	24	35	ARCS	10	0	1.33	7.5
71	650	A	11/1/1997	30	89	24	32	ARCS	8	0	1.67	4.8
72	670	A	11/2/1997	24	76	24	75	ARCS	146	20	1.33	109.5
72	670	A	11/2/1997	24	76	24	75	LSCS	17	0	1.33	12.8
73	650	A	11/2/1997	30	89	24	32	ARCS	37	0	1.67	22.2
73	650	A	11/2/1997	30	89	24	32	LSCS	2	0	1.67	1.2
74	670	A	11/2/1997	24	89	24	65	ARCS	130	0	1.33	97.5
74	670	A	11/2/1997	24	89	24	65	LSCS	3	0	1.33	2.3
75	670	B	11/2/1997	24	76	24	65	ARCS	66	0	1.33	49.5
76	610	C	11/2/1997	18	83	24	66	ARCS	16	0	1.00	16.0
76	610	C	11/2/1997	18	83	24	66	LSCS	3	0	1.00	3.0
77	610	A	11/2/1997	30	76	24	66	ARCS	30	0	1.67	18.0
77	610	A	11/2/1997	30	76	24	66	BRCS	1	0	1.67	0.6
77	610	A	11/2/1997	30	76	24	66	HBWF	2	0	1.67	1.2
77	610	A	11/2/1997	30	76	24	66	LSCS	11	0	1.67	6.6
77	610	A	11/2/1997	30	76	24	66	RBSM	1	0	1.67	0.6
78	610	A	11/2/1997	30	89	48	43	ARCS	65	0	3.33	19.5
78	610	A	11/2/1997	30	89	48	43	BDWF	3	0	3.33	0.9
78	610	A	11/2/1997	30	89	48	43	LSCS	13	0	3.33	3.9
79	610	B	11/2/1997	24	89	48	43	ARCS	33	33	2.67	12.4
79	610	B	11/2/1997	24	89	48	43	BDWF	2	2	2.67	0.8
79	610	B	11/2/1997	24	89	48	43	LSCS	5	5	2.67	1.9
80	650	A	11/2/1997	24	76	24	24	ARCS	44	0	1.33	33.0
80	650	A	11/2/1997	24	76	24	24	HBWF	2	0	1.33	1.5
80	650	A	11/2/1997	24	76	24	24	LSCS	14	0	1.33	10.5
81	670	A	11/2/1997	24	89	72	64	ARCS	58	0	4.00	14.5
81	670	A	11/2/1997	24	89	72	64	BDWF	2	0	4.00	0.5
81	670	A	11/2/1997	24	89	72	64	LSCS	2	0	4.00	0.5
82	650	A	11/2/1997	24	76	24	35	ARCS	16	0	1.33	12.0
83	650	C	11/2/1997	18	89	24	4	ARCS	38	20	1.00	38.0
83	650	C	11/2/1997	18	89	24	4	LSCS	14	0	1.00	14.0
84	650	B	11/3/1997	24	89	48	56	ARCS	107	0	2.67	40.1
84	650	B	11/3/1997	24	89	48	56	LSCS	25	0	2.67	9.4
85	670	A	11/3/1997	24	76	24	51	ARCS	300	10	1.33	225.0
86	670	A	11/3/1997	18	83	24	54	ARCS	5	0	1.00	5.0
87	670	A	11/3/1997	24	89	24	65	ARCS	7	0	1.33	5.3
88	670	A	11/3/1997	24	76	24	75	ARCS	0	0	1.33	0.0
88	670	A	11/3/1997	24	76	24	75	RBSM	3	0	1.33	2.3
89	650	A	11/3/1997	49	76	48	31	ARCS	276	10	5.33	51.8
89	650	A	11/3/1997	49	76	48	31	HBWF	8	0	5.33	1.5
89	650	A	11/3/1997	49	76	48	31	LSCS	93	0	5.33	17.4
91	610	A	11/3/1997	30	83	48	1	ARCS	42	0	3.33	12.6
91	610	A	11/3/1997	30	83	48	1	HBWF	2	0	3.33	0.6
91	610	A	11/3/1997	30	83	48	1	LSCS	19	0	3.33	5.7
92	650	A	11/3/1997	18	76	48	15	ARCS	107	0	2.00	53.5
92	650	A	11/3/1997	18	76	48	15	LSCS	63	0	2.00	31.5
93	610	A	11/3/1997	30	76	24	66	ARCS	129	0	1.67	77.4
93	610	A	11/3/1997	30	76	24	66	HBWF	11	0	1.67	6.6
93	610	A	11/3/1997	30	76	24	66	LSCS	62	0	1.67	37.2
94	610	C	11/3/1997	18	83	24	66	ARCS	32	0	1.00	32.0
94	610	C	11/3/1997	18	83	24	66	LSCS	2	0	1.00	2.0
95	650	A	11/3/1997	24	76	24	35	ARCS	126	0	1.33	94.5
96	650	C	11/3/1997	24	89	24	25	ARCS	67	0	1.33	50.3
97	610	B	11/3/1997	18	76	24	25	ARCS	61	0	1.00	61.0
98	670	A	11/3/1997	24	76	24	37	ARCS	4	0	1.33	3.0
99	670	A	11/3/1997	24	89	24	65	ARCS	4	0	1.33	3.0
100	670	B	11/3/1997	24	76	24	65	ARCS	6	0	1.33	4.5
101	610	B	11/3/1997	18	76	48	4	ARCS	17	0	2.00	8.5
101	610	B	11/3/1997	18	76	48	4	LSCS	54	0	2.00	27.0
102	650	C	11/4/1997	18	89	48	4	ARCS	99	20	2.00	49.5
102	650	C	11/4/1997	18	89	48	4	LSCS	7	0	2.00	3.5
103	670	A	11/4/1997	24	89	24	65	ARCS	29	18	1.33	21.8
104	670	B	11/4/1997	24	76	24	65	ARCS	73	0	1.33	54.8
105	670	A	11/4/1997	18	83	24	54	ARCS	30	29	1.00	30.0
106	650	A	11/4/1997	24	76	24	31	ARCS	71	0	1.33	53.3
106	650	A	11/4/1997	24	76	24	31	LSCS	59	0	1.33	44.3
107	650	B	11/4/1997	24	76	24	31	ARCS	91	0	1.33	68.3
107	650	B	11/4/1997	24	76	24	31	LSCS	38	0	1.33	28.5
108	650	C	11/4/1997	24	89	24	25	ARCS	44	0	1.33	33.0
109	610	A	11/4/1997	24	89	24	60	ARCS	54	0	1.33	40.5

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
109	610	A	11/4/1997	24	89	24	60	LSCS	13	0	1.33	9.8
110	610	B	11/4/1997	18	76	24	60	ARCS	15	0	1.00	15.0
110	610	B	11/4/1997	18	76	24	60	LSCS	1	0	1.00	1.0
111	650	A	11/4/1997	24	76	48	24	ARCS	154	0	2.67	57.8
111	650	A	11/4/1997	24	76	48	24	HBWF	1	0	2.67	0.4
111	650	A	11/4/1997	24	76	48	24	LSCS	18	0	2.67	6.8
112	650	A	11/4/1997	24	89	72	61	ARCS	93	20	4.00	23.3
112	650	A	11/4/1997	24	89	72	61	LSCS	14	14	4.00	3.5
113	650	A	11/4/1997	18	76	20	15	ARCS	37	15	0.83	44.4
113	650	A	11/4/1997	18	76	20	15	LSCS	13	8	0.83	15.6
114	610	B	11/4/1997	18	76	24	25	ARCS	51	0	1.00	51.0
114	610	B	11/4/1997	18	76	24	25	HBWF	1	0	1.00	1.0
114	610	B	11/4/1997	18	76	24	25	LSCS	13	0	1.00	13.0
115	650	A	11/4/1997	24	76	24	35	ARCS	33	0	1.33	24.8
116	610	A	11/4/1997	55	89	24	43	ARCS	142	0	3.00	47.3
118	650	A	11/4/1997	30	89	24	32	ARCS	16	0	1.67	9.6
119	610	A	11/4/1997	30	76	24	66	ARCS	74	0	1.67	44.4
119	610	A	11/4/1997	30	76	24	66	LSCS	16	0	1.67	9.6
120	610	C	11/4/1997	18	83	24	66	ARCS	29	0	1.00	29.0
121	610	A	11/5/1997	30	83	24	1	ARCS	20	20	1.67	12.0
121	610	A	11/5/1997	30	83	24	1	BDWF	3	3	1.67	1.8
121	610	A	11/5/1997	30	83	24	1	LSCS	13	13	1.67	7.8
122	610	A	11/5/1997	30	89	20	43	ARCS	41	20	1.39	29.5
122	610	A	11/5/1997	30	89	20	43	BDWF	1	1	1.39	0.7
122	610	A	11/5/1997	30	89	20	43	BRCS	2	2	1.39	1.4
122	610	A	11/5/1997	30	89	20	43	LSCS	4	4	1.39	2.9
123	610	B	11/5/1997	24	89	20	43	ARCS	19	0	1.11	17.1
124	650	C	11/5/1997	24	89	24	25	ARCS	64	0	1.33	48.0
125	670	B	11/5/1997	30	83	24	54	ARCS	20	0	1.67	12.0
126	670	A	11/5/1997	24	76	24	75	ARCS	20	0	1.33	15.0
127	670	A	11/5/1997	24	76	24	51	ARCS	49	0	1.33	36.8
128	650	A	11/5/1997	24	76	24	31	ARCS	51	0	1.33	38.3
128	650	A	11/5/1997	24	76	24	31	BDWF	5	0	1.33	3.8
128	650	A	11/5/1997	24	76	24	31	LSCS	64	0	1.33	48.0
129	650	B	11/5/1997	24	76	24	31	ARCS	52	0	1.33	39.0
129	650	B	11/5/1997	24	76	24	31	BDWF	40	0	1.33	30.0
130	610	B	11/5/1997	18	76	24	4	ARCS	34	0	1.00	34.0
130	610	B	11/5/1997	18	76	24	4	LSCS	41	0	1.00	41.0
135	610	A	11/5/1997	30	76	24	66	ARCS	21	0	1.67	12.6
135	610	A	11/5/1997	30	76	24	66	LSCS	7	0	1.67	4.2
136	610	C	11/5/1997	18	83	24	66	ARCS	11	0	1.00	11.0
137	650	A	11/5/1997	24	76	24	35	ARCS	54	0	1.33	40.5
138	650	A	11/5/1997	24	89	24	48	ARCS	105	0	1.33	78.8
139	650	A	11/5/1997	24	76	24	24	ARCS	102	0	1.33	76.5
139	650	A	11/5/1997	24	76	24	24	HBWF	2	0	1.33	1.5
139	650	A	11/5/1997	24	76	24	24	LSCS	22	0	1.33	16.5
140	650	A	11/6/1997	30	89	24	32	ARCS	37	0	1.67	22.2
141	650	C	11/6/1997	18	89	48	4	ARCS	110	0	2.00	55.0
141	650	C	11/6/1997	18	89	48	4	LSCS	11	0	2.00	5.5
142	650	B	11/6/1997	24	89	48	56	ARCS	105	0	2.67	39.4
143	650	A	11/6/1997	24	76	24	35	ARCS	37	0	1.33	27.8
144	610	A	11/6/1997	30	76	24	66	ARCS	12	0	1.67	7.2
144	610	A	11/6/1997	30	76	24	66	LSCS	6	0	1.67	3.6
145	610	C	11/6/1997	18	83	24	66	ARCS	7	0	1.00	7.0
146	610	A	11/6/1997	24	89	24	60	ARCS	12	0	1.33	9.0
146	610	A	11/6/1997	24	89	24	60	LSCS	29	0	1.33	21.8
147	610	B	11/6/1997	18	76	24	60	ARCS	20	0	1.00	20.0
148	610	A	11/6/1997	55	89	24	43	ARCS	58	0	3.00	19.3
148	610	A	11/6/1997	55	89	24	43	LSCS	1	0	3.00	0.3
150	650	A	11/6/1997	18	76	48	15	ARCS	81	0	2.00	40.5
150	650	A	11/6/1997	18	76	48	15	BDWF	2	0	2.00	1.0
150	650	A	11/6/1997	18	76	48	15	LSCS	47	0	2.00	23.5
151	670	A	11/6/1997	24	89	24	65	ARCS	42	0	1.33	31.5
151	670	A	11/6/1997	24	89	24	65	RBSM	1	0	1.33	0.8
152	670	B	11/6/1997	24	76	24	65	ARCS	86	0	1.33	64.5
152	670	B	11/6/1997	24	76	24	65	LSCS	5	0	1.33	3.8
153	650	A	11/6/1997	24	89	24	48	ARCS	94	0	1.33	70.5
153	650	A	11/6/1997	24	89	24	48	LSCS	3	0	1.33	2.3
154	650	A	11/6/1997	24	76	24	24	ARCS	63	0	1.33	47.3
154	650	A	11/6/1997	24	76	24	24	BDWF	1	0	1.33	0.8
154	650	A	11/6/1997	24	76	24	24	HBWF	3	0	1.33	2.3
154	650	A	11/6/1997	24	76	24	24	LSCS	6	0	1.33	4.5
155	670	A	11/6/1997	49	83	24	54	ARCS	63	0	2.67	23.6

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
157	670	A	11/6/1997	18	76	24	69	ARCS	22	0	1.00	22.0
158	650	A	11/6/1997	49	76	24	31	ARCS	79	0	2.67	29.6
158	650	A	11/6/1997	49	76	24	31	LSCS	79	0	2.67	29.6
160	670	A	11/7/1997	18	83	24	54	ARCS	33	0	1.00	33.0
161	650	C	11/7/1997	30	83	24	54	ARCS	82	0	1.67	49.2
162	670	A	11/7/1997	18	76	24	69	ARCS	27	0	1.00	27.0
163	650	A	11/7/1997	24	89	24	48	ARCS	112	0	1.33	84.0
164	670	A	11/7/1997	24	76	24	51	ARCS	68	0	1.33	51.0
165	650	C	11/7/1997	24	89	24	25	ARCS	28	0	1.33	21.0
166	650	A	11/7/1997	24	76	24	35	ARCS	37	0	1.33	27.8
167	610	B	11/7/1997	18	76	48	4	ARCS	19	0	2.00	9.5
167	610	B	11/7/1997	18	76	48	4	BDWF	4	0	2.00	2.0
167	610	B	11/7/1997	18	76	48	4	LSCS	45	0	2.00	22.5
168	670	A	11/7/1997	24	89	72	64	ARCS	34	0	4.00	8.5
169	650	A	11/8/1997	24	76	24	35	ARCS	26	0	1.33	19.5
170	650	A	11/8/1997	30	89	48	33	ARCS	146	0	3.33	43.8
170	650	A	11/8/1997	30	89	48	33	LSCS	3	0	3.33	0.9
171	650	A	11/8/1997	24	89	24	61	ARCS	119	0	1.33	89.3
171	650	A	11/8/1997	24	89	24	61	LSCS	4	0	1.33	3.0
172	650	A	11/8/1997	24	89	24	48	ARCS	88	0	1.33	66.0
173	650	C	11/8/1997	49	83	24	54	ARCS	129	1	2.67	48.4
173	650	C	11/8/1997	49	83	24	54	LSCS	1	0	2.67	0.4
175	650	A	11/8/1997	49	76	24	31	ARCS	112	0	2.67	42.0
175	650	A	11/8/1997	49	76	24	31	LSCS	146	0	2.67	54.8
177	610	A	11/8/1997	30	89	48	43	ARCS	77	0	3.33	23.1
177	610	A	11/8/1997	30	89	48	43	BDWF	1	0	3.33	0.3
177	610	A	11/8/1997	30	89	48	43	LSCS	1	0	3.33	0.3
178	610	B	11/8/1997	24	89	48	43	ARCS	49	0	2.67	18.4
178	610	B	11/8/1997	24	89	48	43	LSCS	4	0	2.67	1.5
179	650	A	11/8/1997	24	76	48	24	ARCS	119	0	2.67	44.6
179	650	A	11/8/1997	24	76	48	24	LSCS	15	0	2.67	5.6
180	650	A	11/8/1997	18	76	48	15	ARCS	46	0	2.00	23.0
180	650	A	11/8/1997	18	76	48	15	LSCS	41	0	2.00	20.5
181	670	A	11/8/1997	24	76	48	37	ARCS	157	0	2.67	58.9
181	670	A	11/8/1997	24	76	48	37	LSCS	12	0	2.67	4.5
182	610	A	11/8/1997	30	83	48	1	ARCS	51	0	3.33	15.3
182	610	A	11/8/1997	30	83	48	1	BDWF	1	0	3.33	0.3
182	610	A	11/8/1997	30	83	48	1	LSCS	14	0	3.33	4.2
183	610	B	11/9/1997	37	76	24	4	ARCS	86	0	2.00	43.0
183	610	B	11/9/1997	37	76	24	4	HBWF	9	0	2.00	4.5
183	610	B	11/9/1997	37	76	24	4	LSCS	65	0	2.00	32.5
185	610	A	11/9/1997	30	83	24	1	ARCS	27	0	1.67	16.2
185	610	A	11/9/1997	30	83	24	1	LSCS	11	0	1.67	6.6
186	610	B	11/9/1997	18	76	24	25	ARCS	62	0	1.00	62.0
186	610	B	11/9/1997	18	76	24	25	BDWF	2	0	1.00	2.0
186	610	B	11/9/1997	18	76	24	25	LSCS	23	0	1.00	23.0
187	670	A	11/9/1997	24	76	24	37	ARCS	112	0	1.33	84.0
188	650	C	11/9/1997	18	89	72	4	ARCS	120	0	3.00	40.0
188	650	C	11/9/1997	18	89	72	4	LSCS	27	0	3.00	9.0
189	650	B	11/9/1997	24	89	72	56	ARCS	67	0	4.00	16.8
190	650	C	11/9/1997	24	89	24	25	ARCS	29	29	1.33	21.8
191	670	A	11/10/1997	24	89	24	65	ARCS	11	11	1.33	8.3
192	670	B	11/10/1997	24	76	24	65	ARCS	23	23	1.33	17.3
192	670	B	11/10/1997	24	76	24	65	LSCS	1	1	1.33	0.8
193	650	C	11/10/1997	18	89	48	4	ARCS	33	33	2.00	16.5
193	650	C	11/10/1997	18	89	48	4	LSCS	6	6	2.00	3.0
194	610	B	11/10/1997	18	76	24	25	ARCS	18	0	1.00	18.0
195	610	B	11/10/1997	18	76	24	25	ARCS	51	0	1.00	51.0
195	610	B	11/10/1997	18	76	24	25	LSCS	23	0	1.00	23.0
196	650	A	11/10/1997	24	89	24	61	ARCS	33	0	1.33	24.8
197	670	A	11/10/1997	24	76	24	51	ARCS	2	0	1.33	1.5
198	610	A	11/10/1997	30	89	48	43	ARCS	89	89	3.33	26.7
198	610	A	11/10/1997	30	89	48	43	BDWF	1	1	3.33	0.3
198	610	A	11/10/1997	30	89	48	43	LSCS	4	4	3.33	1.2
199	610	B	11/10/1997	24	89	48	43	ARCS	71	0	2.67	26.6
199	610	B	11/10/1997	24	89	48	43	BDWF	1	0	2.67	0.4
199	610	B	11/10/1997	24	89	48	43	LSCS	1	0	2.67	0.4
200	610	A	11/10/1997	24	89	24	60	ARCS	41	0	1.33	30.8
200	610	A	11/10/1997	24	89	24	60	BDWF	1	0	1.33	0.8
200	610	A	11/10/1997	24	89	24	60	HBWF	1	0	1.33	0.8
201	610	B	11/10/1997	18	76	24	60	ARCS	45	0	1.00	45.0
201	610	B	11/10/1997	18	76	24	60	LSCS	8	0	1.00	8.0
202	610	A	11/10/1997	30	83	24	1	ARCS	54	54	1.67	32.4

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
202	610	A	11/10/1997	30	83	24	1	BDWF	2	2	1.67	1.2
202	610	A	11/10/1997	30	83	24	1	LSCS	7	7	1.67	4.2
203	610	A	11/10/1997	30	76	48	66	ARCS	36	36	3.33	10.8
203	610	A	11/10/1997	30	76	48	66	LSCS	16	16	3.33	4.8
204	610	C	11/10/1997	18	83	48	66	ARCS	51	20	2.00	25.5
204	610	C	11/10/1997	18	83	48	66	BDWF	2	2	2.00	1.0
204	610	C	11/10/1997	18	83	48	66	HBWF	1	1	2.00	0.5
204	610	C	11/10/1997	18	83	48	66	LSCS	4	4	2.00	2.0
205	610	B	11/10/1997	18	76	48	24	ARCS	53	53	2.00	26.5
205	610	B	11/10/1997	18	76	48	24	BDWF	1	1	2.00	0.5
205	610	B	11/10/1997	18	76	48	24	LSCS	60	31	2.00	30.0
206	650	A	11/10/1997	30	89	48	33	ARCS	73	0	3.33	21.9
206	650	A	11/10/1997	30	89	48	33	LSCS	9	0	3.33	2.7
207	650	A	11/11/1997	30	76	48	12	ARCS	70	0	3.33	21.0
207	650	A	11/11/1997	30	76	48	12	LSCS	30	0	3.33	9.0
208	650	A	11/11/1997	18	76	48	15	ARCS	24	0	2.00	12.0
208	650	A	11/11/1997	18	76	48	15	LSCS	2	0	2.00	1.0
209	650	C	11/11/1997	24	89	24	25	ARCS	79	0	1.33	59.3
210	610	B	11/11/1997	18	76	24	25	ARCS	72	0	1.00	72.0
210	610	B	11/11/1997	18	76	24	25	LSCS	21	0	1.00	21.0
211	650	B	11/11/1997	24	89	48	56	ARCS	58	20	2.67	21.8
211	650	B	11/11/1997	24	89	48	56	LSCS	1	1	2.67	0.4
212	650	C	11/11/1997	49	83	24	54	ARCS	39	39	2.67	14.6
214	650	A	11/11/1997	24	89	48	48	ARCS	74	19	2.67	27.8
214	650	A	11/11/1997	24	89	48	48	LSCS	1	0	2.67	0.4
215	650	B	11/11/1997	18	76	72	69	ARCS	148	20	3.00	49.3
215	650	B	11/11/1997	18	76	72	69	LSCS	69	0	3.00	23.0
216	650	C	11/11/1997	18	89	24	4	ARCS	56	20	1.00	56.0
216	650	C	11/11/1997	18	89	24	4	LSCS	9	0	1.00	9.0
217	650	A	11/11/1997	49	76	24	31	ARCS	82	55	2.67	30.8
217	650	A	11/11/1997	49	76	24	31	LSCS	93	0	2.67	34.9
219	610	B	11/11/1997	37	76	48	4	ARCS	80	0	4.00	20.0
219	610	B	11/11/1997	37	76	48	4	HBWF	1	0	4.00	0.3
219	610	B	11/11/1997	37	76	48	4	LSCS	43	0	4.00	10.8
221	610	A	11/11/1997	30	83	24	1	ARCS	24	0	1.67	14.4
221	610	A	11/11/1997	30	83	24	1	LSCS	10	0	1.67	6.0
222	610	A	11/11/1997	30	76	24	66	ARCS	19	0	1.67	11.4
222	610	A	11/11/1997	30	76	24	66	BDWF	2	0	1.67	1.2
222	610	A	11/11/1997	30	76	24	66	HBWF	2	0	1.67	1.2
222	610	A	11/11/1997	30	76	24	66	LSCS	9	0	1.67	5.4
223	610	A	11/12/1997	30	83	24	1	ARCS	18	0	1.67	10.8
223	610	A	11/12/1997	30	83	24	1	HBWF	1	0	1.67	0.6
223	610	A	11/12/1997	30	83	24	1	LSCS	3	0	1.67	1.8
224	610	A	11/12/1997	24	76	24	10	ARCS	35	0	1.33	26.3
224	610	A	11/12/1997	24	76	24	10	BDWF	1	0	1.33	0.8
224	610	A	11/12/1997	24	76	24	10	LSCS	3	0	1.33	2.3
225	610	A	11/12/1997	30	76	24	66	ARCS	7	0	1.67	4.2
226	610	C	11/12/1997	18	83	48	66	ARCS	26	0	2.00	13.0
226	610	C	11/12/1997	18	83	48	66	BDWF	3	0	2.00	1.5
226	610	C	11/12/1997	18	83	48	66	HBWF	1	0	2.00	0.5
226	610	C	11/12/1997	18	83	48	66	LSCS	2	0	2.00	1.0
227	610	B	11/12/1997	24	89	48	43	ARCS	55	0	2.67	20.6
227	610	B	11/12/1997	24	89	48	43	BDWF	1	0	2.67	0.4
227	610	B	11/12/1997	24	89	48	43	HBWF	1	0	2.67	0.4
227	610	B	11/12/1997	24	89	48	43	LSCS	1	0	2.67	0.4
228	610	B	11/12/1997	18	76	48	24	ARCS	10	0	2.00	5.0
228	610	B	11/12/1997	18	76	48	24	LSCS	44	0	2.00	22.0
229	650	B	11/12/1997	24	89	24	56	ARCS	14	14	1.33	10.5
230	650	C	11/12/1997	18	89	24	4	ARCS	27	27	1.00	27.0
230	650	C	11/12/1997	18	89	24	4	LSCS	17	0	1.00	17.0
231	670	A	11/12/1997	24	76	48	37	ARCS	130	0	2.67	48.8
232	670	B	11/12/1997	24	76	48	37	ARCS	150	0	2.67	56.3
233	650	A	11/12/1997	24	89	24	61	ARCS	49	20	1.33	36.8
233	650	A	11/12/1997	24	89	24	61	LSCS	29	0	1.33	21.8
234	670	A	11/12/1997	18	76	24	69	ARCS	39	20	1.00	39.0
234	670	A	11/12/1997	18	76	24	69	LSCS	45	0	1.00	45.0
235	650	A	11/12/1997	24	89	24	48	ARCS	33	20	1.33	24.8
236	610	B	11/12/1997	18	76	24	25	ARCS	45	20	1.00	45.0
236	610	B	11/12/1997	18	76	24	25	LSCS	10	0	1.00	10.0
237	650	C	11/12/1997	24	89	24	25	ARCS	26	26	1.33	19.5
238	670	A	11/12/1997	24	76	48	51	ARCS	71	0	2.67	26.6
239	650	A	11/12/1997	18	76	24	15	ARCS	6	6	1.00	6.0
239	650	A	11/12/1997	18	76	24	15	LSCS	2	2	1.00	2.0

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
240	610	A	11/13/1997	24	76	24	10	ARCS	27	27	1.33	20.3
240	610	A	11/13/1997	24	76	24	10	BDWF	1	1	1.33	0.8
240	610	A	11/13/1997	24	76	24	10	LSCS	9	9	1.33	6.8
241	610	B	11/13/1997	37	76	48	4	ARCS	57	0	4.00	14.3
241	610	B	11/13/1997	37	76	48	4	BDWF	1	0	4.00	0.3
241	610	B	11/13/1997	37	76	48	4	HBWF	1	0	4.00	0.3
241	610	B	11/13/1997	37	76	48	4	LSCS	46	0	4.00	11.5
243	610	A	11/13/1997	30	76	24	66	ARCS	49	0	1.67	29.4
243	610	A	11/13/1997	30	76	24	66	BDWF	3	0	1.67	1.8
243	610	A	11/13/1997	30	76	24	66	HBWF	2	0	1.67	1.2
243	610	A	11/13/1997	30	76	24	66	LSCS	10	0	1.67	6.0
244	610	C	11/13/1997	18	83	24	66	ARCS	40	40	1.00	40.0
245	610	B	11/13/1997	18	76	24	24	ARCS	37	0	1.00	37.0
245	610	B	11/13/1997	18	76	24	24	BDWF	2	0	1.00	2.0
245	610	B	11/13/1997	18	76	24	24	HBWF	1	0	1.00	1.0
245	610	B	11/13/1997	18	76	24	24	LSCS	45	0	1.00	45.0
246	650	A	11/13/1997	24	76	72	24	ARCS	108	0	4.00	27.0
246	650	A	11/13/1997	24	76	72	24	BDWF	2	0	4.00	0.5
246	650	A	11/13/1997	24	76	72	24	HBWF	3	0	4.00	0.8
246	650	A	11/13/1997	24	76	72	24	LSCS	41	0	4.00	10.3
247	610	B	11/13/1997	24	89	24	43	ARCS	41	0	1.33	30.8
247	610	B	11/13/1997	24	89	24	43	BDWF	1	0	1.33	0.8
247	610	B	11/13/1997	24	89	24	43	LSCS	3	0	1.33	2.3
248	650	C	11/13/1997	18	89	24	4	ARCS	28	0	1.00	28.0
248	650	C	11/13/1997	18	89	24	4	LSCS	12	0	1.00	12.0
249	610	B	11/13/1997	18	76	24	25	ARCS	33	0	1.00	33.0
249	610	B	11/13/1997	18	76	24	25	LSCS	32	0	1.00	32.0
250	650	C	11/13/1997	24	89	24	25	ARCS	30	0	1.33	22.5
251	650	B	11/13/1997	18	76	24	69	ARCS	34	0	1.00	34.0
251	650	B	11/13/1997	18	76	24	69	LSCS	14	0	1.00	14.0
252	650	A	11/13/1997	24	89	24	48	ARCS	9	0	1.33	6.8
253	650	C	11/14/1997	18	89	24	4	ARCS	5	0	1.00	5.0
253	650	C	11/14/1997	18	89	24	4	LSCS	6	0	1.00	6.0
254	670	A	11/14/1997	24	89	24	65	ARCS	35	0	1.33	26.3
254	670	A	11/14/1997	24	89	24	65	LSCS	1	0	1.33	0.8
255	670	B	11/14/1997	24	76	24	65	ARCS	71	0	1.33	53.3
255	670	B	11/14/1997	24	76	24	65	LSCS	10	0	1.33	7.5
256	670	A	11/14/1997	24	76	24	51	ARCS	17	0	1.33	12.8
257	650	A	11/14/1997	24	76	24	24	ARCS	33	0	1.33	24.8
257	650	A	11/14/1997	24	76	24	24	LSCS	5	0	1.33	3.8
258	610	A	11/14/1997	24	76	24	10	ARCS	32	0	1.33	24.0
258	610	A	11/14/1997	24	76	24	10	HBWF	1	0	1.33	0.8
258	610	A	11/14/1997	24	76	24	10	LSCS	6	0	1.33	4.5
259	610	B	11/14/1997	24	89	24	43	ARCS	16	16	1.33	12.0
259	610	B	11/14/1997	24	89	24	43	LSCS	1	1	1.33	0.8
260	610	B	11/14/1997	18	76	24	4	ARCS	46	20	1.00	46.0
260	610	B	11/14/1997	18	76	24	4	BDWF	1	1	1.00	1.0
260	610	B	11/14/1997	18	76	24	4	HBWF	2	1	1.00	2.0
260	610	B	11/14/1997	18	76	24	4	LSCS	21	13	1.00	21.0
261	610	A	11/14/1997	30	76	24	66	ARCS	58	0	1.67	34.8
261	610	A	11/14/1997	30	76	24	66	BDWF	1	0	1.67	0.6
261	610	A	11/14/1997	30	76	24	66	LSCS	7	0	1.67	4.2
262	610	C	11/14/1997	18	83	24	66	ARCS	34	0	1.00	34.0
262	610	C	11/14/1997	18	83	24	66	LSCS	1	0	1.00	1.0
263	650	A	11/14/1997	30	76	24	12	ARCS	37	0	1.67	22.2
263	650	A	11/14/1997	30	76	24	12	LSCS	10	0	1.67	6.0
266	610	B	11/14/1997	18	76	24	4	ARCS	42	0	1.00	42.0
266	610	B	11/14/1997	18	76	24	4	BDWF	1	0	1.00	1.0
266	610	B	11/14/1997	18	76	24	4	HBWF	2	0	1.00	2.0
266	610	B	11/14/1997	18	76	24	4	LSCS	40	0	1.00	40.0
267	610	D	11/14/1997	18	76	24	4	ARCS	23	0	1.00	23.0
267	610	D	11/14/1997	18	76	24	4	LSCS	8	0	1.00	8.0
268	610	A	11/15/1997	24	76	24	10	ARCS	22	0	1.33	16.5
268	610	A	11/15/1997	24	76	24	10	LSCS	9	0	1.33	6.8
269	610	A	11/15/1997	30	76	24	66	ARCS	67	0	1.67	40.2
269	610	A	11/15/1997	30	76	24	66	BDWF	1	0	1.67	0.6
269	610	A	11/15/1997	30	76	24	66	HBWF	1	0	1.67	0.6
269	610	A	11/15/1997	30	76	24	66	LSCS	14	0	1.67	8.4
270	610	C	11/15/1997	18	83	24	66	ARCS	34	16	1.00	34.0
270	610	C	11/15/1997	18	83	24	66	BDWF	1	1	1.00	1.0
271	610	B	11/15/1997	18	76	24	24	ARCS	25	0	1.00	25.0
271	610	B	11/15/1997	18	76	24	24	BDWF	2	0	1.00	2.0
271	610	B	11/15/1997	18	76	24	24	HBWF	3	0	1.00	3.0

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
271	610	B	11/15/1997	18	76	24	24	LSCS	36	0	1.00	36.0
272	610	B	11/15/1997	24	89	24	43	ARCS	37	0	1.33	27.8
272	610	B	11/15/1997	24	89	24	43	BDWF	1	0	1.33	0.8
272	610	B	11/15/1997	24	89	24	43	LSCS	2	0	1.33	1.5
273	610	A	11/15/1997	24	76	24	73	ARCS	37	0	1.33	27.8
273	610	A	11/15/1997	24	76	24	73	BDWF	3	0	1.33	2.3
273	610	A	11/15/1997	24	76	24	73	LSCS	14	0	1.33	10.5
274	650	A	11/15/1997	49	76	48	31	ARCS	62	0	5.33	11.6
274	650	A	11/15/1997	49	76	48	31	LSCS	52	0	5.33	9.8
276	670	A	11/15/1997	24	89	24	64	ARCS	14	0	1.33	10.5
277	650	B	11/15/1997	18	76	48	69	ARCS	0	0	2.00	0.0
278	650	A	11/15/1997	24	89	48	48	ARCS	26	0	2.67	9.8
279	670	A	11/15/1997	24	89	48	41	ARCS	36	0	2.67	13.5
280	670	A	11/15/1997	24	89	24	65	ARCS	6	0	1.33	4.5
281	670	B	11/15/1997	24	76	24	65	ARCS	25	0	1.33	18.8
281	670	B	11/15/1997	24	76	24	65	LSCS	2	0	1.33	1.5
282	650	C	11/15/1997	24	89	24	25	ARCS	33	0	1.33	24.8
283	610	B	11/15/1997	18	76	24	25	ARCS	18	0	1.00	18.0
283	610	B	11/15/1997	18	76	24	25	LSCS	1	0	1.00	1.0
284	650	A	11/15/1997	30	76	24	12	ARCS	46	0	1.67	27.6
284	650	A	11/15/1997	30	76	24	12	LSCS	4	0	1.67	2.4
285	650	A	11/16/1997	18	76	48	15	ARCS	42	0	2.00	21.0
285	650	A	11/16/1997	18	76	48	15	BDWF	2	0	2.00	1.0
285	650	A	11/16/1997	18	76	48	15	HBWF	3	0	2.00	1.5
285	650	A	11/16/1997	18	76	48	15	LSCS	9	0	2.00	4.5
286	650	A	11/16/1997	24	76	48	24	ARCS	42	0	2.67	15.8
286	650	A	11/16/1997	24	76	48	24	HBWF	1	0	2.67	0.4
286	650	A	11/16/1997	24	76	48	24	LSCS	15	0	2.67	5.6
287	610	A	11/16/1997	30	83	48	1	ARCS	34	0	3.33	10.2
287	610	A	11/16/1997	30	83	48	1	BDWF	3	0	3.33	0.9
287	610	A	11/16/1997	30	83	48	1	HBWF	6	0	3.33	1.8
287	610	A	11/16/1997	30	83	48	1	LSCS	31	0	3.33	9.3
288	610	A	11/17/1997	24	76	24	10	ARCS	40	0	1.33	30.0
288	610	A	11/17/1997	24	76	24	10	BDWF	3	0	1.33	2.3
288	610	A	11/17/1997	24	76	24	10	LSCS	14	0	1.33	10.5
289	610	B	11/17/1997	37	76	72	4	ARCS	55	0	6.00	9.2
289	610	B	11/17/1997	37	76	72	4	BDWF	4	0	6.00	0.7
289	610	B	11/17/1997	37	76	72	4	HBWF	1	0	6.00	0.2
289	610	B	11/17/1997	37	76	72	4	LSCS	64	0	6.00	10.7
291	610	B	11/17/1997	18	76	48	24	ARCS	50	0	2.00	25.0
291	610	B	11/17/1997	18	76	48	24	BDWF	3	0	2.00	1.5
291	610	B	11/17/1997	18	76	48	24	HBWF	3	0	2.00	1.5
291	610	B	11/17/1997	18	76	48	24	LSCS	19	0	2.00	9.5
292	610	B	11/17/1997	24	89	48	43	ARCS	41	0	2.67	15.4
292	610	B	11/17/1997	24	89	48	43	LSCS	1	0	2.67	0.4
293	610	A	11/17/1997	24	76	48	73	ARCS	43	0	2.67	16.1
293	610	A	11/17/1997	24	76	48	73	BDWF	3	0	2.67	1.1
293	610	A	11/17/1997	24	76	48	73	LSCS	7	0	2.67	2.6
294	650	A	11/17/1997	24	76	24	24	ARCS	27	0	1.33	20.3
294	650	A	11/17/1997	24	76	24	24	BDWF	2	0	1.33	1.5
294	650	A	11/17/1997	24	76	24	24	LSCS	4	1	1.33	3.0
295	610	A	11/17/1997	24	89	24	60	ARCS	19	0	1.33	14.3
295	610	A	11/17/1997	24	89	24	60	LSCS	3	0	1.33	2.3
296	610	B	11/17/1997	18	76	24	60	ARCS	26	0	1.00	26.0
296	610	B	11/17/1997	18	76	24	60	LSCS	11	0	1.00	11.0
297	670	A	11/17/1997	24	89	24	65	ARCS	2	0	1.33	1.5
298	670	B	11/17/1997	24	76	24	65	ARCS	11	0	1.33	8.3
299	670	A	11/17/1997	24	76	24	51	ARCS	3	0	1.33	2.3
300	650	C	11/18/1997	18	89	24	4	ARCS	15	0	1.00	15.0
300	650	C	11/18/1997	18	89	24	4	LSCS	7	0	1.00	7.0
301	650	A	11/18/1997	30	76	24	12	ARCS	31	0	1.67	18.6
301	650	A	11/18/1997	30	76	24	12	LSCS	12	0	1.67	7.2
302	650	A	11/18/1997	24	76	48	35	ARCS	29	0	2.67	10.9
302	650	A	11/18/1997	24	76	48	35	LSCS	2	0	2.67	0.8
303	670	A	11/18/1997	24	89	48	64	ARCS	54	0	2.67	20.3
304	650	A	11/18/1997	24	89	24	48	ARCS	36	0	1.33	27.0
305	650	B	11/18/1997	18	76	24	69	ARCS	18	0	1.00	18.0
305	650	B	11/18/1997	18	76	24	69	LSCS	5	0	1.00	5.0
306	670	A	11/18/1997	24	76	24	51	ARCS	18	0	1.33	13.5
306	670	A	11/18/1997	24	76	24	51	LSCS	1	0	1.33	0.8
307	610	B	11/19/1997	18	76	48	24	ARCS	23	0	2.00	11.5
307	610	B	11/19/1997	18	76	48	24	BDWF	2	0	2.00	1.0
307	610	B	11/19/1997	18	76	48	24	LSCS	13	0	2.00	6.5

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
308	650	A	11/19/1997	24	76	48	24	ARCS	43	0	2.67	16.1
308	650	A	11/19/1997	24	76	48	24	BDWF	1	0	2.67	0.4
308	650	A	11/19/1997	24	76	48	24	HBWF	2	0	2.67	0.8
308	650	A	11/19/1997	24	76	48	24	LSCS	2	0	2.67	0.8
309	610	A	11/19/1997	24	76	48	73	ARCS	23	0	2.67	8.6
309	610	A	11/19/1997	24	76	48	73	BDWF	1	0	2.67	0.4
309	610	A	11/19/1997	24	76	48	73	HBWF	1	0	2.67	0.4
309	610	A	11/19/1997	24	76	48	73	LSCS	20	0	2.67	7.5
310	610	B	11/19/1997	24	89	48	43	ARCS	26	0	2.67	9.8
310	610	B	11/19/1997	24	89	48	43	BDWF	2	0	2.67	0.8
310	610	B	11/19/1997	24	89	48	43	HBWF	1	0	2.67	0.4
310	610	B	11/19/1997	24	89	48	43	LSCS	3	0	2.67	1.1
311	610	A	11/19/1997	24	76	48	10	ARCS	26	0	2.67	9.8
311	610	A	11/19/1997	24	76	48	10	HBWF	1	0	2.67	0.4
311	610	A	11/19/1997	24	76	48	10	LSCS	9	0	2.67	3.4
312	650	A	11/19/1997	49	76	48	31	ARCS	212	0	5.33	39.8
312	650	A	11/19/1997	49	76	48	31	BDWF	10	0	5.33	1.9
312	650	A	11/19/1997	49	76	48	31	HBWF	13	0	5.33	2.4
312	650	A	11/19/1997	49	76	48	31	LSCS	162	0	5.33	30.4
314	670	A	11/19/1997	24	89	48	41	ARCS	13	0	2.67	4.9
314	670	A	11/19/1997	24	89	48	41	LSCS	1	0	2.67	0.4
315	650	C	11/19/1997	18	89	24	4	ARCS	16	0	1.00	16.0
315	650	C	11/19/1997	18	89	24	4	LSCS	1	0	1.00	1.0
316	650	B	11/19/1997	24	89	24	56	ARCS	28	0	1.33	21.0
317	610	B	11/19/1997	37	76	48	4	ARCS	41	0	4.00	10.3
317	610	B	11/19/1997	37	76	48	4	BDWF	1	0	4.00	0.3
317	610	B	11/19/1997	37	76	48	4	HBWF	1	0	4.00	0.3
317	610	B	11/19/1997	37	76	48	4	LSCS	27	0	4.00	6.8
319	650	A	11/19/1997	30	76	24	12	ARCS	22	0	1.67	13.2
319	650	A	11/19/1997	30	76	24	12	LSCS	12	0	1.67	7.2
320	610	B	11/20/1997	18	76	24	24	ARCS	21	0	1.00	21.0
320	610	B	11/20/1997	18	76	24	24	BDWF	1	0	1.00	1.0
320	610	B	11/20/1997	18	76	24	24	LSCS	13	0	1.00	13.0
321	610	C	11/20/1997	18	83	24	66	ARCS	23	0	1.00	23.0
321	610	C	11/20/1997	18	83	24	66	HBWF	1	0	1.00	1.0
321	610	C	11/20/1997	18	83	24	66	LSCS	5	0	1.00	5.0
322	650	A	11/20/1997	24	76	24	24	ARCS	21	0	1.33	15.8
322	650	A	11/20/1997	24	76	24	24	LSCS	3	0	1.33	2.3
323	650	B	11/20/1997	24	89	24	56	ARCS	17	0	1.33	12.8
324	650	A	11/20/1997	30	76	24	12	ARCS	24	0	1.67	14.4
324	650	A	11/20/1997	30	76	24	12	BDWF	1	0	1.67	0.6
324	650	A	11/20/1997	30	76	24	12	LSCS	16	0	1.67	9.6
326	610	B	11/21/1997	37	76	48	4	ARCS	60	0	4.00	15.0
326	610	B	11/21/1997	37	76	48	4	BDWF	3	0	4.00	0.8
326	610	B	11/21/1997	37	76	48	4	HBWF	3	0	4.00	0.8
326	610	B	11/21/1997	37	76	48	4	LSCS	33	0	4.00	8.3
327	610	B	11/21/1997	18	76	24	24	ARCS	22	0	1.00	22.0
327	610	B	11/21/1997	18	76	24	24	BDWF	2	0	1.00	2.0
327	610	B	11/21/1997	18	76	24	24	LSCS	14	0	1.00	14.0
328	610	C	11/21/1997	18	83	24	66	ARCS	25	0	1.00	25.0
328	610	C	11/21/1997	18	83	24	66	LSCS	3	0	1.00	3.0
329	670	A	11/21/1997	24	76	48	51	ARCS	32	0	2.67	12.0
329	670	A	11/21/1997	24	76	48	51	LSCS	2	0	2.67	0.8
330	610	A	11/21/1997	24	76	24	73	ARCS	11	0	1.33	8.3
330	610	A	11/21/1997	24	76	24	73	LSCS	5	0	1.33	3.8
331	650	C	11/21/1997	49	83	48	54	ARCS	69	0	5.33	12.9
331	650	C	11/21/1997	49	83	48	54	LSCS	18	0	5.33	3.4
333	650	C	11/21/1997	18	89	24	4	ARCS	12	0	1.00	12.0
333	650	C	11/21/1997	18	89	24	4	LSCS	2	0	1.00	2.0
334	650	A	11/21/1997	24	76	24	24	ARCS	26	0	1.33	19.5
334	650	A	11/21/1997	24	76	24	24	LSCS	4	0	1.33	3.0
335	670	A	11/22/1997	24	89	48	65	ARCS	23	0	2.67	8.6
335	670	A	11/22/1997	24	89	48	65	LSCS	2	0	2.67	0.8
336	670	B	11/22/1997	24	76	48	65	ARCS	47	0	2.67	17.6
336	670	B	11/22/1997	24	76	48	65	LSCS	12	0	2.67	4.5
337	610	A	11/22/1997	24	76	24	73	ARCS	48	0	1.33	36.0
337	610	A	11/22/1997	24	76	24	73	BDWF	1	0	1.33	0.8
337	610	A	11/22/1997	24	76	24	73	HBWF	1	0	1.33	0.8
337	610	A	11/22/1997	24	76	24	73	LSCS	5	0	1.33	3.8
338	650	A	11/22/1997	30	76	48	12	ARCS	58	0	3.33	17.4
338	650	A	11/22/1997	30	76	48	12	LSCS	23	0	3.33	6.9
339	610	B	11/22/1997	18	76	24	24	ARCS	31	0	1.00	31.0
339	610	B	11/22/1997	18	76	24	24	HBWF	3	0	1.00	3.0

Appendix Table 18. Fishery effort and catch data obtained during fisherman interviews in Nuiqsut fishing areas, 1996.

Set No.	Area	Rep.	Date	Net Length (m)	Mesh (mm)	Duration (hours)	Fisher Code	Species	No. Caught	No. Measured	Effort (18 m day)	CPUE
339	610	B	11/22/1997	18	76	24	24	LSCS	6	0	1.00	6.0
340	650	A	11/22/1997	24	76	24	24	ARCS	36	0	1.33	27.0
340	650	A	11/22/1997	24	76	24	24	BDWF	2	0	1.33	1.5
340	650	A	11/22/1997	24	76	24	24	LSCS	8	0	1.33	6.0
341	610	B	11/23/1997	37	76	48	4	ARCS	72	0	4.00	18.0
341	610	B	11/23/1997	37	76	48	4	BDWF	3	0	4.00	0.8
341	610	B	11/23/1997	37	76	48	4	HBWF	7	0	4.00	1.8
341	610	B	11/23/1997	37	76	48	4	LSCS	41	0	4.00	10.3
343	650	A	11/23/1997	30	76	24	12	ARCS	27	0	1.67	16.2
343	650	A	11/23/1997	30	76	24	12	HBWF	2	0	1.67	1.2
343	650	A	11/23/1997	30	76	24	12	LSCS	10	0	1.67	6.0
344	610	A	11/23/1997	24	76	24	73	ARCS	42	0	1.33	31.5
344	610	A	11/23/1997	24	76	24	73	BDWF	1	0	1.33	0.8
344	610	A	11/23/1997	24	76	24	73	HBWF	3	0	1.33	2.3
344	610	A	11/23/1997	24	76	24	73	LSCS	7	0	1.33	5.3
345	650	A	11/23/1997	30	89	24	33	ARCS	21	0	1.67	12.6
345	650	A	11/23/1997	30	89	24	33	LSCS	1	0	1.67	0.6
346	650	C	11/23/1997	24	76	24	33	ARCS	24	0	1.33	18.0
346	650	C	11/23/1997	24	76	24	33	LSCS	9	0	1.33	6.8
347	610	C	11/23/1997	18	83	24	66	ARCS	17	0	1.00	17.0
347	610	C	11/23/1997	18	83	24	66	LSCS	1	0	1.00	1.0
348	610	A	11/23/1997	30	76	48	52	ARCS	112	0	3.33	33.6
348	610	A	11/23/1997	30	76	48	52	BDWF	3	0	3.33	0.9
348	610	A	11/23/1997	30	76	48	52	HBWF	10	0	3.33	3.0
348	610	A	11/23/1997	30	76	48	52	LSCS	36	0	3.33	10.8
349	650	A	11/23/1997	24	76	24	24	ARCS	36	0	1.33	27.0
349	650	A	11/23/1997	24	76	24	24	HBWF	1	0	1.33	0.8
349	650	A	11/23/1997	24	76	24	24	LSCS	6	0	1.33	4.5
350	610	B	11/23/1997	18	76	24	24	ARCS	51	0	1.00	51.0
350	610	B	11/23/1997	18	76	24	24	BDWF	2	0	1.00	2.0
350	610	B	11/23/1997	18	76	24	24	HBWF	1	0	1.00	1.0
350	610	B	11/23/1997	18	76	24	24	LSCS	17	0	1.00	17.0
501	100	A	10/29/1997	91	76	72	19	ARCS	254	35	15.00	16.9
501	100	A	10/29/1997	91	76	72	19	HBWF	28	0	15.00	1.9
501	100	A	10/29/1997	91	76	72	19	LSCS	228	35	15.00	15.2
501	100	A	10/29/1997	91	76	72	19	RBSM	2	0	15.00	0.1
504	100	C	10/29/1997	24	76	72	24	ARCS	20	20	4.00	5.0
504	100	C	10/29/1997	24	76	72	24	HBWF	1	0	4.00	0.3
504	100	C	10/29/1997	24	76	72	24	LSCS	14	14	4.00	3.5

Set No. = consecutive numbering of sets checked during survey
Area = fishing area (610 = Upper Nigliq; 650 = Nanuk Lake; 670 = Nigliq Delta; 150, 200 = Lower River; 100 = Outer Delta
Rep = code used to identify each fisherman's individual net and location
Date = date of interview
Net length = net length in meters
Mesh = stretched mesh in mm
Duration = duration of set in hours
Fisher Code = code to fisherman's name
Species = species caught
- ARCS = arctic cisco
- BRCS = Bering cisco
- LSCS = least cisco
- BDWF = broad whitefish
- HBWF = humpback whitefish
- BURB = burbot
- RBSM = rainbow smelt
- SFCD = saffron cod
- ARFL = arctic flounder
- FHSC = fourhorn sculpin

Number Caught = number of each species caught
No. Measured = number of catch measured
Effort = fishing effort expended in days per 18 m of net
CPUE = number of fish caught per day per 18 m of net