Mountain Village Fall Season Gillnet Test Fishery, 2012

RM-10-12

Project Proponent: Art Nelson, Bering Sea Fishermen's Association (BSFA), 1130 West 6th Avenue, Suite 110, Anchorage, AK 99504 artnelson49@yahoo.com

Project Partners: Catherine Moses, Asa'carsarmiut Tribal Council (ATC) PO Box 32249 Mountain Village, AK 99632, atcadmin@gci.net

Bonnie Borba Alaska Department of Fish and Game (ADFG), 1300 College Road Fairbanks, AK 99701 bonnie.borba@alaska.gov

1. **Introduction**:

Summary:

This test fishery examines fall chum and coho salmon early in their migration within the Yukon River drainage. The test fishery occurs upstream of the majority of the lower river commercial fishery, but before the fish reach the Pilot Station sonar.

Objectives:

To improve the understanding of salmon biology by providing the Alaska Department of Fish and Game (ADFG) with fall chum and coho salmon migration timing, run composition and relative abundance at sites on the lower Yukon River, near the community of Mountain Village.

2. Study Area: Test fishing in 2012 was conducted in similar sampling areas as in previous years approximately five miles upstream of the community of Mountain Village (Figure 1).

3. Licenses and Permits: n/a

4. **Methods:**

Operation:

All project participants are provided with the Operational Procedures Manual (Appendix A). The manual is written by the Alaska Department of Fish & Game, and updated annually with input from participants.

The test fishery began on July 17, 2012. On July 18 ADFG personnel from Emmonak traveled to Mountain Village to orient test fishermen with procedures and sampling techniques. Normally, ADFG orientation is on the first day of the test fishery, however, ADFG could not get to Mountain Village until the 18th. However, there were test fishermen who had worked previous years, so it was decided that the first day could still proceed before ADFG's arrival.

The Mountain Village test fishermen used a 25 fathom salmon gillnet with 5 and 7/8 inch mesh and 35 meshes deep. The nets are equipped with buoys marked “Test Fish” attached at each end of the net.

The fishermen were provided with a global positioning system (GPS) device and a hand-held thermometer for recording air and water temperature. A log book with data forms, a drift schedule, and supplies for age-sex-length (ASL) sampling were also provided.

Test fishermen departed Mountain Village each test day with enough time to arrive at the first test drift site by approximately 12:00 noon. Fishermen recorded daily climate conditions at the time of test fishing. The weather and water conditions were recorded by keeping track of the sky conditions, precipitation, wind direction, wind speed, and air and water temperature.

The test fishery consists of three drifts. Figure 1 denotes these three locations as A1, A2 and A3. One drift was conducted at each of three different sites. Drifts are intended to last about 5 to 20 minutes shorter time if catch rates are high. Efforts were made to fish the designated sites as consistently as possible in order to keep data comparable within and between years. For each drift, the time was noted for the start and completion of net deployment, as well as the start and completion of net retrieval.

Age, sex and length sampling was taken from the salmon catch, with a daily goal of 40 fish to be sampled, all in accordance with the Operational Procedures Manual (Appendix A). The age of the salmon were determined by taking scale samples and are attached to scale gum cards. New scale gum cards are used daily to prevent loss or damage during subsequent sampling. The fish’s sex was determined by cutting into the fish’s abdomen and looking for ovaries or testes. The length of each fish was measured from the middle of the eye to the fork in the tail. At the end of the season, samples were sent to ADF&G for scale reading to determine age.

After all samples are taken, the fish are made available to households in the community for subsistence use.

Daily reports were faxed to ADF&G in Emmonak, or relayed by telephone if fax was unavailable.

Data Analysis:
After the season is over, ADF&G provides BSFA with Excel spreadsheets that contain all the catch and CPUE information for the season. This information is included as Tables 1 and 2 and Figures 2-4. CPUE is calculated as described in the Operational Procedures Manual (Appendix A):

The deployment, fishing, and retrieval of the drift gillnets will be recorded for each sampling event. CPUE will be calculated using fish per 100 fathom-hours:

$$CPUE = [((100 \text{ fathom} * 60 \text{ minutes}) * (n))/(L*T)]$$

where:

n= number of fish caught,
L= length of net in fathoms
T= the time the net fished

The time the net fished is calculated using:

$$T = ([(\text{set time} + \text{retrieval time})/2] + \text{soak time})$$

The amount of time the gillnet is soaked varies. An independent CPUE calculation is made for each drift fished. This value is summed with CPUE calculations from the same day and gear type and then averaged to obtain a CPUE for the day and gear type:

$$Daily\ CPUE = ((\sum CPUE)/n)$$

where:

n=number of sets for the given day and gear type.

5. Results:

Table 1 and Figures 3 and 4 contain the daily and cumulative catch and CPUE. Test fishing began on July 17 and ended on September 13. Cumulative CPUE for fall chum salmon in 2012 was 1,212.41 through September 13 compared a median value of 2,227.99 for the years 1997 through 2011. For coho salmon, the 2012 cumulative CPUE was 758.53 through September 13 compared to the 1997-2011 median value of 1,103.61 for that date.

Table 2 summarizes the daily climatological conditions recorded by test fish crews, and Figure 2 graphs the water and air temperatures for 2012.

Sampling crews recorded sex and length observations and removed scales from 171 fall chum salmon caught in the test fishery. Of those, 22 scales were unreadable for various reasons (such as being regenerated or from the wrong species). 53.8% of the sampled fish were female and 46.2% were male. Age structure from usable scales was 75.8%, 21.5% and 2.7% age 0.3, 0.4 and 0.5 respectively. Table 3 contains information from fall chum salmon samples.

6. Discussion: In general, the 2012 test fishery went relatively well. As is often the case, in 2012 there were a few days when weather prevented fishing at some or all of the test fish sites. In the past, the quality of scale samples has been an issue from time to time. While there were some scale samples considered unusable, it appears that sampling crews did a better job in gathering scales in 2012.

Table 1. Historical fall chum (1997-2011 average) and coho salmon (1995-2011), daily and cumulative catch per unit effort (CPUE),

drift net test fishery, located near the community of Mountain Village, Yukon River, compared to 2012.

	Fall Chum Salmon a								Coho Salmon a								
	1997 to 2011 Median				2012				1995 to 2011 Median				2012				
Date	Daily Catch	Daily CPUE	Percent	Cumulative CPUE b	Daily Catch	Daily CPUE	Percent	Cumulative CPUE b	Date	Daily Catch	Daily CPUE	Percent	Cumulative CPUE b	Daily Catch	Daily CPUE	Percent	Cumulative CPUE b	Percent Coho
17-Jul	8	40.77	0.02	40.77	1	3.90	0.00	3.90	17-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
18-Jul	8	30.11	0.03	56.96	3	11.90	0.01	15.80	18-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
19-Jul	8	36.73	0.05	131.85	12	47.14	0.06	62.94	19-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
20-Jul	11	48.18	0.09	186.20	24	93.24	0.14	156.18	20-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
21-Jul	6	28.39	0.09	196.79	11	42.10	0.18	198.28	21-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
22-Jul	5	17.48	0.10	211.01	2	7.90	0.18	206.18	22-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
23-Jul	5	14.22	0.10	231.09	2	8.10	0.19	214.28	23-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
24-Jul	5	17.48	0.15	257.63	0	0.00 c	0.19	214.28	24-Jul	0	0.00	0.00	0.00	0	0.00 c	0.00	0.00	
25-Jul	2	8.65	0.15	304.03	0	3.90 d, e	0.19	218.18	25-Jul	0	0.00	0.00	0.00	0	0.00 d,e	0.00	0.00	0%
26-Jul	6	23.14	0.20	344.63	2	7.80	0.20	225.98	26-Jul	0	0.00	0.00	0.00	0	0.00	0.00	0.00	0%
27-Jul	3	13.59	0.20	358.22	13	66.52	0.26	292.50	27-Jul	0	0.00	0.00	0.00	1	3.81	0.01	3.81	5%
28-Jul	4	13.91	0.21	422.13	43	167.41	0.41	459.91	28-Jul	0	0.00	0.00	3.51	1	3.72	0.01	7.53	2%
29-Jul	6	21.99	0.26	507.52	7	54.40	0.46	514.31	29-Jul	0	0.00	0.00	4.16	1	7.62	0.02	15.15	12%
30-Jul	12	51.41	0.27	570.61	2	8.00	0.47	522.31	30-Jul	0	0.00	0.01	6.53	0	0.00	0.02	15.15	0%
31-Jul	8	17.30	0.30	603.70	7	29.16	0.49	551.47	31-Jul	0	0.00	0.01	10.60	0	0.00	0.02	15.15	0%
1-Aug	7	33.94	0.34	696.29	4	18.44	0.51	569.91	1-Aug	1	4.21	0.01	12.76	0	0.00	0.02	15.15	0%
2-Aug	10	38.14	0.39	715.53	3	11.68	0.52	581.59	2-Aug	1	1.60	0.01	13.38	0	0.00	0.02	15.15	0%
3-Aug	6	25.29	0.40	722.64	4	15.62	0.53	597.21	3-Aug	1	4.00	0.01	16.96	0	0.00	0.02	15.15	0%
4-Aug	14	47.98	0.42	778.82	0	0.00	0.53	597.21	4-Aug	1	4.69	0.02	21.84	1	3.90	0.03	19.05	100%
5-Aug	6	24.89	0.42	843.75	0	0.00	0.53	597.21	5-Aug	2	6.96	0.03	35.05	1	3.90	0.03	22.95	100%
6-Aug	5	23.43	0.43	851.02	4	15.52	0.55	612.73	6-Aug	4	13.27	0.04	44.61	0	0.00	0.03	22.95	0%
7-Aug	8	35.56	0.47	854.66	13	52.92	0.59	665.65	7-Aug	3	8.78	0.05	72.90	1	3.81	0.04	26.76	7%
8-Aug	8	29.30	0.48	1,119.89	1	4.00	0.60	669.65	8-Aug	4	14.48	0.07	85.96	3	12.00	0.05	38.76	75%
9-Aug	14	60.78	0.49	1,195.16	1	4.00	0.60	673.65	9-Aug	4	14.46	0.09	109.73	0	0.00	0.05	38.76	0%
10-Aug	4	17.54	0.54	1,224.35	1	3.90	0.60	677.55	10-Aug	4	16.63	0.11	130.38	4	15.81	0.07	54.57	80%
11-Aug	8	30.10	0.54	1,228.79	0	0.00	0.60	677.55	11-Aug	7	26.76	0.14	162.40	0	3.81	0.08	58.38	100%
12-Aug	3	18.04	0.57	1,254.79	0	0.00	0.60	677.55	12-Aug	4	16.74	0.16	172.99	0	0.00	0.08	58.38	0%
13-Aug	5	17.65	0.57	1,254.79	0	0.00	0.60	677.55	13-Aug	7	23.13	0.19	196.12	5	20.00	0.10	78.38	100%
14-Aug	12	28.12	0.62	1,268.91	3	15.04	0.62	692.59	14-Aug	7	25.76	0.23	237.04	1	6.15	0.11	84.53	29%
15-Aug	6	22.33	0.68	1,467.19	1	3.72	0.62	696.31	15-Aug	8	40.00	0.26	276.37	0	0.00	0.11	84.53	0%
16-Aug	8	29.54	0.73	1,473.86		6.89 d	0.63	703.20	16-Aug	10	34.51	0.27	305.53		14.04 d	0.13	98.57	67%
17-Aug	10	41.82	0.74	1,488.49		6.59 d	0.63	709.79	17-Aug	14	39.74	0.34	382.48		14.42 d	0.15	112.99	69%
18-Aug	3	12.21	0.76	1,503.29		136.26 d	0.75	846.05	18-Aug	8	30.00	0.37	412.14		24.09 d	0.18	137.08	15%
19-Aug	5	20.82	0.79	1,582.97	12	213.33	0.94	1,059.38	19-Aug	12	46.90	0.40	430.04	9	160.00	0.39	297.08	43%
20-Aug	4	17.30	0.82	1,585.64	1	10.67	0.95	1,070.05	20-Aug	12	43.47	0.43	479.20	8	63.75	0.48	360.83	86%
21-Aug	4	14.97	0.83	1,609.94	0	0.00	0.95	1,070.05	21-Aug	9	37.92	0.49	524.78	0	0.00	0.48	360.83	0%
22-Aug	5	20.00	0.84	1,620.93	0	0.00	0.95	1,070.05	22-Aug	11	43.38	0.53	571.52	0	0.00	0.48	360.83	0%
23-Aug	4	18.35	0.86	1,625.62	0	0.00	0.95	1,070.05	23-Aug	10	36.81	0.55	628.96	0	0.00	0.48	360.83	0%
24-Aug	3	10.67	0.89	1,636.29	0	0.00	0.95	1,070.05	24-Aug	7	33.75	0.62	664.89	0	0.00	0.48	360.83	0%
25-Aug	5	21.17	0.90	1,659.63	0	0.00	0.95	1,070.05	25-Aug	9	38.46	0.65	717.79	0	0.00	0.48	360.83	0%
26-Aug	4	22.07	0.91	1,688.38	0	0.00	0.95	1,070.05	26-Aug	9	29.21	0.70	756.14	0	0.00	0.48	360.83	0%
27-Aug	2	8.65	0.91	1,705.43	0	0.00	0.95	1,070.05	27-Aug	6	24.86	0.72	768.25	3	15.93	0.50	376.76	100%
28-Aug	1	7.11	0.92	1,739.83	1	4.57	0.96	1,074.62	28-Aug	7	22.81	0.74	786.20	20	87.79	0.61	464.55	95%
29-Aug	2	8.85	0.93	1,848.99		8.14 e	0.97	1,082.76	29-Aug	5	19.92	0.75	791.70		49.67 e	0.68	514.22	86%
30-Aug	2	8.67	0.94	1,853.31	3	11.71	0.98	1,094.47	30-Aug	5	17.56	0.76	833.79	3	11.54	0.69	525.76	50%
31-Aug	0	0.00	0.94	1,853.31	0	0.00	0.98	1,094.47	31-Aug	4	17.08	0.80	857.20	1	4.00	0.70	529.76	100%
1-Sep	2	5.78	0.94	1,883.31	1	3.81	0.98	1,098.28	1-Sep	4	16.55	0.85	887.40	4	15.82	0.72	545.58	81%
2-Sep	1	4.44	0.95	1,883.31	0	0.00	0.98	1,098.28	2-Sep	3	14.40	0.88	941.06	3	11.52	0.73	557.10	100%
3-Sep	3	11.01	0.97	1,890.26	3	11.52	0.99	1,109.80	3-Sep	5	17.24	0.90	979.71	5	19.33	0.76	576.43	63%
4-Sep	3	10.17	0.98	1,948.48	1	3.81	0.99	1,113.61	4-Sep	5	21.49	0.91	1,015.59	9	34.84	0.81	611.27	90%
5-Sep	1	4.57	0.98	2,003.46	1	3.90	1.00	1,117.51	5-Sep	4	18.29	0.93	1,028.92	8	30.75	0.85	642.02	89%
6-Sep	1	4.38	0.99	2,054.99	1	3.90	1.00	1,121.41	6-Sep	5	19.33	0.95	1,055.59	9	35.12	0.89	677.14	90%
7-Sep	1	3.90	0.99	2,078.54	0	0.00	1.00	1,121.41	7-Sep	2	9.14	0.97	1,060.16	5	19.51	0.92	696.65	100%
8-Sep	1	3.08	0.99	2,095.29	0	0.00	1.00	1,121.41	8-Sep	3	11.71	0.98	1,068.23	7	26.76	0.95	723.41	100%
9-Sep	2	8.42	1.00	2,148.99	0	0.00	1.00	1,121.41	9-Sep	2	10.42	1.00	1,075.42	4	15.61	0.97	739.02	100%
10-Sep	1	3.40	1.00	2,172.05	0	0.00	1.00	1,121.41	10-Sep	2	0.06	1.00	1,093.36	0	0.00	0.97	739.02	0%
11-Sep	0	0.00	1.00	2,172.05	0	0.00	1.00	1,121.41	11-Sep	3	5.73	1.00	1,093.36	3	11.71	0.99	750.73	0%
12-Sep	0	0.00	1.00	2,204.45	0	0.00	1.00	1,121.41	12-Sep	2	8.26	1.00	1,100.47	0	0.00	0.99	750.73	0%
13-Sep	0	0.00	1.00	2,227.99	0	0.00 f	1.00	1,121.41	13-Sep	1	4.00	1.00	1,103.61	2	7.80 f	1.00	758.53	100%
14-Sep	1	3.57	1.00	2,239.83			-		14-Sep	2	5.64	1.00	1,107.17			-		
15-Sep	3	9.04	1.00	2,239.83			-		15-Sep	4	14.21	1.00	1,107.17			-		
16-Sep	1	4.40	1.00	2,239.83			-		16-Sep	5	16.35	1.00	1,107.17			-		
17-Sep	0	0.00	1.00	2,239.83			-		17-Sep	1	3.52	1.00	1,107.17			-		
18-Sep	0	0.00	1.00	2,239.83			-		18-Sep	1	4.00	1.00	1,107.17			-		
19-Sep	0	0.00	1.00	2,239.83			-		19-Sep	1	2.00	1.00	1,107.17			-		
20-Sep							-		20-Sep	0	0.00	1.00	1,220.66			-		
21-Sep							-		21-Sep	0	0.00	1.00	1,220.66			-		
22-Sep							-		22-Sep	0	0.00	1.00	1,220.66			-		
23-Sep							-		23-Sep	0	0.00	1.00	1,220.66			-		
24-Sep							-		24-Sep	0	0.00	1.00	1,220.66			-		
25-Sep							-		25-Sep	0	0.00	1.00	1,220.66			-		
26-Sep							-		26-Sep	0	0.00	1.00	1,220.66			-		
27-Sep							-		27-Sep	0	0.00	1.00	1,220.66			-		
28-Sep							-		28-Sep	0	0.00	1.00	1,220.66			-		
29-Sep							-		29-Sep	0	0.00	1.00	1,220.66			-		
30-Sep							-		30-Sep	1	4.57	1.00	1,220.95			-		
1-Oct							-		1-Oct	0	0.00	1.00	1,220.95			-		
2-Oct							-		2-Oct	0	0.00	1.00	1,220.95			-		
	292				188					247				122				

a Differences in the termination dates of the project confounds computation of the historical daily cumulative percent and average. The historical daily cumulative percent and average were computed by assuming that 100 percent of the run was completed on the date of project termination.
b The box indicates the first to the third quartile of the cumulative catch per unit effort (CPUE). The median date of the cumulative CPUE is also highlighted. c Mt. Village Site 3, PM Drift 3 cancelled. Sites 1 and 2 high winds affected drifts.
d Drifts cancelled due to inclement weather. Data interpolated based on regression with LYTF. e Data interpolated.
f Last day of operation.

Table 2. Daily climatological conditions at the time of test fishing, Mountain Village, 2012.

Date	Time	Sky [a]	Precipitation [b]	Wind Direction	Wind Speed [c]	Air Temperature (ºC)	Water Temperature (ºC)
17-Jul	11:54	3	A	W	1	15	18
18-Jul	10:08	4	A	SW	2	13	15
19-Jul	8:59	4	B	SW	2	11	10
20-Jul	11:55	4	A	0	0	13	14
21-Jul	11:52	4	A	N	1	17	15
22-Jul	11:49	4	B	0	0	15	17
23-Jul	11:19	4	B	S	1	13	13
24-Jul	11:56	4	B	S	3	11	12
25-Jul	13:05	4	C	S	4	11	13
26-Jul	10:58	4	C	SW	2	11	12
27-Jul	11:47	4	C	S	1	11	10
28-Jul	10:50	4	C	S	1	9	11
29-Jul	11:49	4	B	SW	4	9	11
30-Jul	10:34	3	A	W	1	10	11
31-Jul	12:24	4	B	E	1	13	15
1-Aug	10:52	4	B	S	1	14	16
2-Aug	12:07	4	B	NW	1	14	16
3-Aug	12:23	4	B	SW	1	8	10
4-Aug	10:54	4	B	SW	1	11	12
5-Aug	11:05	3	A	SW	1	8	10
6-Aug	12:13	4	A	SW	1	7	8
7-Aug	9:02	4	A	NW	1	9	10
8-Aug	12:02	1	A	0	0	13	12
9-Aug	10:42	1	A	0	0	14	12
10-Aug	12:04	2	A	SE	1	17	16
11-Aug	12:03	2	A	E	1	16	15
12-Aug	12:04	2	A	E	1	18	17
13-Aug	12:02	1	A	0	0	17	16
14-Aug	12:02	1	A	0	0	17	20
15-Aug	11:50	2	A		2	17	19
16-Aug	11:30	4	B	SE	3	12	16
17-Aug	11:30	4	C	SE	3	11	15
18-Aug	11:30	5	C	SE	4	9	
19-Aug	11:45	4	C	SW	2	9	16
20-Aug	11:00	4	B	SW	2	9	12
21-Aug	11:40	4	B	SSW	3	9	15
22-Aug	11:30	4	B	S	2	9	15
23-Aug	11:48	4	B	SW	2	7	13
24-Aug	11:30	4	B	SW	4	9	15
25-Aug	11:50	4	C	SW	2	9	15
26-Aug	12:20	4	B	NW	2	10	13
27-Aug	12:45	1	A	SW	2	11	12
28-Aug	12:04	4	B	SE	1	9	12
29-Aug	11:05	4	C	SE	1	9	12
30-Aug	11:57	4	B	W	2	11	11
31-Aug	9:41	4	A	SW	1	8	11
1-Sep	12:33	3	A	NW	1	15	11
2-Sep	12:10	4	C	SE	1	8	11
3-Sep	12:09	4	C	SW	1	10	11
4-Sep	12:13	4	C	SE	1	7	11

5-Sep	12:16	4	B	SW	1	10	10
6-Sep	12:13	4	B	SW	1	9	9
7-Sep	12:31	4	B	SE	1	9	9
8-Sep	14:07	2	A	SW	1	13	11
9-Sep	11:47	4	A	0	0	8	9
10-Sep	11:52	3	A	E	1	6	8
11-Sep	11:59	2	A	NE	1	10	8
12-Sep	11:59	3	A	NW	1	10	8
13-Sep	12:41	1	A	0	0	12	8

[a] Sky codes: 0=No observation, 1=Clear and visibility unlimited, 2=Cloud cover >50%, 3=Cloud cover >50%, 4=Complete overcast, 5=Thick fog.

[b] Precipitation codes: A=None, B=Intermittent, C=Continuous.

[c] Wind codes: 0=Calm, 1=1-10 mph, 2=11-20 mph, 3=21-30 mph,4=over 30 mph.

Below codes used in the field: only those used in the table are listed in the footnotes for "b".

CODES:

SKY -	PRECIPITATION -	WIND -	SPECIES -
0 no observation	A none	0 calm	K Chinook
1 clear or mostly clear	B intermittent	1 1-10 mph	S Sockeye
2 cloud cover not more than 1/2 of sky	C continuous rain	2 11-20 mph	P Pink
3 cloud cover more than 1/2 of sky	D snow	3 21-30 mph	W Whitefish
4 complete overcast	E snow and rain	4 over 30 mph	Sh Sheefish
5 thick fog	F hail		
	G thunderstorm with or without rain		

Table 3. Age, Sex, Length information from fall chum salmon samples in the 2012 Mountain Village Fall Season Test Fishery

Observation Date	Location	ASL Project Type	Species	Gear	Mesh	Run	Sex	Length	Age Fresh	Age Salt	Age Error
07/17/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	630	0	4	
07/18/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	615	0	5	
07/18/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	585	0	3	
07/18/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	610	0	4	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	530	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	550	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	555	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	610	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	555	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	540	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	600	0	5	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	555	0	5	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	575	0	4	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	530	0	3	
07/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	605			Regenerated
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	583			Missing
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	589	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	600	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	560	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	580	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	621	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	559	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	581	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	616	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	581	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	583	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	584	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	579	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	579	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	558	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	587	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	648	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	562	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	610	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	595	0	4	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	610	0	3	
07/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	558	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	558	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	621	0	4	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	575	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	571			Regenerated
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	536	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	581	0	4	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	588	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560	0	3	
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	558			Regenerated
07/21/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	594	0	3	
07/22/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	585	0	3	
07/22/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	607	0	4	
07/23/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	609	0	4	
07/23/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	600			Regenerated
07/26/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	505	0	3	
07/26/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	562	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	562	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	542	0	3	

07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	570	0	4	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	580	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	573	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	565	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	566	0	4	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	540	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	540	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	613	0	4	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	547	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	574	0	3	
07/27/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	571	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	578	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	573	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	590	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	622	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	624	0	4	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	573	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	594			Regenerated
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	574	0	4	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	584	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	576	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	566	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	573	0	4	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	574	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	569	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	543	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	565			Regenerated
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	569	0	4	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	545	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	534	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	555	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	547	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	531	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	619	0	5	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	538	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	547			Regenerated
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	565	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	634	0	4	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	589	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	548	0	3	
07/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	555	0	3	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	564	0	3	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	543	0	3	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	574	0	4	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	583	0	3	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	546	0	3	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	597	0	4	
07/29/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	602	0	4	
07/30/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	595	0	3	
07/30/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	585	0	3	
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	601	0	3	
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	543	0	3	
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	554	0	3	
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	577			Regenerated
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	571	0	3	
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	545			Regenerated
07/31/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	585	0	3	
08/01/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	555	0	3	
08/01/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	550	0	3	
08/01/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	617	0	4	
08/01/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	584	0	3	
08/02/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	573	0	3	

08/02/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	597	0	3	
08/02/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	564	0	3	
08/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	593	0	3	
08/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	604	0	3	
08/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	611	0	3	
08/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	583	0	3	
08/06/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	567	0	3	
08/06/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	564	0	3	
08/06/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	562	0	3	
08/06/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	575			Missing
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	583	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	590	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	579	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	603	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	534	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	579	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	528	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	616	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	566	0	4	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	560	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	583	0	3	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	635	0	4	
08/07/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	599	0	3	
08/08/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	575	0	3	
08/09/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	553	0	3	
08/10/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	592	0	3	
08/14/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	515			Wrong
08/14/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	447			Regenerated
08/14/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	544			Wrong
08/15/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	572	0	3	
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	543			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	581			Regenerated
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	570	0	4	
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	544			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	559			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	587			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	583			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	554	0	3	
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	523	0	3	
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	577			Wrong
08/19/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	500	0	3	
08/20/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	612	0	3	
08/28/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	590	0	3	
09/01/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	male	535	0	3	
09/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	590	0	3	
09/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	560			Regenerated
09/03/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	565	0	3	
09/04/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	570	0	3	
09/05/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	605	0	3	
09/06/2012	Mountain Village	Test Fishing	Chum	Drift Gillnet	5.875	Fall	female	570	0	3	

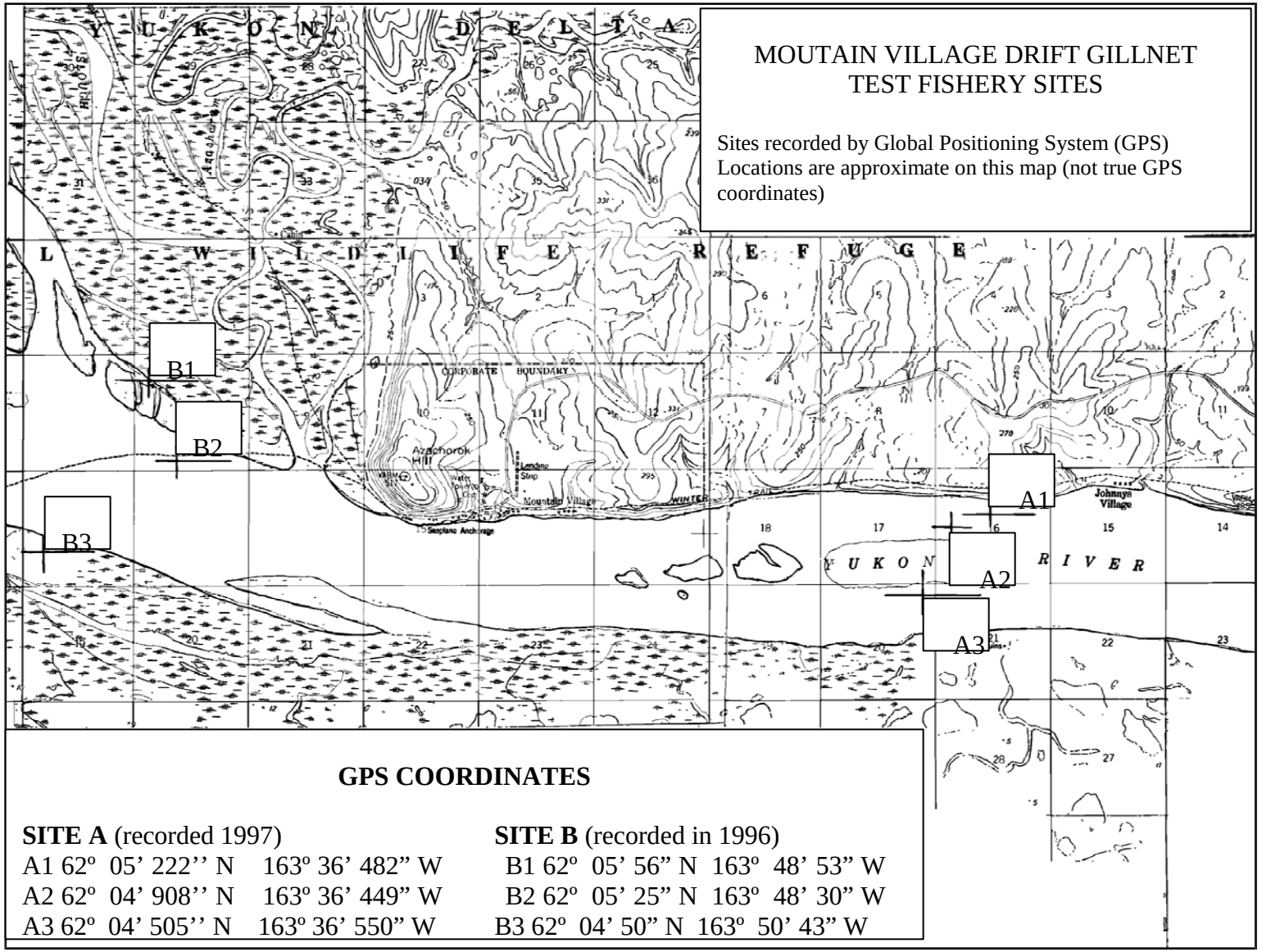


Figure 1. Mountain Village test fishery showing drift gillnet site. The three "A" sites were used for the 2012 test fishery.

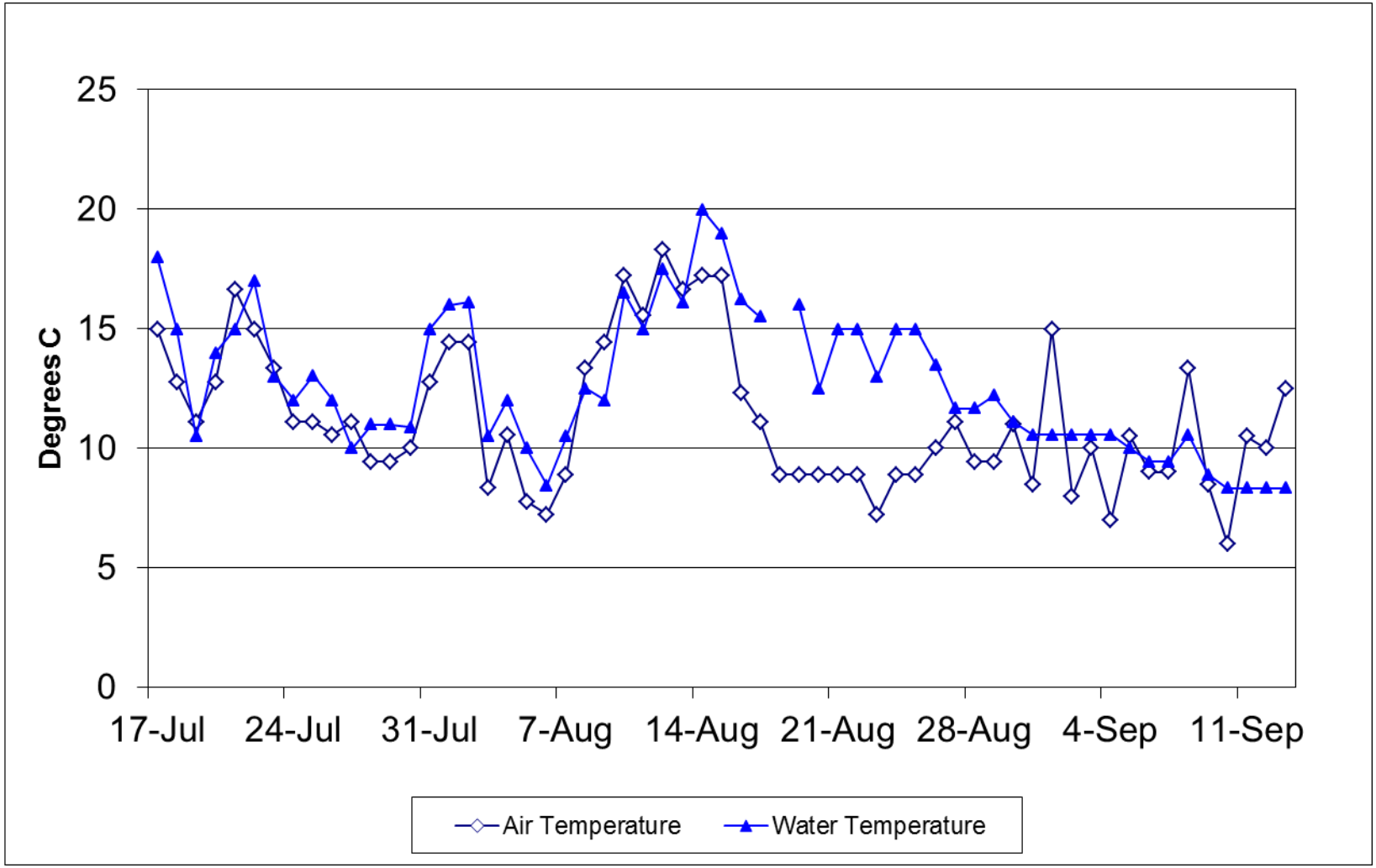
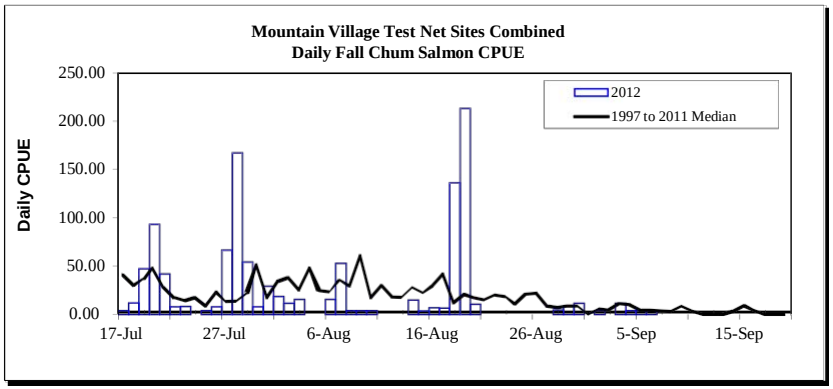


Figure 2. Air and water temperatures collected during Mountain Village fall season test fishery, 2012



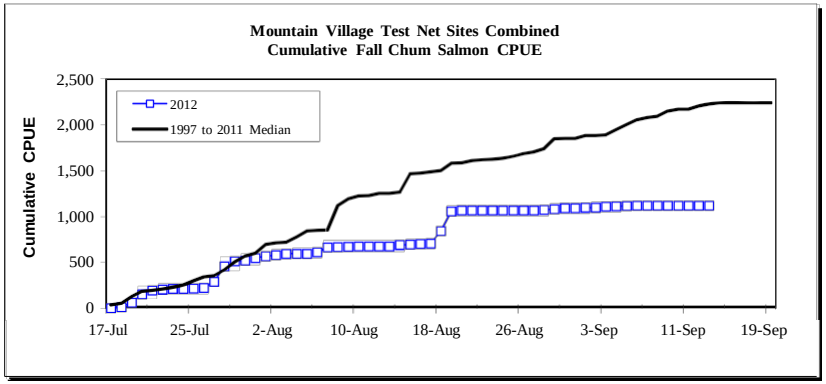
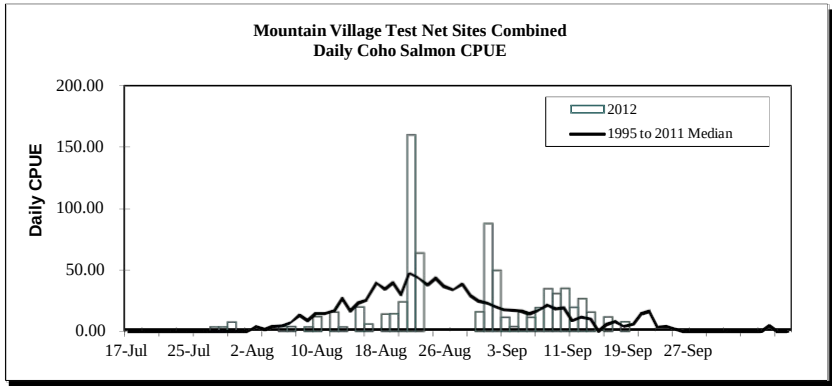


Figure 3. Historical fall chum salmon daily and cumulative catch per unit effort (CPUE), Mountain Village Fall Test Fishery, 1997 to 2011 median compared to 2012.



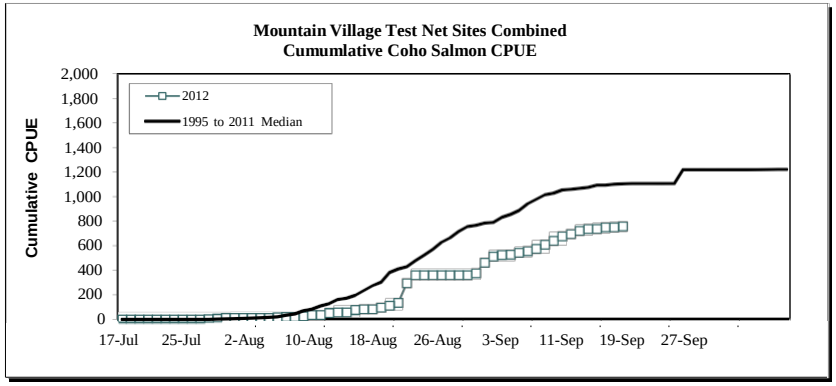


Figure 4. Historical coho salmon daily and cumulative catch per unit effort (CPUE), Mountain Village Fall Test Fishery, 1997 to 2011 median compared to 2012.

Appendix A

OPERATIONAL PROCEDURES MANUAL

MOUNTAIN VILLAGE
DRIFT GILLNET SALMON TEST FISHERY
FALL SEASON
2012

A Joint Project
with

Asa'carsarmiut Traditional Council
PO Box 32249
Mountain Village, Alaska 99632
(907) 591-2814
Fax (907) 591-2811

Bering Sea Fishermen's Association
110 W 15th Ave, Unit A
Anchorage, Alaska 99501
(907) 279-6519

and

Alaska Department of Fish and Game
PO Box 127
Emmonak, Alaska 99581
(907) 949-1320
Fax (907) 949-1830

Fairbanks ADF&G Office
1300 College Road
Fairbanks, Alaska 99701
(907) 459-7274
Fax (907) 459-7271

MOUNTAIN VILLAGE
DRIFT GILLNET SALMON TEST FISHERY
FALL SEASON
2012

Location: Yukon River near Mountain Village, approximately rivermile 87. Test drift gillnet sites are approximately 3 to 4 miles upstream of the village (Figure 1).

Personnel: Contract test fishermen from Mountain Village with project administration by **Joshua Mathlaw (phone: (907) 591-2814, email: joshuamathlaw@yahoo.com)** of the Asa'carsarmiut Traditional Council (ATC); Project assistance, management, and training provided by Jeff Estensen (fall season manager) and Mick Leach (scale collection) from the Alaska Department of Fish and Game (ADF&G).

Time Table: The Mountain Village test fishery is to operate from approximately 17 July to 3 September 2012.

Funding Sources: USFWS Yukon Treaty Implementation Research and Management Fund. Project number RM 10-12. Administered by BSFA.

Introduction

The Mountain Village Drift Gillnet Salmon Test Fishery (MVTF) has operated since 1995. A limited analysis of the results has concluded that the project does provide a useful measure of run timing and, to a lesser extent, relative abundance between and within years. The MVTF results correlated somewhat with the Lower Yukon River Set Gillnet Test Fishery located at rivermile 24 near the mouth of the Yukon River. Since 2001 the Lower Yukon River test fishing project was changed over from set gillnets to drift gillnet fishing to improve the correlation. Additionally, the MVTF results typically correlate well with the passage estimates provided by the Pilot Station sonar, located 135 miles upstream.

In 2012, the intent of the MVTF will be to operate from approximately July 17 through September 3. The same drift gillnet sites used in the previous years (sites A1-A3) will be used in 2012 (Figure 1). The daily MVTF catch data will be converted to a catch per unit effort (CPUE) index, which can be compared to the prior years' database, as well as between other monitoring projects in the same year. The MVTF results may be considered by the area manager, along with other sources of information, for inseason management of the subsistence and commercial fisheries. Additionally, a scale sampling program will continue to obtain age composition of fall chum and coho salmon caught in the test fishery.

Objectives

The objective of the project is to estimate the run timing, age composition, and relative abundance of fall chum and coho salmon in the Yukon River near Mountain Village.

Participant's Responsibilities and Expectations

Asa'carsarmiut Traditional Council (ATC):

☐ Recruit, hire, and pay contract test fishermen.
☐ Supervise test fishermen to assure that the Operational Procedures Manual is being followed.
☐ Transmit daily test fish results provided by contract test fishermen to ADF&G. If the fax is not available, drift fishing times and catch data must be dictated over the phone on a daily basis for timely use in fisheries management.
☐ Return sampling materials to ADF&G by mid-October, including binder of daily faxed sheets, all rite-in-the-rain notebooks, ASL gum cards, and data notebooks.

Bering Sea Fishermen's Association (BSFA):

☐ Provide funding from the US portion of the Research and Management fund to pay contract fishermen's salaries and ATC administrative costs including net replacement.
☐ Assist in training contract test fishermen.
☐ Produce a final project report on the results of the test fishery for the funding source.

Alaska Department of Fish and Game (ADF&G):

☐ Provide notebook with data sheets to ATC.
☐ Receive results of the test fishery on a daily basis.
☐ Calculate daily and cumulative CPUE for the test fishery.
☐ Compare MVTF results with other run strength and timing information.
☐ Provide feedback of the project results to the test fishermen, ATC, and BSFA.
☐ Assist in training contract test fishermen.
☐ Post season: Fairbanks Office – error check data forms with raw data notebooks (rite-in-the-rain) provided by ATC; Anchorage Office – press and read all scales provided, and send results of analyzed data to BSFA to complete report.

Contract Test Fishermen:

☐ Provide a boat, outboard motor, fuel, motor oil, oars, first aid kit, repair tools, and other necessary equipment to effectively operate the boat and deploy the drift test fishing gear.
☐ Operate the test drift gillnet fishery in accordance with the Operational Procedures Manual and directives from ATC and ADF&G.
- Keep accurate records on daily weather conditions, daily catch results for each drift, and dispersal of the harvest. Form is referred to as Table 1.

☐ Collect age-sex-length data. Information recorded in ASL workbooks provided by ADF&G including back up office sheets located in binder.

☐ Have nets mended as necessary.

☐ Work with ATC staff to ensure that daily results are transmitted to ADF&G in Emmonak (FAX 907-949-1830) by 5:00 p.m. each day or the Fairbanks office when directed (FAX 907-457-7271). If the fax is not available, drift fishing times and catch data must be dictated over the phone to ADF&G in Emmonak (907-949-1320) or Fairbanks (907-459-7293) on a daily basis for timely use in management.

Methods

Gear:

The Mountain Village Test Fishery will use a 25 fathom salmon gillnet with 5 and 7/8 inch mesh and 35 meshes deep. The net shall be equipped with two buoys with the words "Test Fish" painted on them.

Field Procedures:

The test fish crew should meet at 11:15 a.m. each day to prepare the boat and gear. Test fishermen should depart Mountain Village with enough time to arrive at the first test drift site by 12:00 noon. Gas tanks should be filled earlier in the day or at the end of the previous day's test fish operation. The test fish boat should be outfitted with the following equipment:

☐ 25-fathom drift gillnet with buoys marked with the words "Test Fish."
☐ Boat should be marked with a sign "Test Fish."
☐ Sufficient gas and oil to conduct that day's test fishery plus extra gas for a minimum of an hour of running.
☐ Tools for emergency repairs.
☐ A data log book with log sheets and drift schedule.
☐ A thermometer.
☐ Scale sampling equipment (scale gum cards, tweezers, tape measure, wax paper, acetates, sample notebook).
☐ Float coats or life vests are to be worn at all times while in the boat.
☐ One or two oars.
☐ First aid kit.

Test Fishing Drifts:

The test fishery consists of three drifts. One drift is to be conducted at each of three different sites (Figure 1). Efforts should be made to fish the designated sites as consistently as possible. Keeping the sites, net size, and time of fishing consistent helps make the data comparable within and between years.

At approximately 12:00 noon each day, the first of the three drifts should be conducted. Each drift will last 5 to 20 minutes. Drifts should last 5 to 10 minutes when catch rates are high. The distance covered by the drift will vary depending on the time in the water as well as water and wind conditions.

Any problems encountered during the drift should be noted in the logbook. Problems may include snags, net saturation (extremely high catch rate), and alteration of the drift pattern because of conflicts with other nets, drift, etc. Fish should be counted and then released if they are lively and netted only in the mouth. Any salmon that are netted in the gills should be retained. Record the total number of salmon caught (catch), the number kept (harvest), and the number released alive by species.

During the first drift each day, information on environmental factors (weather) should be taken (cloud cover, precipitation, wind speed and direction, and air and water temperature). If a drift is not conducted, particularly due to weather, record weather information as usual and send in the daily fax. Weather is an important factor as to when fish move.

Nets should always be retrieved as quickly as possible. Slow retrieval of the test net affects the catch rate, referred to as the catch per unit effort (CPUE). If possible, pick fish from the web while retrieving the net. At times of high abundance, it is best to pull the entire net into the boat prior to removing the fish from the web. If it is thought that the catch rate will be high on a given day, test fishermen should seek a third person to assist with the operation.

Test drifts at sites 2 and 3 should be performed in a similar manner to the first drift, and recorded on the daily log sheet. Site location numbers do not change even if fished in a different order. Drift numbers are consecutive throughout the season.

If a commercial fishing period is announced for District 2 that will overlap with the daily test-fishing period, test fishing can continue to be conducted only if the following conditions are met:

1. The contract test fisherman or his crewmember possesses a valid CFEC permit for the lower Yukon Area, and the non-permit holder on the boat possesses a valid State of Alaska fishing crewmember license.

2. The three test drifts are conducted in the same manner as outlined in this manual. The same 25-fathom drift gillnet should be used. All salmon harvested during the commercial salmon fishing period in the test drifts may be sold on the individual's CFEC permit.

3. The contract test fishermen and his crewmember abide by all applicable subsistence and commercial regulations.

4. The fact that test/commercial fishing occurred should be noted in the comments

If the above conditions are not met on days with a commercial fishing period, test fishing will not be conducted that day and must be noted in the log book and data sheets.

Catch Sampling and Delivery of the Harvest:

After the three drifts are completed, the test fish crew should immediately return to Mountain Village to sample and deliver the catch. Salmon should first be sampled for gender and length while collecting scales for aging (age-sex-length sampling) and then made available for local subsistence use. The Asa'carsarmiut Traditional Council will help publicize the availability of the fish. Test fishermen should log the delivery (bottom section of Table 1) and make note of the dispersal of the fish as kept by test fishermen for subsistence use or given away to other households for subsistence use.

Sampling Goals:

Sample up to 40 fall chum salmon per day for each day fished. On days when the catch is less than 40 fall chum salmon, sample all fall chum salmon harvested. When the catch is greater than 40, randomly sample only 40 out of the total catch.

Sampling Procedures (Refer to sampling tab in notebook for more specific information. Figures in this section correspond to figures in sampling procedures manual):

Complete before fish are distributed to local subsistence users:

1. Fill out the information for that day in the scale sampling data notebook (rite-in-rain).
2. Fill out information on front of scale gum card (be careful not to get the cards wet as they will stick together). A new scale gum card should be used everyday regardless of the number of scales taken to prevent them from getting lost or damaged during subsequent sampling.
2. Determine whether the salmon is a male or female and put either M (male) or F (female) in the Sex column in the sampling data notebook.
3. Measure the salmon from the middle of the eye to the fork in the tail (Figure 1) and record this in the Length column in the notebook. Measure to the nearest 0 or 5 mm (a 573 mm measurement should be rounded to 570 or 575 mm, whichever it is closest to). **All lengths should end in either 0 or 5.**
4. Take scales from each fish (1 scale per chum salmon, 3 scales per coho salmon) from the preferred area (Figure 1) and attach scale(s) to the gummed scale card corresponding to the number of the sample (i.e. Scale #1 should be put directly on the 1 printed on the gum card, scale #2 on 2 and so on).

Important: the side of the scale facing up on the card should be the side of the scale that is facing outward on the fish. Try to orientate each scale on the card in the same direction. For orientation purposes note that the outside surface has texture while the inside is smooth.

5. If genetic sampling is requested, conduct samples according to instructions from the biologist.
6. Once sampling of the daily catch is done, put a piece of waxed paper over the side of the gum card with the scales stored pressed flat and in a safe place until the cards can be sent to Emmonak or Anchorage for aging.

Office Procedures:

Assignments to be completed after the harvest is delivered:

1. Test fishermen shall transfer the information from the field notebooks to the Daily Test Fish Reporting Log (Table 1) and Sampling Data Log (Table 2). Data should be transferred to the back up books each day in case the log/field notebooks become lost (overboard etc…). If supplies of Log forms or field notebooks run short, notify ADF&G. It is the test fishermen's responsibility to ensure that the climatologic data, drift gillnet data, fishing time, and fish distribution portions of the daily log sheet and the daily scale sample log sheet are transferred accurately.
2. Test fishermen must submit the day's test fish results to ATC staff.
3. ATC staff compiles data collected for that day's test fishery and ensures that the forms/logs are filled out correctly.
4. ATC staff reports the results daily to ADF&G. Fax in daily both the test fishing reporting log and the scale sampling data log. (Emmonak office (907) 949-1320, FAX (907) 949-1830).

Interpreting the Mountain Village Test Fish Index:

Calculating the daily CPUE for the Mountain Village Test Fishery:

Number of Fathoms = 1 Start Net Out = 2 Net Full Out = 3 Start Net In = 4 Net Full In = 5 Mean Fishing Time = 6	Mean Fishing Time = $(4 - 3) + \frac{(3 - 2) + (5 - 4)}{2}$ Index = $\frac{(6000) * (\text{Number of Fish})}{(6) * (1)}$

The deployment, fishing, and retrieval of the drift gillnets will be recorded for each sampling event. CPUE will be calculated using fish per 100 fathom-hours:

$$CPUE = [((100 \text{ fathom} * 60 \text{ minutes}) * (n))/(L*T)]$$

where:

n= number of fish caught,
L= length of net in fathoms

T= the time the net fished

The time the net fished is calculated using:

$$T = ([(\text{set time} + \text{retrieval time})/2] + \text{soak time})$$

The amount of time the gillnet is soaked varies. An independent CPUE calculation is made for each drift fished. This value is summed with CPUE calculations from the same day and gear type and then averaged to obtain a CPUE for the day and gear type:

$$\text{Daily CPUE} = ((\sum \text{CPUE})/n)$$

where:

n=number of sets for the given day and gear type.

The 2012 Mountain Village Drift Gillnet Test Fishery will continue to collect information to determine salmon timing and relative abundance. Daily CPUE can be compared within the year to provide timing information. Additionally, daily CPUE and cumulative CPUE can be compared to previous years to provide an estimate on relative salmon abundance. The degree to which this project correlates with other projects will continue to be monitored.

Using the test fishery as a management tool is not as simple as it may appear. Numerous variables such as wind, water level, other fishermen fishing in the vicinity, and debris can influence the effectiveness of the gear used to catch fish. Also, catchability changes from year to year and within a season.

Safety

☐ **If it is too rough, do not go fishing. "But collect the weather data."**

☐ Do not go test fishing alone. If a crewmember is sick, get another crewmember to fill in.

☐ Wear float coats or floatation vests at all times when in the boat.

☐ Operate the test fish boat and gear in a safe and responsible manner.

Post Season Reporting:

Following conclusion of the test fishery field season, the Project Leader will write a report on the test fish results.

Consultation and Public Support:

The 2012 Mountain Village Drift Gillnet Test Fishery will be modeled based on the successfully operated project operated since 1995. This project is supported by the residents of Mountain Village and provides valuable information used in the management of the Yukon River fisheries.

Scale samples will be forwarded to Emmonak ADF&G office for inseason aging by sending it on a plane to Emmonak with the Emmonak ADF&Gs address (located on the cover of this document) on the cover of the package. Scales will be sent to Emmonak through August 25, after which the scales for the remainder of the season will be kept until the end of the season and sent in with the data and notebooks to Fairbanks. ADF&G will pay freight charges to send scales from Mountain Village to Emmonak.

At the end of the season, the test fishing field notebooks, office binder with log sheets, and ASL sampling materials (scale cards and data notebooks) should be mailed to ADF&G Fairbanks office at the following address by mid-October:

Alaska Department of Fish and Game
Division of Commercial Fisheries
c/o Bonnie Borba
1300 College Road
Fairbanks, AK 99701
(907) 459-7260

Table 1. Daily Mountain Village Test Fishery Reporting Log, _____ (yr).

To: Alaska Department of Fish and Game, Emmonak (FAX 907 949-1830)
Test Fishermen (Captain): _____
Subject: Mountain Village Test Fishery Data

ADF&G Notes

Daily Climatological and River Conditions at Time of Test Fishing 1/							
DATE	TIME	SKY	PRECIP	WIND Direction	WIND Speed	AIR TEMP	WATER TEMP

				FISHING TIME					Fall Chum Salmon			Coho Salmon		
Date	Drift No.	Site No.	Mesh Size	No. Fathoms	Start Net Out	Net Full Out	Start Net In	Net Full In	Total Kept	Total Release	Total Catch	Total Kept	Total Release	Total Catch

Mountain Village Test Fishery Catch Disposition Log					
Date	Subsistence Household	Chum	Coho	Other Salmon 1/	Other Non-Salmon 1/

Other Comments :

1/ See codes on back of form.

Table 1. Daily Mountain Village Test Fishery Reporting Log, _____ (yr). (Continued)

CODES:			
SKY-	PRECIPITATION-	WIND-	SPECIES-
0 no observation	A none	0 calm	K Chinook
1 clear or mostly clear	B intermittent	1 1-10 mph	S Sockeye
2 cloud cover not more than 1/2 of sky	C continuous rain	2 11-20 mph	P Pink
3 cloud cover more than 1/2 of sky	D snow	3 21-30 mph	W Whitefish
4 complete overcast	E snow and rain	4 over 30 mph	Sh Sheefish
5 thick fog	F hail		
	G thunderstorm with or without rain		

Table 2. Mountain Village Drift Gillnet Salmon Test Fishery Scale Sampling Data Log, _____ (yr).

Date | | FALL CHUM SALMON

Mountain Village 5.875-inch DRIFT GILLNET

Card #			Length
1	M	F	
2	M	F	
3	M	F	
4	M	F	
5	M	F	
6	M	F	
7	M	F	
8	M	F	
9	M	F	
10	M	F	
11	M	F	
12	M	F	
13	M	F	
14	M	F	
15	M	F	
16	M	F	
17	M	F	
18	M	F	
19	M	F	
20	M	F	
21	M	F	
22	M	F	
23	M	F	
24	M	F	
25	M	F	
26	M	F	
27	M	F	
28	M	F	
29	M	F	
30	M	F	

Date | | COHO SALMON

Mountain Village 5.875-inch DRIFT GILLNET

Card #			Length
1	M	F	
2	M	F	
3	M	F	
4	M	F	
5	M	F	
6	M	F	
7	M	F	
8	M	F	
9	M	F	
10	M	F	
Card #			**Length**
11	M	F	
12	M	F	
13	M	F	
14	M	F	
15	M	F	
16	M	F	
17	M	F	
18	M	F	
19	M	F	
20	M	F	