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STURGEON LANDINGS DURING THE LATE FALL SALMON GILL NET FISHERY 1987

PROGRESS REPORT NO. 88-18

Washington Department of Fisheries
Planning, Research and Harvest Management
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Chuck Tracy
July, 1988

INTRODUCTION

Thirty four and one half days of salmon gill net fishing were adopted by the Columbia River Compact. These occurred in nine weekly periods from September 13 through November 12, 1987. All fishing periods opened and closed at 6 p.m. except for the first week when the first period ran from 6 p.m. Sept. 13 to 6 am Sept. 14, and the second period from noon Sept. 15 to 6 p.m. Sept. 17. There were no mesh restrictions. Commercial fishing Zone 5 (Washington area 1E) was closed September 13 and 14. Zone 4 above the mouth of the Sandy River and Zone 5 (Washington Area 2S) were the only areas open on October 22, 29, November 5, and 12, otherwise all five zones were open.

METHODS

Landing Statistics

Preliminary landing statistics were gathered each morning during the season by contacting buyers by telephone. More complete landing statistics were available from fish tickets returned to the states from buyers after the season closed. Statistics in this report are from fish tickets and are considered preliminary. Numbers of fish landed were estimated by applying an average weight per fish, determined from biological sampling, to the poundage reported on the fish tickets. Final information should not differ significantly from the values presented in this report.

Buyer Sampling

The sturgeon catch was sampled at buying stations. Buyer sampling data gathered included: date, zone, sample size, weight, total and fork length, sex, maturity, tags and tag scars.

RESULTS

Landing Statistics

A total of 4,146 white sturgeon weighing 128,319 lbs. were landed. Fifty seven percent, or 2,343 of these sturgeon were landed during the first two weeks of fishing. Forty two percent of the catch was from Zone 5. Thirty one percent of the landings were fish less then the legal minimum length. Preliminary landing statistics are presented in Tables 1-9.

A total of 1,633 green sturgeon weighing 43,749 lbs. were landed. Eighty nine percent of the landings were made during the first two weeks of the season. Ninety percent of the catch was from Zone 1. Three percent of the fish landed were less then the legal minimum length.

DISCUSSION

The percentage of undersized white sturgeon in the commercial catch continues to rise. The 31% level from the fall 1987 gill net fishery is the highest on record for any commercial fishery in the last five years. The percentage of fish less than 47 in. is also increasing, with 13% for the fall 1987 gill net fishery, exceeded only by the August 1987 salmon gill net fishery with 15%.

There were some shifts in the contributions of the zones to the total landings compared to the 1986 fall gill net fishery. Zone 5 increased from 28% to 45%, while Zones 3 and 4 decreased from 20% and 17%, to 12% and 1%. Zones 1 and 2 remained fairly stable, varying at most by 4%. The pounds per delivery was also much higher in Zone 5 than in the rest of the river, with an average of 330 lbs./delivery compared to a range of 51 to 77 lbs./delivery for Zones 1-4 (Table 9). Clearly this indicates a higher abundance of fish in the Zone 5 area. This also concurs with a better than average sport catch above the I-205 bridge during the fall months.

The mark rate for white sturgeon in the fall 1987 gill net fishery was 4.0%, up from 0.9% in fall 1986 gill net fishery. The mark rates by zone were fairly consistent at between 3.9% and 6.5% except for Zone 2 where no tags or tag scars were observed (Table 15). The mark rate for the combined Zone 1 and 2 catch was 2.3%, nearly identical to the 2.2% mark rate observed in the August 1987 gill net fishery that took place in Zones 1 and 2.

The mark sampling rates for each zone ranged from 5.3% to 21.8%, with an average rate of 14.0% for all zones (Table 15). The highest and lowest mark rates (Zones 4 and 2) correspond to the lowest mark sampling rates, indicating that the mark sample rates in those zones may be inadequate. The reduced sample in Zone 2 is notable in that Zone 2 was the only area that no tags were recovered, even though it was second highest in total catch. Overall the mark sampling rate fell short of the established goal of 20%.

The biological sampling rates by zone ranged from 1.4% to 9.9% with an average for all zones of 5.8% (Table 15). The most immediate use of the biological data is to calculate the number of fish caught based on the poundage reported on the fish tickets. The established goal of 30 fish for any component of the catch was met in all zones except Zone 4 where only eight fish were bio sampled.

One conclusion that can be drawn from the sampling rates is that Zone 4 is definitely under sampled and that generally the upper and lower ends of the river (Zones 1 and 5) get the bulk of the sampling effort. An effort to redistribute the sampling effort would probably result in more representative samples, however given the nature of the fishery it is often difficult to predict how the catch will be distributed.

Table 1. Combined Washington and Oregon white sturgeon landings (in pounds) by zone by day from the late fall salmon gill net fishery, September-November 1987.

Landing date	Zone 1	2	3	4	5	Total Lbs.	Total Nos.
Sep. 13-14	4,651	4,123	1,740	1,141	-	11,655	385
Total Lbs.	4,651	4,123	1,740	1,141	-	11,655	
Total Nos.	154	136	57	38	-		385
Sep. 15-16	2,382	4,323	2,233	2,906	4,902	16,746	555
17	1,248	2,164	1,216	2,274	1,185	8,087	268
18	751	2,254	1,252	1,226	219	5,702	188
Total Lbs.	4,381	8,741	4,701	6,406	6,306	30,535	
Total Nos.	145	291	155	212	208		1,011
Sep. 20-21	476	1,203	1,056	1,849	6,167	10,751	388
22	525	861	397	1,251	2,621	5,655	204
23	395	623	1,086	1,189	1,390	4,683	170
24	188	310	563	473	1,586	3,120	112
25	185	308	405	416	720	2,034	73
Total Lbs.	1,769	3,305	3,507	5,178	12,484	26,243	
Total Nos.	64	120	124	187	452		947
Sep. 27-28	129	705	673	470	1,726	3,703	107
29	153	253	319	498	821	2,044	58
30	394	213	454	197	1,297	2,555	73
Oct. 1	121	227	373	94	0	815	25
2	36	220	193	236	375	1,060	30
Total Lbs.	833	1,618	2,012	1,495	4,219	10,177	
Total Nos.	25	46	58	42	122		293
Oct. 4-5	154	85	311	507	1,927	2,984	85
6	0	175	342	210	0	727	21
7	155	135	178	99	1,517	2,084	61
8	0	0	0	56	0	56	2
Total Lbs.	309	395	831	872	3,444	5,851	
Total Nos.	9	11	24	25	100		169

(Continued)

Table 2. Combined Washington and Oregon white sturgeon landings by zone by day from the late fall salmon gill net fishery, September-November 1987.

Landing date	Zone 1	2	3	4	5	Total
Sep. 13-14	74	71	35	20	0	200
Sep. 15-16	42	87	47	33	20	229
17	10	42	24	24	13	113
18	11	45	29	20	6	111
Total	63	174	100	77	39	453
Sep. 20-21	4	34	19	20	15	92
22	6	17	10	17	10	60
23	8	18	16	13	7	62
24	3	10	11	11	8	43
25	6	10	7	8	3	34
Total	27	89	63	69	43	291
Sep. 27-28	5	16	15	7	13	56
29	3	10	7	8	7	35
30	5	7	12	4	3	31
Oct. 1	4	7	10	3	0	24
2	1	8	6	3	2	20
Total	18	48	50	25	25	166
Oct. 4-5	6	3	8	7	3	27
6	0	6	6	5	0	17
7	4	5	2	2	4	17
8	0	0	0	1	0	1
Total	10	14	16	15	7	62

(Continued)

Table 2. Combined Washington and Oregon white sturgeon landings by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Total
Oct. 13-14	6	4	5	4	3	22
15	4	8	2	4	1	19
Total	10	12	7	8	4	41
Oct. 18-19	7	10	5	4	4	30
20	1	4	6	0	4	15
21	0	4	3	2	3	12
22	-	-	-	3	3	6
Total	8	18	14	9	14	63
Oct. 25-26	1	12	2	6	4	25
27	0	7	2	0	3	12
28	1	7	2	0	4	14
29	-	-	-	0	2	2
Total	2	26	6	6	13	53
Nov. 1-2	3	3	0	0	3	9
3	1	5	1	1	3	11
4	1	1	2	0	3	7
5	-	-	-	0	3	3
Total	5	9	3	1	12	30
Nov. 8-9	1	5	2	0	2	10
10	0	2	0	1	2	5
11	2	1	0	0	3	6
12	-	-	-	1	3	4
Total	3	8	2	2	10	25
Season Total	220	469	296	232	167	1,384

Table 3. Combined Washington and Oregon average white sturgeon pound per landing by zone by day from the late fall salmon gill net fishery, September-November 1987.

Landing date	Zone 1	2	3	4	5	Averag
Sep. 13-14	63	58	50	57	-	
15-16	57	50	48	88	245	5
17	125	52	51	95	91	7
18	68	50	43	61	37	72
Average	70	50	47	84	162	51
20-21	119	35	56	92	411	67
22	88	51	40	74	262	117
23	49	35	68	91	199	94
24	63	31	51	43	198	76
25	31	31	58	52	240	73
Average	66	37	56	75	290	60
27-28	26	44	45	67	133	90
Oct 29	51	25	46	62	117	66
30	79	30	38	49	432	58
31	30	32	37	31	0	82
Nov 1	36	28	32	79	188	34
Average	49	34	40	60	169	53
3-5	26	28	39	72	642	61
	0	29	57	42	0	111
	39	27	89	50	379	43
	0	0	0	56	0	123
Average	31	28	52	58	492	56
						94

(Continued)

Table 3. Combined Washington and Oregon average white sturgeon pounds per landing by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Average
Oct. 13-14	75	51	33	48	569	124
15	134	48	28	32	622	91
Average	98	49	32	40	583	108
Oct. 18-19	71	137	38	72	978	209
20	266	147	63	0	429	196
21	0	89	55	141	338	151
22	-	-	-	57	293	175
Average	96	129	53	82	537	192
Oct. 25-26	64	108	26	118	611	182
27	0	131	63	0	372	180
28	25	195	104	0	399	228
29	-	-	-	0	274	274
Average	45	138	64	118	439	197
Nov. 1-2	38	131	0	0	670	280
3	50	118	275	77	542	238
4	30	52	272	0	692	386
5	-	-	-	0	278	278
Average	39	115	273	77	546	289
Nov. 8-9	42	85	88	0	912	246
10	0	23	0	660	606	383
11	26	58	0	0	513	275
12	-	-	-	210	657	545
Average	31	66	88	435	654	328
Season Average	64	56	51	77	330	93

Table 4. Combined Washington and Oregon white sturgeon landings (in numbers) by zone by day from the late fall salmon gill net fishery, September-November 1987.

Landing date	Zone 1	2	3	4	5	Total
Sep. 13-14	154	136	57	38	-	385
Sep. 15-16	79	144	74	96	162	555
17	41	72	40	76	39	268
18	25	75	41	40	7	188
Total	145	291	155	212	208	1,011
Sep. 20-21	17	44	37	67	223	388
22	19	31	14	45	95	204
23	14	23	39	43	51	170
24	7	11	20	17	57	112
25	7	11	14	15	26	73
Total	64	120	124	187	452	947
Sep. 27-28	4	20	19	14	50	107
29	4	7	9	14	24	58
30	12	6	13	5	37	73
Oct. 1	4	7	11	3	0	25
2	1	6	6	6	11	30
Total	25	46	58	42	122	293
Oct. 4-5	4	2	9	14	56	85
6	0	5	10	6	0	21
7	5	4	5	3	44	61
8	0	0	0	2	0	2
Total	9	11	24	25	100	169

(Continued)

...and Oregon white sturgeon landings by zone by day from the late fall salmon gill fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	
Oct. 13-14						
15	15	7	6	6	56	
18	18	13	2	5	21	
Total	33	20	8	11	77	
Oct. 18-19						
20	17	45	6	10	129	
21	9	19	12	0	57	
22	0	12	5	10	33	
	–	–	–	6	29	
Total	26	76	23	26	248	3
Oct. 25-26						
27	2	42	2	23	81	
28	0	30	4	0	37	15
29	1	45	7	0	53	7
	–	–	–	0	18	10
Total	3	117	13	23	189	18
Nov. 1-2						345
3	3	11	0	0	53	
4	1	16	7	2	43	67
5	1	1	15	0	55	69
	–	–	–	0	22	72
Total	5	28	22	2	173	22
Nov. 8-9						230
10	1	11	5	0	48	
11	0	1	0	18	32	65
12	1	2	0	0	41	51
	–	–	–	6	52	44
Total	2	14	5	24	173	58
Season Total	466	859	489	590	1,742	218
						4,146

Table 5. Combined Washington and Oregon green sturgeon landings (in pounds) by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Total Lbs.	Total Nos.
Oct. 13-14	146	25	0	0	0	171	7
15	29	24	0	0	0	53	2
Total Lbs.	175	49	0	0	0	224	
Total Nos.	7	2	0	0	0		9
Oct. 18-19	213	164	0	0	0	377	14
20	0	173	0	0	0	173	7
21	31	70	0	0	0	101	4
22	-	-	-	0	0	0	0
Total Lbs.	244	407	0	0	0	651	
Total Nos.	9	16	0	0	0		25
Oct. 25-26	85	135	0	0	0	220	8
27	19	62	0	0	0	81	3
28	0	126	0	0	0	126	5
29	-	-	-	0	0	0	0
Total Lbs.	104	323	0	0	0	427	
Total Nos.	4	12	0	0	0		16
Nov. 1-2	0	50	0	0	0	50	2
3	0	35	0	0	0	35	1
4	0	0	0	0	0	0	0
5	-	-	-	0	0	0	0
Total Lbs.	0	85	0	0	0	85	
Total Nos.	0	3	0	0	0		3
Nov. 8-9	24	0	0	0	0	24	1
10	0	0	0	0	24	24	1
11	0	0	0	0	0	0	0
12	-	-	-	0	0	0	0
Total Lbs.	24	0	0	0	24	48	
Total Nos.	1	0	0	0	1		2
Season Total Lbs.	39,378	3,922	42	127	280	43,749	
Season Total Nos.	1,466	149	2	5	11		1,633

Washington and Oregon green sturgeon landings (i
pounds) by zone by day from the late fall salmon gill net
fishery, September-November 1987.

Landing date	Zone					Total	
	1	2	3	4	5	Lbs.	No
Sep. 13-14	3,588	1,465	0	24	-	5,077	1
Total							
Lbs.	3,588	1,465	0	24	-	5,077	
Nos.	133	56	0	1	-		
Sep. 15-16	3,093	558	0	25	0	3,676	137
17	5,984	335	0	20	0	6,339	236
18	21,683	238	0	0	0	21,921	815
Total							
Lbs.	30,760	1,131	0	45	0	31,936	
Nos.	1,144	42	0	2	0		1,188
Sep. 20-21	333	83	19	0	150	585	22
22	448	50	23	0	61	582	21
23	296	49	0	0	0	345	13
24	140	96	0	0	0	236	10
25	138	0	0	0	0	138	5
Total							
Lbs.	1,355	278	42	0	211	1,886	
Nos.	50	11	2	0	8		71
Sep. 27-28	1,142	38	0	0	0	1,180	45
29	629	19	0	0	0	648	24
30	845	31	0	0	0	876	33
Oct. 1	21	0	0	58	0	79	3
2	0	30	0	0	0	30	1
Total							
Lbs.	2,637	118	0	58	0	2,813	
Nos.	99	5	0	2	0		106
Oct. 4-5	349	0	0	0	45	394	15
6	94	0	0	0	0	94	4
7	48	66	0	0	0	114	4
8	0	0	0	0	0	0	0
Total							
Lbs.	491	66	0	0	45	602	
Nos.	19	2	0	0	2		23

(Continued)

Table 6. Combined Washington and Oregon green sturgeon landings by zone by day from the late fall salmon gill net fishery, September-November 1987.

Landing date	Zone 1	2	3	4	5	Total
Sep. 13-14	49	26	0	1	0	76
Sep. 15-16	45	14	0	1	0	60
17	38	7	0	1	0	46
18	54	7	0	0	0	61
Total	137	28	0	2	0	167
Sep. 20-21	8	4	1	0	2	15
22	8	2	1	0	1	12
23	3	2	0	0	0	5
24	6	3	0	0	0	9
25	4	0	0	0	0	4
Total	29	11	2	0	3	45
Sep. 27-28	11	2	0	0	0	13
29	11	1	0	0	0	12
30	13	1	0	0	0	14
Oct. 1	1	0	0	1	0	2
2	0	1	0	0	0	1
Total	36	5	0	1	0	42
Oct. 4-5	9	0	0	0	1	10
6	2	0	0	0	0	2
7	2	1	0	0	0	3
8	0	0	0	0	0	0
Total	13	1	0	0	1	15

(Continued)

Table 6. Combined Washington and Oregon green sturgeon landings by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Total
Oct. 13-14	6	1	0	0	0	7
15	1	1	0	0	0	2
Total	7	2	0	0	0	9
Oct. 18-19	6	4	0	0	0	10
20	0	5	0	0	0	5
21	1	2	0	0	0	3
22	-	-	-	0	0	0
Total	7	11	0	0	0	18
Oct. 25-26	3	3	0	0	0	6
27	1	2	0	0	0	3
28	0	4	0	0	0	4
29	-	-	-	0	0	0
Total	4	9	0	0	0	13
Nov. 1-2	0	2	0	0	0	2
3	0	1	0	0	0	1
4	0	0	0	0	0	0
5	-	-	-	0	0	0
Total	0	3	0	0	0	3
Nov. 8-9	1	0	0	0	0	1
10	0	0	0	0	1	1
11	0	0	0	0	0	0
12	-	-	-	0	0	0
Total	1	0	0	0	1	2
Season Total	283	96	2	4	5	390

Table 7. Combined Washington and Oregon green sturgeon pounds per landing by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Average
Oct. 13-14	24	25	0	0	0	24
15	29	24	0	0	0	27
Average	25	25	0	0	0	25
Oct. 18-19	36	41	0	0	0	38
20	0	35	0	0	0	35
21	31	35	0	0	0	34
22	-	-	-	0	0	0
Average	35	37	0	0	0	36
Oct. 25-26	28	45	0	0	0	37
27	19	31	0	0	0	27
28	0	32	0	0	0	32
29	-	-	-	0	0	0
Average	26	36	0	0	0	33
Nov. 1-2	0	25	0	0	0	25
3	0	35	0	0	0	35
4	0	0	0	0	0	0
5	-	-	-	0	0	0
Average	0	28	0	0	0	28
Nov. 8-9	24	0	0	0	0	24
10	0	0	0	0	24	24
11	0	0	0	0	0	0
12	-	-	-	0	0	0
Average	24	0	0	0	24	24
Season Average	139	41	21	32	56	112

Table 8. Combined Washington and Oregon green sturgeon landings (in numbers) by zone by day from the late fall salmon gill net fishery, September-November 1987. (Continued)

Landing date	Zone 1	2	3	4	5	Total
Oct. 13-14	6	1	0	0	0	7
15	1	1	0	0	0	2
Total	7	2	0	0	0	9
Oct. 18-19	8	6	0	0	0	14
20	0	7	0	0	0	7
21	1	3	0	0	0	4
22	-	-	-	0	0	0
Total	9	16	0	0	0	25
Oct. 25-26	3	5	0	0	0	8
27	1	2	0	0	0	3
28	0	5	0	0	0	5
29	-	-	-	0	0	0
Total	4	12	0	0	0	16
Nov. 1-2	0	2	0	0	0	2
3	0	1	0	0	0	1
4	0	0	0	0	0	0
5	-	-	-	0	0	0
Total	0	3	0	0	0	3
Nov. 8-9	1	0	0	0	0	1
10	0	0	0	0	1	1
11	0	0	0	0	0	0
12	-	-	-	0	0	0
Total	1	0	0	0	1	2
Season Total	1,466	149	2	5	11	1,633

Table 9. White and green sturgeon landings by zone by state from the late fall salmon gill net fishery, September-November 1987.

State	Zone 1	2	3	4	5	Total
White Sturgeon						
Oregon						
Lbs.	7,002	10,441	8,612	10,577	53,000	89,632
Nos.	229	345	283	347	1,672	2,876
Del.	134	232	209	138	156	869
Washington						
Lbs.	7,063	15,789	6,514	7,228	2,093	38,687
Nos.	237	514	206	243	70	1,270
Del.	86	237	87	94	11	515
Season Total						
Lbs.	14,065	26,230	15,126	17,805	55,093	128,319
Nos.	466	859	489	590	1,742	4,146
Del.	220	469	296	232	167	1,384
Green Sturgeon						
Oregon						
Lbs.	11,901	1,044	23	49	139	13,156
Nos.	443	41	1	2	5	492
Del.	102	37	1	2	3	145
Washington						
Lbs.	27,477	2,878	19	78	141	30,593
Nos.	1,023	108	1	3	6	1,141
Del.	181	59	1	2	2	245
Season Total						
Lbs.	39,378	3,922	42	127	280	43,749
Nos.	1,466	149	2	5	11	1,633
Del.	283	96	2	4	5	390

Table Weekly sampling data summary for white and green sturgeon sampled from the late fall salmon gill net fishery, September-November 1987.

Landing date	No. Sampled		Sex Ratio	Avg Wt	Avg Length (cm)		No.	No.	No. Fresh
	Mark	Bio	M:F 1/	(lbs)	Total	Fork	Mature	Tagged	Tag Scars
White Sturgeon									
Sep. 13-14	61	43	74:26 (43)	31.2	131.2	117.1	0	1	0
15-18	69	39	49:51 (39)	29.2	120.5	116.9	0	2	0
20-25	200	35	54:46 (35)	27.6	128.6	114.4	1 (M)	9	0
27-Oct. 3	59	26	54:46 (26)	35.5	139.9	121.0	1 (F)	2	1
Oct. 4-8	6	6	67:33 (6)	31.4	132.8	116.3	0	1	0
13-15	3	3	33:67 (3)	22.0	119.7	108.3	0	0	0
18-22	4	4	50:50 (4)	29.7	129.0	117.0	0	0	0
25-29	46	33	45:55 (33)	31.1	130.9	118.1	0	1	1
Nov. 1-5	81	18	56:44 (18)	37.6	141.3	126.2	0	0	2
8-12	53	34	65:35 (34)	37.6	152.2	125.1	0	1	2
Season	582	241	57:43 (241)	32.1	133.9	118.9	2	17	6
Green Sturgeon									
Sep. 13-14	29	26	46:54 (26)	22.9	130.2	117.1	0	0	0
15-18	24	11	80:20 (10)	34.6	154.5	130.5	0	0	0
20-25	9	6	50:50 (6)	23.1	127.2	117.0	0	0	0
27-Oct. 3	8	8	57:43 (7)	33.1	149.0	128.9	0	0	0
Oct. 4-8	1	1	-	31.4	127.0	115.0	0	0	0
13-15	1	1	-	18.4	124.0	112.0	0	0	0
18-22	2	2	-	37.6	137.5	128.5	0	0	0
25-29	0	0	-	-	-	-	0	0	0
Nov. 1-5	1	1	-	16.2	120.0	109.0	0	0	0
8-12	0	0	-	-	-	-	0	0	0
Season	75	56	54:46 (54)	26.9	134.9	121.6	0	0	0

1/ Number in parentheses indicate number sexed.

Table 11. Total length frequencies of white sturgeon sampled from buyers during the late fall salmon gill net fishery, September-November 1987.

Total Length (cm)	Male	Females	Unknown	Total	Cum %
111	1	0	0	1	.4
112	1	0	0	1	.8
113	1	0	0	1	1.2
114	0	1	0	1	1.7
115	1	0	0	1	2.1
116	2	1	0	3	3.3
117	4	6	0	10	7.5
118	10	4	0	14	13.3
119	6	2	0	8	16.6
120	13	11	0	24	26.6
121	8	3	0	11	31.1
122	2	4	0	6	33.6
123	10	5	0	15	39.8
124	3	10	0	13	45.2
125	2	1	0	3	46.5
126	6	2	0	8	49.8
127	4	6	0	10	53.9
128	3	4	0	7	56.8
129	3	3	0	6	59.3
130	1	0	0	1	59.8
131	4	3	0	7	62.7
132	2	0	0	2	63.5
133	0	1	0	1	63.9
134	0	1	0	1	64.3
135	5	2	0	7	67.2
136	5	6	0	11	71.8
137	3	1	0	4	73.4
138	4	1	0	5	75.5
139	4	0	0	4	77.2
140	3	2	0	5	79.3
141	0	1	0	1	79.7
142	0	0	0	0	79.7
143	0	2	0	2	80.5
144	2	2	0	4	82.2
145	1	1	0	2	83.0
146	0	2	0	2	83.8
147	1	0	0	1	84.2
148	2	0	0	2	85.1
149	0	2	0	2	85.9
150	2	2	0	4	87.6
151	1	1	0	2	88.4

(Continued)

Table 13. Tagged sturgeon recovered from the late fall salmon gill net fishery, September-November 1987.

	In-sample	Voluntary 2/		
	Legal	Sublegal	Legal	Oversize
White Sturgeon				
Sample Size	582	-	-	-
No. Tags Recovered	17	31	28	0
Tag Scars 1/	6	-	-	-
Green Sturgeon				
Sample Size	75	-	-	-
No. Tags Recovered	0	0	1	0
Tag Scars 1/	0	-	-	-

1/ Missing tags.
2/ Voluntarily turned by fishermen or buyers.

Table 14. Summary of tagged sturgeon recovered from the late fall salmon gill net fishery, September-November 1987.

Location tagged	Tag year	Species	Number recovered
Dodson (May)	1987	white	1
Corbett (Apr)	1983	white	1
Corbett (Apr)	1985	white	2
Corbett (Apr)	1987	white	1
Mayger (Nov)	1983	white	1
Mayger (Sept)	1985	white	2
Mayger (Mar)	1986	white	2
Mayger (Sept)	1986	white	1
Mayger (Mar)	1987	white	2
Skamokawa (Mar, Apr, May)	1986	white	6
Woody Island (Apr)	1986	white	5
Woody Island (Apr)	1987	white	1
Estuary (June, Aug)	1985	white	4
Estuary (May, June)	1986	white	10
Estuary (May, June)	1987	white	38
Estuary (June)	1987	green	1

Table 15. Mark sample data for white sturgeon by zone from the late fall gill net fishery, September-November 1987.

Zone	Number					Sampling Rate	
	Total Catch	Mark Sampled	Tagged	Tag Scars	Mark Rate	Mark	Bio
1	466	78	3	0	3.8	16.7	9.9
2	859	55	0	0	0.0	6.4	3.5
3	489	39	2	0	5.1	8.0	6.5
4	590	31	2	0	6.5	5.3	1.4
5	1,742	379	10	6	4.2	21.8	7.2
All Zones	4,146	582	17	6	4.0	14.0	5.8