

SALMON TROLL INVESTIGATION

July and August, 1949

Tagging

With the advent of better weather and a few fish in July, the tagging program got under way. At Coos Bay and Astoria Ray Morgan, Eldon Korpela, and the author accompanied the salmon trollers and purchased salmon that were in good shape from the fishermen. The fish were measured when tagged, and the weight was calculated from the length-weight curve. The fishermen were paid accordingly, at the prevailing price per pound. One hundred sixteen salmon were tagged in this manner, 83 off the Columbia River and 33 off Coos Bay. Except for the necessity of being dependent on the fishermen and imposing on them, this method worked out quite well.

A small troller and crew (John Brooke and William Postles) were chartered for the summer at DePoe Bay. The foul weather and absence of fish in the early summer held up operations, but 201 tags were put out at DePoe Bay up to September 1. This would be the most satisfactory method of tagging if it weren't for the excessive cost which continues on even when there are no fish or the weather is too rough to fish.

A list of all tagged fish up to August 23 is included. In addition, 54 more (mostly silvers) have been tagged at DePoe Bay, but not included in this list. This brings the total to September 1 to 317 salmon tagged.

Besides tagging fish, data has been obtained on: the condition of the fish, lures used, depth taken, stomach contents, temperatures, gear selectivity, and other notes on the fishery.

One tag has been returned, a silver tagged August 6 at DePoe Bay. It was retaken 13 days later south of the Rockpile off Newport. Another small chinook tagged off Coos Bay in July, 1948 was taken off Newport in August, 1949. It had grown 9.5 centimeters, or roughly two pounds. Three California chinook tags have been recovered off the Oregon coast so far this year.

Sampling

Silver Salmon

This has been a rather unusual year for silvers. They were very scarce during June and early July, but began to appear during the last half of July, and suddenly the first of August a very large run appeared with exceptionally large fish. It was said to be the largest run in ten years off Newport, and the trollers reaped a good harvest. This helped to bring up a poor year to near normal. Figure One, a graph of the weekly average weights, shows the situation. Around the middle of July the run of large fish appeared to bring the average weights sharply up, exceeding by half a pound the previous two years at the same time. After ten days of good fishing the run dropped off (fished out?), and a new run of smaller fish apparently came in from the south. It is suggested that this year the silvers remained far offshore, feeding in the warmer water for a longer time, thus growing to a larger size before coming inshore to be taken by the trollers. The steeper slope for the 1949 line could be caused by a much faster rate of growth this year, or perhaps the movement of the larger fish in increasing numbers into the fishery could cause such a phenomena. At any rate it is quite different from the previous two years. Future sampling will tell whether this is a common or infrequent occurrence.

Some more oceanographic work should be done to find more about the temperature relationship of salmon, which may lead to an answer to where the salmon are when they are not being taken by the fishery. Also, more information

on their migrations and growth should be obtained. Many of the large silvers had developed secondary sexual characteristics by the first of August, which again may be related to water temperature, and perhaps may mean an early run of silvers in some rivers.

The length-weight relationships have not been tabulated, but the silvers this year seem to be fatter and in better condition than last year.

In looking for marked silvers, 3,158 have been examined at Astoria during July and August. The following marks have been found: Adipose--5; Right Ventral--1; Left Pectoral--1; Left Ventral--1; Adipose and Left Ventral--1. At Coos Bay, 1,346 have been examined and one right ventral was found missing.

The Newport area sampling has not been completely gathered together, but it is not expected to change the picture to any extent, and will be reported upon later.

Chinook Salmon

As usual the large chinooks began to congregate off the mouth of the Columbia during August, although not in their usual numbers. They averaged 10.8 pounds at Astoria during July and 14.5 pounds during August. At Coos Bay they averaged 11.4 pounds in July and 11.2 pounds in August.

Fifteen hundred seventy-nine chinooks were examined at Coos Bay during the period and one mark was found, a left pectoral. At Astoria, 1,640 have been examined and the following marks found: Adipose--1; Adipose and Left Ventral--2; Adipose and Right Ventral--1. It will be necessary to read their scales before attempting to assign them to their respective experiments.

Numerous scale samples and length-weight relationships are constantly being taken to be studied during the winter.

Jack Van Hying,
Aquatic Biologist.

ASTORIA TAGGING 1949

TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	
<u>6/24/49</u> Astoria series, white with blue blanks.										
C-702	Silver	1302	60 cm.	2	<u>7/13/49</u>	C-737	Chinook	1301	57 cm.	3
703	"	1302	51	2		738	Silver	1301	61	3
<u>7/1/49</u>										
C-704	Silver	1301	61	1	739	Chinook	1301	44	1	
705	"	1301	57	3	740	Silver	1262	59	2	
706	Chinook	1301	63	2	741	Silver	1262	51	1	
707	"	1301	70	1	742	Chinook	1262	69	3	
708	Silver	1301	57	1	<u>7/14/49</u>					
709	"	1301	63	1	C-743	Chinook	1262	48	1	
710	Chinook	1301	49	1	744	Silver	1256	58	3	
<u>7/6/49</u>										
C-711	Chinook	1301	62	1	746	Chinook	1256	58	1	
712	"	1301	65	1	<u>7/15/49</u>					
713	Silver	1301	65	3	C-745	Silver	1262	57	2	
714	Chinook	1301	62	1	747	Silver	1262	54	1	
715	"	1301	45	3	748	Chinook	1262	69	1	
716	Silver	1301	61	1	749	"	1262	44	1	
717	Chinook	1262	45	1	750	Sthd	1301	70	1	
718	Silver	1301	58	?	<u>7/21/49</u>					
719	Chinook	1262	66	1	C-753	Silver	1301	62	2	
721	Chinook	1301	67	1	754	Silver	1301	65	2	
722	"	1301	45	2	755	"	1301	51	1	
723	Chinook	1307	50	1	756	Chinook	1301	45	3	
724	"	1307	55	1	757	"	1301	52	1	
<u>7/7/49</u>										
C-726	Chinook	1307	?	1	758	Silver	1256	65	3	
727	"	1301	62	1	<u>7/22/49</u>					
728	"	1301	67	1	C-760	Chinook	1307	42	1	
729	"	1301	58	1	761	Silver	1307	65	2	
730	Silver	1301	60	1	762	"	1307	52	1	
731	"	1301	62	2	763	Chinook	1307	44	1	
732	Chinook	1301	41	1	764	Silver	1307	?	3	
733	Silver	1301	60	2	765	Chinook	1307	42	3	
734	Chinook	1301	65	1	766	"	1307	41	1	
735	Silver	1301	63	1	767	Silver	1307	55	3	
736	Chinook	1301	54	3	768	Chinook	1307	37	2	
					769	"	1307	36	1	
					770	"	1307	51	1	
					771	"	1307	41	1	

TROLL TAGGING CONT.

Astoria & DePoe Bay Areas.

-2-

TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	
<u>7/28/49</u> Astoria series, white with blue blanks.										
C-773	Chinook	1307	59 cm.	1	<u>7/27/49</u>	C-88	Silver	1221	64 cm.	1
774	"	1307	50	1	89	"	1221	72	1	
775	"	1307	44	3	90	"	1221	73	3	
776	"	1307	58	3	91	"	1221	70	3	
777	"	1307	43	1	92	"	1221	73	1	
778	"	1307	54	1	93	"	1221	52	1	
779	Silver	1307	69	2	94	"	1221	77	1	
780	"	1307	68	2	95	"	1221	65	1	
781	Chinook	1307	51	1	96	"	1221	59	1	
782	Silver	1307	64	3	97	"	1221	57	1	
783	"	1307	66	1						
<u>8/5/49</u>					<u>8/4/49</u>					
C-785	Chinook	1307	54	1	C-98	Silver	1221	55	1	
786	"	1307	49	1	99	"	1221	67	1	
787	"	1307	52	1	101	"	1221	65	1	
788	"	1307	39	1	102	"	1221	66	1	
789	"	1307	51	2	103	"	1221	74	1	
790	"	1307	47	3	104	"	1221	71	1	
<u>8/7/49</u> "P" series.					105	"	1221	68	1	
P-212	Chinook	1307	?	1	106	"	1221	58	3	
					107	"	1221	74	1	
<u>DEPOE BAY TAGGING 1949</u>										
<u>7/3/49</u> Astoria series, white with white blanks.					<u>8/5/49</u>					
C-74	Silver	1226	52	1	C-109	Silver	1221	72	1	
76	"	1226	68	1	110	"	1221	68	3	
77	"	1226	69	1	111	"	1221	71	1	
<u>7/4/49</u>					112	"	1221	54	1	
C-78	Silver	1226	54	3	113	"	1221	63	1	
79	Chinook	1226	52	1	114	"	1221	64	1	
<u>7/21/49</u>					115	"	1221	67	1	
C-80	Silver	1226	67	1	116	"	1221	64	1	
82	"	1221	72	1	117	"	1221	65	1	
83	"	1221	70	1	118	"	1221	64	1	
<u>7/22/49</u>					119	"	1221	64	1	
C-84	Chinook	1221	47	1	120	"	1221	58	1	
85	Silver	1221	59	1	121	"	1221	72	1	
86	"	1221	54	2	124	"	1221	67	1	
87	"	1221	64	1	125	"	1221	56	1	

TROLL TAGGING CONT.

-3-

DePoe Bay Area.

TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION
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8/6/49 DePoe Bay Tagging Cont. Astoria series, white with white blanks.

C-122	Silver	1221	69	cm.	1
123	"	1221	66		1
126	"	1221	63		1
127	"	1221	64		1
128	"	1221	68		1
129	"	1221	57		3
130	"	1221	72		1
132	"	1221	65		3
133	Chinook	1221	43		2
134	Silver	1221	65		2
135	"	1221	70		1
136	"	1221	70		1
137	"	1221	60		2
138	"	1221	68		2
139	"	1221	64		1
140	"	1221	65		1
142	"	1221	63		3
143	"	1221	66		1
144	"	1221	64		3
131	"	1221	77		1

8/7/49

C-145 Silver 1221 78 3

8/12/49

C-146	Silver	1221	49		2
147	"	1221	66		2
148	"	1221	59		1
149	"	1226	61		1
150	"	1226	72		1
151	"	1226	66		2
152	"	1226	68		1
153	Chinook	1226	46		2
154	Silver	1226	69		3
155	"	1226	65		1
156	"	1226	76		2
157	"	1221	61		1
158	"	1221	72		2

8/13/49

C-159	Silver	1221	63		3
160	"	1221	75		2
161	"	1221	58		2
162	"	1221	71		1
163	"	1221	67		1
164	"	1226	55		1
165	"	1226	71		3

8/13/49 cont.

C-166	Silver	1226	62	cm.	1
167	"	1226	64		3
168	"	1226	59		1
169	"	1226	66		1
170	"	1226	60		1
171	"	1226	65		3
172	"	1226	71		1

8/18/49

C-173	Silver	1221	68		1
174	"	1221	57		1
175	"	1221	62		1

8/19/49

C-176	Silver	1221	67		2
177	"	1226	65		2
178	"	1226	66		3
179	"	1226	65		1
180	"	1226	53		3
181	"	1226	61		1
182	"	1226	60		1
183	"	1226	66		1
184	"	1226	58		2
185	"	1226	70		3
186	Chinook	1221	46		1
187	Silver	1221	66		2
188	"	1221	60		1
189	"	1221	54		2
190	"	1221	51		1
191	"	1221	76		2
192	"	1221	69		1
193	"	1221	65		2
194	"	1221	49		1
195	"	1221	68		2
196	"	1221	66		1
197	"	1221	52		3
198	"	1221	58		1
199	"	1221	66		1
200	"	1221	60		1
201	"	1221	76		1
202	"	1226	65		1
203	"	1226	78		1
204	"	1226	61		2

TROLL TAGGING CONT.

-4-

DePoe Bay & Coos Bay Areas.

TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION	TAG NO. & DATE	SPECIES	AREA TAGGED	FORK LENGTH	CON- DITION
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8/22/49 DePoe Bay Tagging Cont. Astoria series, white with white blanks.

C-205	Silver	1221	62 cm.	1
206	"	1221	59	1
207	Chinook	1221	47	1

8/23/49

C-208	Silver	1221	60	2
209	"	1221	52	1
210	"	1221	60	2
211	"	1221	64	1
212	"	1221	54	1
213	"	1221	58	1
214	"	1221	51	1
215	"	1221	54	1
216	"	1221	69	2
217	"	1221	65	3
218	"	1221	61	1
219	"	1221	53	1
220	"	1221	70	1
221	"	1221	68	2
222	"	1221	66	1
223	"	1221	68	1
224	"	1221	58	1
225	"	1221	63	1

8/16/49 Portland Series, yellow/yellow

535	Silver	1143	39 cm.	1
536	Chinook	1143	40	1
537	"	1143	43	1
538	Silver	1143	56	1
539	Chinook	1143	44	1
540	"	1143	44	1
541	"	1143	45	2
542	"	1143	43	3
543	"	1143	43	2
544	"	1143	44	1
545	"	1143	44	1
546	"	1143	48	1
548	"	1143	43	1
549	"	1143	46	1
550	"	1143	38	1
551	Silver	1143	43	1
552	"	1143	61	3
553	"	1143	59	1
554	"	1143	61	3
555	Chinook	1143	42	1
556	"	1143	44	1

COOS BAY TAGGING 1949 Portland series, yellow with yellow blanks.

7/20/49

511-512	Chinook	1143	47	1
513-514	"	1143	58	1

7/27/49

515-516	Chinook	1143	71	1
517-518	Silver	1143	47	3
519-520	Chinook	1143	62	1
521-522	Chinook	1143	47	3
523-524	"	1149	71	1
525-526	"	1149	58	1
527-528	Silver	1149	40	3
529-530	Chinook	1149	52	1
531-532	Silver	1149	62	1
533-534	Chinook	1143	68	1

TOTALS TO AUGUST 23, 1949

	C.	S.	Sth.	Total
Astoria	51	31	1	83
DePoe Bay	6	141		147
Coos Bay	<u>24</u>	<u>9</u>		<u>33</u>
TOTALS	81	181	1	263

