

## SEASONAL REPORT TROLL SALMON INVESTIGATION, 1950

### The 1950 Troll Season

A poorer than average season has been saved somewhat by better than average landings of large, high-quality silver salmon during August, September, and early October. Trolling for chinook salmon has, on the whole, been poor, and the landings have run to small, immature fish.

Stormy weather prohibited any extensive fishing before April 1. At this time there were fair numbers of chinook salmon off the mouth of the Columbia, but few elsewhere on the coast. As a result, a large fleet gathered. Although the fish were none too abundant, this fishing was quite profitable, due to the extremely high prices being paid at the time. In May, the spring run of chinooks entered the Columbia, leaving only a scattering of immature fish on the trolling grounds. In late May and early June, a group of chinooks appeared off Grays Harbor, considerable numbers of which were landed at Astoria. During June and July, considerable numbers of large chinooks were taken from the vicinity of Stonewall Bank, known as "the Rockpile". These fish were largely responsible for the high average weight of the Newport chinooks sampled in June and July, and for the large mode around 83 centimeters in the Newport length frequencies for this period. Boats fishing off the Columbia continued to take mainly immature fish, and landings from other areas of the coast included a mixture of size and age groups.

The silver season opened on June 15. At this time, silvers were not abundant, but were present in fair numbers all along the coast. During July, the greater portion of the trolling fleet turned to the more profitable albacore fishery. The few boats that continued to fish off the Columbia brought in mainly silvers. At Newport and Coos Bay, both chinook and silvers

were taken in fair numbers by those boats that continued to troll for salmon.

Large concentrations of mature chinook salmon usually appear off the mouth of the Columbia during August. This year, there were fair numbers of these fish present on the trolling grounds for a short period. However, the run was rather poor, and several days of bad weather during the height of the season prevented the troll fishermen from utilizing these fish to the usual extent. Silvers, however, were quite abundant all along the coast after the second week of August, and especially so in the Newport and Columbia River areas. Silver fishing remained very good through the last three weeks of August, and into the first week of September.

Fishing during September and October was frequently interrupted by stormy weather. On September 11 to 14, fishermen reported great concentrations of herring and pilchard off Heceta Head, together with large numbers of salmon, for the most part immature chinooks. Later in the month, silvers began to concentrate around the mouth of the Nehalem River, and several of the larger Astoria boats brought back extremely good catches from this area. On October 4, this fishing was ended by a series of storms. Astoria and Coos Bay boats continued to fish sporadically until October 24, but fish were rather scarce during these last three weeks. A series of storms beginning on October 24 ended the season's troll fishing.

#### Sampling

General -- Good samples were obtained of the troll chinook landings at Astoria during April and May. Coast landings during these two months were negligible, so these samples may be regarded as representative of the

catch. During June, July, and August good samples were obtained of the landings at Astoria, Newport, and Coos Bay. The September and October landings at Astoria were adequately sampled, but the data from the other two ports are rather incomplete, since there were no troll salmon men stationed at these two ports during most of this period. Information from the log books, when analyzed, will do much toward filling this gap in the sampling data.

In June, Robert Heg, Harry Moore, and Ray Reerink reported for temporary work at Astoria, Newport, and Coos Bay, respectively. In September, Jack Van Hyning, who was in charge of this investigation, left on an extended leave of absence, and George Harry assumed the responsibility for the project. Robert Heg continued the season's work at Astoria, and Messrs. Moore and Reerink ended their temporary employment recently.

Chinook samples -- Good samples were obtained of the chinook catch throughout the entire season, with the exception of the group of fish that appeared off Heceta Head in mid-September. It was possible only to examine some of these fish for marks, and to obtain a few scale samples.

Table 1 gives a summary of the data taken on average weight, catch per boat per day, mark ratio, and the number of scale samples, length-weight samples and length-frequency samples taken.

Figure 1 shows the length frequency distribution of troll chinook samples taken at each port for each month. Figure 2 shows the average weight of chinook salmon by months for each port. In following the course of the 1950 troll chinook season, these two graphs can hardly be separated. The April landings at Astoria contained a high proportion of small, immature fish,

with additional numbers of maturing fish of the spring run, as shown by the modes at 66, 70, 77, and 90 centimeters. In May, most of the spring run had entered the river. This is reflected in the extremely high proportion of small fish, with the mode at 62 centimeters, and in the drop in average weight to 8.6 pounds. During June, the situation remained somewhat the same in this area, except that considerable numbers of larger fish were being brought in from the Washington coast. During July, the size composition was similar to that in May, except that the mode for the small fish was now at 63 centimeters and a scattering of very large fish had moved into the area.

In June, when intensive fishing began off the Oregon coast, Newport and Coos Bay landings included, in addition to the small fish, considerable numbers of larger fish of older age groups, as seen in the modes around 83 centimeters at both Newport and Coos Bay. This is especially true at Newport, where boats fishing at the Rockpile caught mainly these larger fish. The same situation held true in July, although larger fish formed a smaller proportion of the Newport landings than in June, and the average weight fell off somewhat, as would be expected from the length frequencies.

During August, large fish became less abundant at Newport and Coos Bay, and appeared in greater numbers in the Astoria landings, although not in their usual abundance. This change can be seen in both the length frequencies and average weights.

This has been the usual situation along the Oregon coast during the years that samples have been taken. It has been suggested that the large maturing fish, present off the coast during June and July, may move up to the Columbia during August, prior to entering the river. This year's sampling

data strongly point to such a movement. The relative decrease in the numbers of large fish along the coast seems to coincide well with their appearance off the Columbia. While the results of the season's tagging give little support to this hypothesis, they by no means eliminate it. (Table 4). It must be remembered that there were relatively few large chinooks tagged during June and July, and that the large numbers of tagged chinooks that showed up in California streams were, for the most part, tagged in August, at a time when the bulk of the Columbia River fish would have been gone from the tagging areas, even if they had been present in large numbers in June and July. It is also true, of course, that a change in size composition would be likely to occur, whether the bulk of the Oregon coast fish went to the Columbia, or to other large rivers, such as the Sacramento and the Klamath. The only solution to the problem would appear to be tagging of large, as well as small chinooks off the Oregon coast during June and July.

In September and October, large chinooks were almost uniformly scarce in all areas, and the average weights correspondingly low. A new mode appeared in the Astoria samples for this period, at 62 centimeters. This very likely represents a new year class entering the fishery.

Figure 3 shows a comparison of average weights for the past four years. The poor August fishing off the Columbia River is reflected in the low average weight for that month, lower than July for the first time since sampling was initiated. It is to be noted that the average weights of the August landings have become progressively lower with each year since 1947. Figure 4 shows a comparison of the length frequencies of the chinook landings sampled in 1947, 1948, 1949 and 1950. The samples for the last two years are not weighted by landings, and give only a rough approximation of the true situation.

Although a great deal of effort was expended in sampling for marked chinooks during the 1950 season, the results were very disappointing. Out of 12,489 fish examined, only one mark was found. This was an anal-right ventral fin clip, caught off the Columbia River on August 7. Scale readings indicated that it was one of a group released in the Willamette River in October 1948. In addition, three fish were found with single fins missing. A total of 633,000 marked fish of the 2+ and 3+ age groups were theoretically available, as compared with 328,000 in 1949, when 7,173 fish were examined and three marks found.

A total of 2818 chinook scales were taken, and the same number of lengths and weights. These data have not yet been analyzed, but should yield a great deal of information on the age composition of this year's catch and on the length-weight relationship in chinook salmon. A system was devised for classifying the various spot patterns occurring in chinook salmon. The type of spotting was jotted down on a large number of scale envelopes, and it will be interesting to see whether this system will indicate anything concerning the racial origin or life history of the fish.

The catch per boat per day, listed in Table 1, gives a rough indication of the catch per unit of effort for each month. When the log book data are completely analyzed, a much more accurate measure of this statistic will be available.

#### Silver Samples

Samples were obtained of the silver salmon landings in all three areas for June, July and August. September samples were obtained at Astoria and Coos Bay, and October samples at Astoria. Table 2 summarizes all data taken

on average weights, catch per boat per day, mark ratio and the number of length-weight and length frequency samples taken.

Figure <sup>5</sup> shows the length frequency of silver salmon for each month, and Figure <sup>6</sup>, the average weight for each port by week. Figure <sup>7</sup> gives a comparison of the average weight by week for the past four years. This year's silver salmon have averaged much larger than in any previous year in which samples were taken. This difference was not too apparent in June and July, but in August, when silvers began to appear on the trolling grounds in large numbers, perhaps from some offshore or southern feeding ground, the average weight rapidly shot up. It is worth noting that this change occurred first in the Coos Bay area. The August and September fish were large, and those taken in October consistently averaged around ten pounds, dressed weight. Samples were taken only of the Astoria landings for this month, but examination of log books shows that this held true for the entire Oregon coast. The large size of the 1950 fish is extremely interesting, since these fish are for the most part the progeny of the 1947 spawning run, and the 1947 fish were rather small. This would indicate that their large size is probably due to some environmental factor, rather than to heredity. Silver salmon landings have not been sampled for enough years to determine whether this year's fish are actually unusually large. Some of the fishermen are of the opinion that the fish taken in the past three years were unusually small. At any rate, it is apparent that these fish vary greatly in size from year to year.

In 1950, 11,027 silvers were examined for fin clips. A total of 16 fish were found with one fin or both ventral fins missing. Since no silvers of the 1947 brood year were marked, this information sheds a great deal of

light on the natural occurrence of marks in silver salmon. Table 3 gives a comparison of missing fins found in the samples for 1948, 1949, and 1950. The 1950 data were found to be similar to those for the other two years, except that there were fewer fish found with the adipose fin missing.

A total of 798 silver lengths and weights were taken. These data have not yet been analyzed, but should yield some good information on the condition of this year's fish, and on any seasonal variation in the length-weight relationship. Scales were also taken from a few fish in the extreme size ranges.

The observations on catch per boat per day, listed in Table 2, give a rough indication of the catch per unit of effort. It can be seen that by far the best fishing for silvers occurred during August, at Newport and off the Columbia River. The relatively high catch per boat per day for Astoria in October, was largely caused by the good fishing off the mouth of the Nehalem River during the first few days of the month.

#### Tagging

More fish were tagged in 1950 than in any previous year. As a result, a greater number of recoveries have been obtained, and much has been learned about the migrations and origin of the salmon off the Oregon coast. A total of 254 chinooks and 530 silvers have been tagged during the 1950 season. A total of 15 chinooks and 25 silvers from this group have been recovered. In addition, four chinook salmon, tagged in 1949 and one tagged in 1948 have been retaken. Tagging and recovery data for the 1950 season are summarized in Tables 4, 5, and 6.

Fifty-one small chinooks were tagged off the Columbia River during June and July. To date, no recoveries have been obtained from this group of fish.



Fifty-five silvers were tagged in the same area during the same period. Of these, five have been recovered, one from off the Columbia River, one from the lower Columbia, one from the Willapa River, and one from the Fraser River. During these same two months, 50 chinooks, predominantly small, were tagged in the Coos Bay area. None of these fish have been recovered. Of the 136 silvers tagged in the Coos Bay area during this period, nine have been recovered; one in the troll fishery off Coos Bay; one off Cape Falcon; one off the northern Washington coast; one in the Columbia River; three in Oregon coastal rivers, north of Coos Bay; one in the Willapa River; and one reported as a chum salmon in the Fraser River.

During the first week of July, nine large chinooks, five small chinooks and 13 silvers were tagged off Heceta Head. Of this group, two large chinooks were recovered, one off Golden Gate on September 20, and one in the Sacramento River on October 12. During the first week of August in this same area, 51 chinooks and 68 silvers were tagged. Seven chinooks and three silvers from this group were recovered. Of the seven chinooks, three were recovered in the Columbia River, two in the Sacramento River and two elsewhere in California. Of the three silvers, one was recovered off the Oregon coast, north of the point of tagging, one off the Washington coast, and one in Puget Sound.

During this same week, 61 chinooks and 94 silvers were tagged off Coos Bay and Bandon. Six chinooks from this group were recovered, all from California streams. Two of the silvers have been recovered, one from the Columbia River and one from the Fraser.

During the last week of August and the first week of September, 91 silvers and one large chinook were tagged off Newport. Two silvers from this group were recovered in the Columbia River; one was recovered at Glen Valley, B. C.;

one was reported as a chum salmon in the Frazer River.

During September and October, 20 chinooks, of which 19 were small, and 29 silvers, of which four were small second-year fish, were tagged off the Columbia River. One silver, tagged on September 28, was recovered in the Columbia River, three days later. One large silver, tagged on October 24, was recovered in the Columbia River on November 20.

The 1950 tag recoveries indicate that chinooks from California streams play a much more important part in the Oregon troll fishery than was previously thought. Thus far, all recoveries of chinooks tagged in the Coos Bay area in 1950 have been from California streams. Previous tagging in this area resulted in three recoveries of immature chinooks in the troll fishery north of Coos Bay, and of one "jack" in the Sixes River. Two chinooks tagged in this area in 1949 were recovered in 1950, one off the California coast and one in the Sacramento River. Were it not for the fact that few large chinooks have been tagged in this area in June and July, it would be safe to say that the bulk of the chinook salmon taken in this area are from California streams.

The recoveries obtained from chinooks tagged off Neceta Head indicate a mixture of California and Columbia River fish. These are the first recoveries ever obtained from the tagging of chinook salmon off the central Oregon coast, and much more tagging needs to be done before even tentative conclusions can be drawn about the chinooks in this area.

Thus far, there have been no recoveries from the numerous small chinooks tagged off the Columbia River and in the Coos Bay area during June and July. Much valuable information is anticipated from this tagging.

The silver salmon recoveries are following the same pattern as in previous years. Not one of the fish recovered so far this season has been retaken south of the point of tagging. This merely adds to the existing

evidence that the silver salmon taken off the Oregon coast almost invariably make a southerly feeding migration, and return north to spawn.

The 1950 tagging results have been very encouraging. However, it is becoming increasingly obvious that large chinooks will have to be tagged during June and July in future years. This tagging will undoubtedly be expensive, but the results should be worth it. For instance, the results might have been very enlightening if some of the large chinooks that were present at the Rockpile this June and July had been tagged.

#### Log Books

Early in the season, a total of 24 log books were distributed to interested fishermen. Space was provided for a daily record of the number of hooks fished, hours fished, number of silver and chinook salmon kept, number released and pounds delivered, pounds of tuna and miscellaneous fish taken, and remarks on weather and fishing conditions. Most of the books have now been collected, and are being returned to the fishermen as soon as they are copied. About half of the logs thus far examined contain an excellent record of the season's fishing activities. Some of the others give an incomplete record, and a few were not kept at all. When fully analyzed, these books will yield a vast amount of very valuable information on this year's troll season. Not only will good data on the catch per unit of effort be available for the first time, but the record of average weights and fishing conditions will provide a valuable supplement to the season's sampling data.

#### Stomach Samples

A large number of stomach samples were obtained, from fish kept on tagging trips, and by accompanying boats engaged in the sport troll fishery off Newport. These samples have been analyzed and will be the subject of a separate report.

### Round and Dressed Weights

In 1948 and 1949, a few samples of round and dressed weights of chinook and silver salmon were taken. In 1950 a large number of these samples were obtained from silver salmon taken in the sport troll fishery. A few samples from chinook salmon were also obtained. While time has not yet allowed a really thorough analysis of these data, Tables 7 and 8 summarize what has been accomplished to date. It would appear from these data that large fish of both species dress out higher than small fish, and that male silver salmon dress out somewhat higher than females.

The overall growth of the fish seems to be more important in changing the relationship between round and dressed weight than is the increase in gonad size as the fish mature.

### Work Pending

A vast amount of work remains to be done before the 1950 troll salmon data are complete. There are still a large number of scales to mount and read, the age composition of the 1949 and 1950 troll catches to compute, a report to complete on the season's stomach samples, an analysis of the season's length-weight data, and a more complete analysis of the round and dressed weight data.

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Table 1. Troll Chinook Sampling - 1950 - April through October

Area	Month	Av. Weights			Mark Ratio		Catch per Day				
		No. Fish	Tot. Wt.	Av. Wt.	No. Ex'd	Marks Found	No. L.F	No. L.W	Fish	Lbs.	
Col. River	<u>April</u>	1312	13154	10.0	2098	2 Ad. 1 BV	1300	308			
Coos Bay		7	88	12.6			7	7			
Total---		Single Clips				2105	3	1307	315		
Col. River	<u>May</u>	433	3747	8.6	818	0	746	216			
Coos Bay		10	112	11.2	10	0	10	10			
Total---						828	0	756	226		
Col. River	<u>June</u>	910	9654	10.6	1018	1 RV	637	269	6	63	
Newport		1429	20447	14.3	2020	0	574	379	13	192	
Coos Bay		605	6540	10.8	579	0	706	284	16	169	
Total---		Single Clips				3617	1	1917	932		
		Weighted Ave. ---			12.7						
Col. River	<u>July</u>	154	1385	9.0	375	0	288	217	3	32	
Newport		70	956	13.7	1004	0	185	38	3	36	
Coos Bay		277	3171	11.4	277	0	536	282	7	76	
Total---		Weighted Ave. ---			12.1	1656	0	1009	537		
		Single Clips									
Col. River	<u>August</u>	269	3077	11.4	3151	1 An RV 1 BV	690	295	4	47	
Newport		164	1873	11.4	381	0	167	39	4	40	
Coos Bay		103	1049	10.2	103	0	272	193	5	55	
Total---		Single Clips				3651	1	1129	527		
		Marks				3651	1				
Col. River	<u>September</u>	126	1203	9.5	312	0	185	52	6	57	
Newport					239	1 RV		43			
Coos Bay							234	107			
Total---					551	1	419	202			
Col. River	<u>October</u>	36	343	9.5	81	0	81		1	9	
Totals---						An RV	---	12489	-	1	
						RV	-	6244	-	1	
						BV	-	6244	-	1	
						Ad.	-	6244	-	1	

Table 2. Silvers - 1950 Season - Sampling Data

Area	Month	Av. Weights			Mark Ratio		Catch per Day			
		No. Fish	Tot. Wt.	Av. Wt.	No. Ex'd	Marks Found	No. L.F	No. L.W	Fish	Lbs.
	<u>June</u>									
Col. River		194	952	4.9	528	0	475	34	10	49
Newport		490	2621	5.4	490	1 BV	329	79	6	32
Coos Bay		158	926	5.9	160	0	250	84	6	33
Total---		Single Clips			1178	1	1054	197		
	<u>July</u>									
Col. River		273	1571	5.7	1624	0	1488	100	14	81
Newport		216	1339	6.2	216	0	345		8	51
Coos Bay		464	3367	7.3	442	1 RV	415	92	11	80
Total---					2282	1	2248	192		
	<u>August</u>									
Col. River		1053	9408	8.9	2114	2 RP 1 LP	1275	65	52	420
Newport		2437	19185	7.9	3291	2 BV 1 RP	311	94	59	467
Coos Bay		164	1322	8.1	164	0	513	151	9	74
Total---					5569	6	2099	310		
	<u>September</u>									
Col. River		382	3556	9.3	572	1 Ad.	440	3	18	169
Coos Bay		14	128		332	0	332	53		
Total---					904	1	772	56		
	<u>October</u>									
Col. River		602	6081	10.1	1099	3 RP 2 LP 1 LV 1 BV	439	43	19	191
Total---					1099	7	439	43		

Totals - RP 1838 - 1  
 LP 3676 - 1  
 RV 11027 - 1  
 LV 11027 - 1  
 BV 2757 - 1  
 Ad 11027 - 1

Table 3. Single Clips - Silvers

No. Examined	<u>1948</u>	<u>1949</u>	<u>1950</u>	<u>Total</u>
RP*	30183	11385	11072	52640
LP*	8 (7)	2	6	16
BP	3 (2)	1	3	7
RV*	1	0	0	1
LV*	13 (6)	10 (6)	5 (1)	28 (13)
BV	15 (8)	6 (2)	5 (1)	26 (11)
Ad.	7	4	4	15
D.	11	10	1	22
An	1	0	0	1
	0	0	0	0

\* Figures for right and left ventral and pectoral fins include fish having both ventrals or both pectorals missing.

Table 4. Chinook Tag Recoveries - 1950

Released						Recovered		Sea	
Tag. No.	Date	Location Tagged	Cond.	Date-1950	Location	Days Out	Migration Miles	Growth	
<u>1948</u>									
B-641	July 27	Off Port Orford	1	June 21	Near Farallone Islands	694	S-290		
<u>1949</u>									
C-728	July 7	Off Gearhart	1	June 25	Umatilla	353	N-135		
F-534	July 27	Off Coos Bay	1	Sept. 22	Sacramento River	422	S-360		
F-545	Aug. 16	" " "	1	Aug. 1	2 mi. S. of Trinidad Hd	350	S-105	22 cm.	
C-792	Sept. 20	Off Nehalem River	1	May 2	Ucluelet B. C.	224	N-200		
<u>1950</u>									
R-11	July 7	Off Heceta Hd.	1	Oct. 12	Sacramento River	97	S-410		
R- 7	July 7	" " "	1	Sept. 20	Off Golden Gate	75	S-370		
R-37	Aug. 3	Heceta Hd-Siltcoos R.	1	Aug. 28	Off Fort Bragg, Cal.	25	S-	0	
R-85	Aug. 4	" " " "	2	Sept. 12	Columbia River	39	N-130		
R-86	Aug. 4	" " " "	1	Oct. 17	Sacramento River	73	S-410		
R-127	Aug. 5	Off Heceta Hd.	1	?	Lower Columbia		N-150	3 cm.	
R-128	Aug. 5	" " "	1	Sept. 13	Galilo Falls	39	N-150		
R-140	Aug. 6	" " "	1	Oct.	Redwood Creek, Cal.		S-170		
R-158	Aug. 6	" " "	1	Sept. 10-16	Carquinez Strait, Cal.	35-41	S-400		
A-656	Aug. 3	Off Coos Bay	1	Oct. 19	Eel River, Cal.	77	S-160		
A-665	Aug. 4	Off Bandon	1	Sept. 6	Klamath R., Cal.	34	S-100		
A-691	Aug. 5	" "	1	Aug. 24	(mouth) " "	19	S-100		
R-486	Aug. 7	" "	1	Oct. 10	(upper) " "	64	S-100	0	
R-450	" "	" "	1	Oct. 5	Redwood Creek, Cal.	59	S-105		
R-448	" "	" "	1	Oct. 10	Eel River, Cal.	64	S-145		



Table 5. Silver Tag Recoveries - 1950

Released				Recovered				Sea
Tag. No.	Date 1950	Location Tagged	Cond.	Date 1950	Location	Days Out	Migration (miles)	Growth
C-813	June 20	Off Columbia River	2	Sept. 3	Off Columbia River	76	0	3 cm.
C-908	July 17	" " "	1	Oct. 20	Lower Columbia River	95	0	
C-910	July 17	" " "	1	Oct. 2	Fraser River, B. C.	77	N 240	
C-912	July 17	" " "	1	Oct. 24	Willapa River, Wash.	99	N 30	
C-939	July 26	Off Gearhart Beach	1	Sept. 2	Fraser River, B. C.	37	N 240	
C-985	Oct. 24	Off Columbia	1	Nov. 20	Lower Columbia River	27	0	
C-956	Sept. 28	Off Cannon Beach	2	Oct. 1	" " "	3		
R-55	Aug. 4	Siltcoos R.-Haceta Hd.	2	Sept. 16	Off Willapa Bay	43	N 150	
R-91	Aug. 4	" " "	1	Sept. 18	Off Everett, Wash.	45	N	
R-93	Aug. 4	" " "	2	Sept. 12	Off Depoe Bay	39	N 60	
R-234	Sept. 1	Off Newport	?	Oct. 12	Fraser R. (Reported as, Glen Valley, B. C.)	42	N 335	
R-240	Sept. 1	" " "	1	Oct. 23	Glen Valley, B. C.	53	N	
R-257	Sept. 2	" " "	3	Oct. 6	Lower Columbia River	34	N 95	
R-256	Sept. 2	" " "	2	Oct. 21	" " "	49	N 95	
C-855	June 26	Off C. Arago	1	Sept. 26	Northern Wash. Coast	92	N 280	6 cm.
C-888	June 26	" " "	2	Sept. 10	Lower Columbia R.	76	N 170	
C-863	July 8	Off Coos Bay	1	Aug. 21	Off Coos Bay	44	0	
F-673	July 8	" " "	1	Oct. 10	Siuslaw River	94	N 20	
F-692	July 20	S. of Bandon	1	Oct. 1	Off C. Falcon	72	N 165	
F-694	July 22	Coos Bay-Umpqua	1	Oct. 10	Fraser R. (Reported as, Glen Valley, B. C.)	60	N 400	
A-622	July 25	Siuslaw R.-C. Perpetua	1	Sept. 10	Nehalem River	47	N 90	
A-635	July 25	" " "	2	Sept. 26	Alesea River	63	N 20	4 cm.
A-684	Aug. 4	Off Bandon	1	Oct. 23	Fraser River	80	N 430	
R-434	Aug. 6	" " "	1	Sept. 11	Columbia River	35	N 190	
F-663	July 8	Off Coos Bay	3	Nov. 9	Willapa River			

Table 6. Tagging and Recoveries

Chinook Salmon

Area	1948			1949			1950			Total		
	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%
Astoria	6	1	16.7	54	4	7.4	71	0	0	131	5	3.8
Newport	15	0	0.0	8	0	0.0	71	9	12.9	93	9	9.7
Coos Bay	88	5	5.6	50	2	4.0	113	6	5.3	251	13	5.2
Total	109	6	5.5	112	6	5.4	254	15	5.9	475	27	5.7

Chinooks over 75 cm - 1950	Condition											
	1950				1948-50							
	Tagged		Recovered		Tagged		Recovered					
	No.	%	No.	%	No.	%	No.	%				
Astoria	2	0.0	0	0.0	197	77.5	14	93.3	371	78.1	25	92.6
Newport	22	31.9	7	31.9	38	15.0	1	6.7	67	14.1	1	3.7
Coos Bay	18	22.2	4	22.2	18	7.1	0	0.0	36	7.6	1	3.7
Total	42	26.2	11	26.2	?	1.0	0	0.0	1	0.2	0	0.0

Silver Salmon

Area	1948			1949			1950			Total		
	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%	No. Tagged	Recovered No.	%
Astoria	190	16	8.4	32	3	9.4	84	6	7.1	306	25	8.2
Newport	27	2	7.4	193	7	3.6	224	7	3.1	444	16	3.6
Coos Bay	32	1	3.1	32	0	0.0	222	10	4.5	286	11	3.8
Total	249	19	7.6	257	10	3.9	530	23	4.3	1036	52	5.0

Condition

	1950				1948-1950			
	Tagged		Recovered		Tagged		Recovered	
	No.	%	No.	%	No.	%	No.	%
Good	246	15	65.2	557	36	69.2		
Fair	132	6	26.1	241	9	17.3		
Poor	92	1	4.3	177	6	11.5		
Unknown	15	1	4.3	16	1	1.9		

Table 7. Round and Dressed Weights  
of Silver Salmon Caught by Sport Gear off Newport, Oregon  
1950

Total

295 Fish - Av. Dr. Wt. - 7.74 lbs.  
Rd. Wt. - 2659.7 lb.  
Dr. Wt. 2284.2 lb.  
Diff. 375.5 lb.

Dressed to Round +16.4 %  
Round to Dressed -14.1 %

Females

152 Fish - Av. Dr. Wt. 7.85 lbs.  
Rd. Wt. - 1395.3 lb.  
Dr. Wt. - 1193.3 lb.  
Diff. - 202.0 lb.

Dressed to Round - +16.9%  
Round to Dressed -14.5%

Fish taken June 30

9 Fish Av. Dr. Wt. 5.32 lbs.  
Rd. Wt. - 60.9 lb.  
Dr. Wt. 47.9 lb.  
Diff. 13.0 lb.

Dressed to Round +27.1%  
Round to Dressed -21.3%

Males

137 Fish - Av. Dr. Wt. - 7.63 lbs.  
Rd. Wt. - 1211.7 lb.  
Dr. Wt. - 1046.1 lb.  
Diff. - 165.6 lb.

Dressed to Round +15.8%  
Round to Dressed -13.7%

Fish taken August 10-15

117 Fish - Av. Dr. Wt. 7.09 lbs.  
Rd. Wt. 995.5 lbs.  
Dr. Wt. 851.2 lbs.  
Diff. 144.3 lbs.

Dressed to Round +16.9%  
Round to Dressed -14.5%

Sex Unknown

6 Fish - Av. Dr. Wt. 7.46 lbs.  
Rd. Wt. 52.7 lb.  
Dr. Wt. 44.8 lb.  
Diff. 7.9 lb.

Dressed to Round +17.6%  
Round to Dressed -14.9%

Fish taken August 16-30

169 Fish - Av. Dr. Wt. 8.19 lbs.  
Rd. Wt. 1599.3 lbs.  
Dr. Wt. 1383.9 lbs.  
Diff. 215.4 lbs.

Dressed to Round +15.6%  
Round to Dressed -13.5%

Silvers - 1948 (8 Fish) and 1949 (14 Fish)

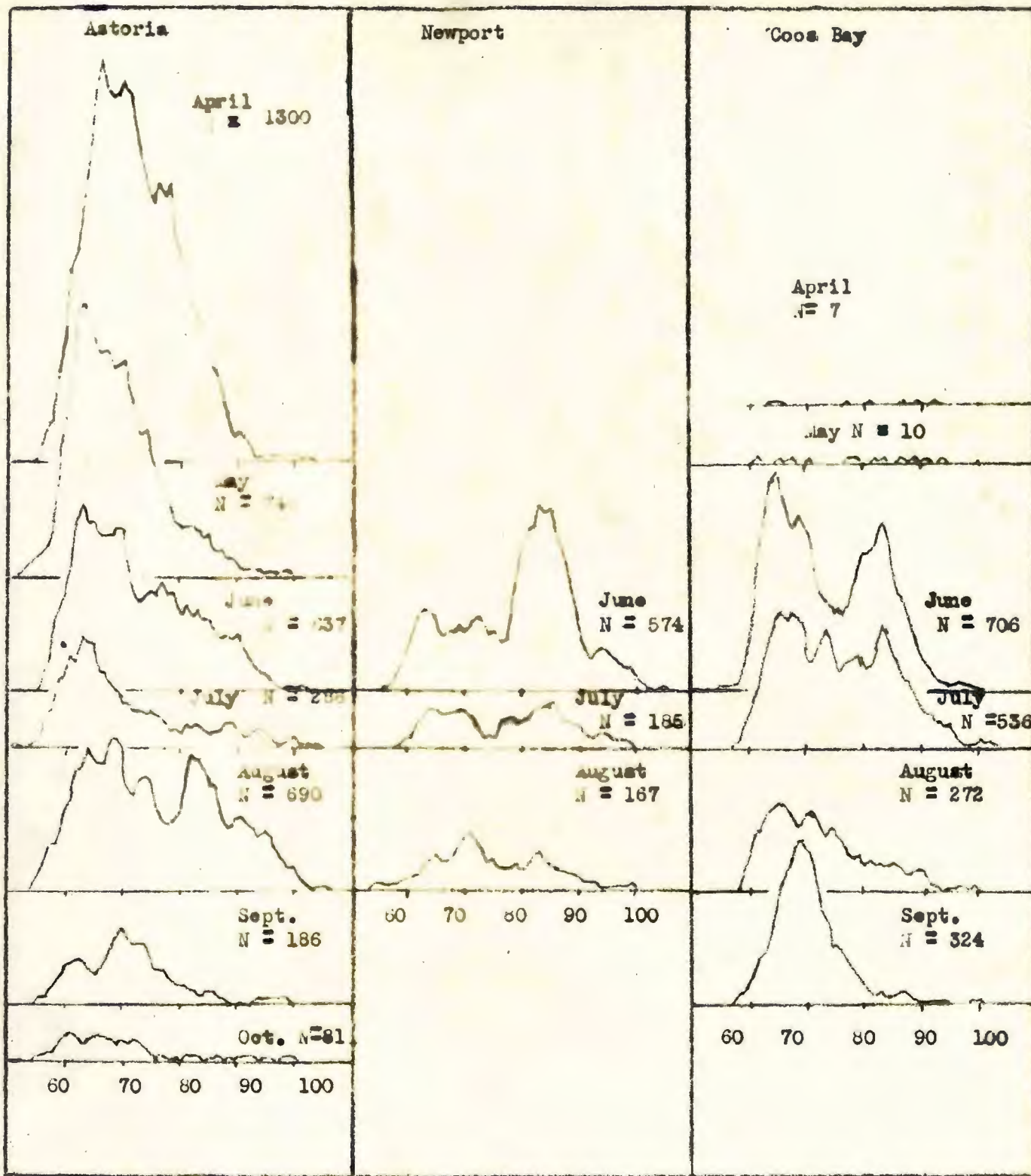
22 Fish - 8 Male, 11 Female, 3 Unknown  
Av. Dressed Wt. - 6.6 lbs.  
Rd. Wt. - 168.0 lbs.  
Dr. Wt. 145.3 lbs.  
Diff. 22.7 lbs.

Dressed to Round +15.6%  
Round to Dressed -13.5%

Table 8. Round and Dressed Weights - Chinooks  
1948, 1949 and 1950

<p><b>Total</b></p> <p>1950 fish - 15 1949 fish - 5 1948 fish - <u>5</u> Total ---- 25 fish Av. Dr. Wt. -- Rd. Wt. - 234.7 Dr. Wt. - 204.6 Diff. - 30.1</p> <p>Dressed to Round +14.7% Round to Dressed -12.8%</p>	<p><b>Total legal Fish - over 58 cm. FL</b></p> <p>1950 fish - 7 1949 fish - 3 1948 fish - <u>4</u> Total ---- 14 Fish Av. Dr. Wt. Rd. Wt. - 198.1 Dr. Wt. - 173.3 Diff. - 24.7</p> <p>Dressed to Round +14.3% Round to Dressed -12.5%</p>
<p><b>Undersized fish</b> (under 58 cm. FL)</p> <p>1950 fish - 8 1949 fish - 2 1948 fish - <u>1</u> Total ---- 11 fish Av. Dr. Wt. - 2.8 lbs. Rd. Wt. - 36.6 lbs. Dr. Wt. - 30.7 lbs. Diff. - 5.9 lbs.</p> <p>Dressed to Round +19.2% Round to Dressed -16.1%</p>	
<p><b>Small Fish</b> (58 cm., FL to 12 lbs. Dr. Wt.)</p> <p>1950 fish - 4 1949 fish - 1 1948 fish - <u>2</u> Total ---- 7 fish Av. Dr. Wt. - 7.8 lbs. Rd. Wt. - 63.8 lbs. Dr. Wt. - 54.8 lbs. Diff. - 9.0 lbs.</p> <p>Dressed to Round +16.4% Round to Dressed -14.1%</p>	
<p><b>Large Fish (over 12 lbs. Dr. Wt.)</b></p> <p>1950 fish - 3 1949 fish - 2 1948 fish - <u>2</u> Total ---- 7 Fish Av. Dr. Wt. - 17.0 lbs.</p> <p>Dressed to Round +11.3% Round to Dressed -10.1%</p>	

Random Length Frequencies of Troll Chinook Salmon - 1960  
Smoothed by 3



Fork Length in Centimeters

Figure 2

Average Weights of Troll Chinook Salmon by Port - 1950

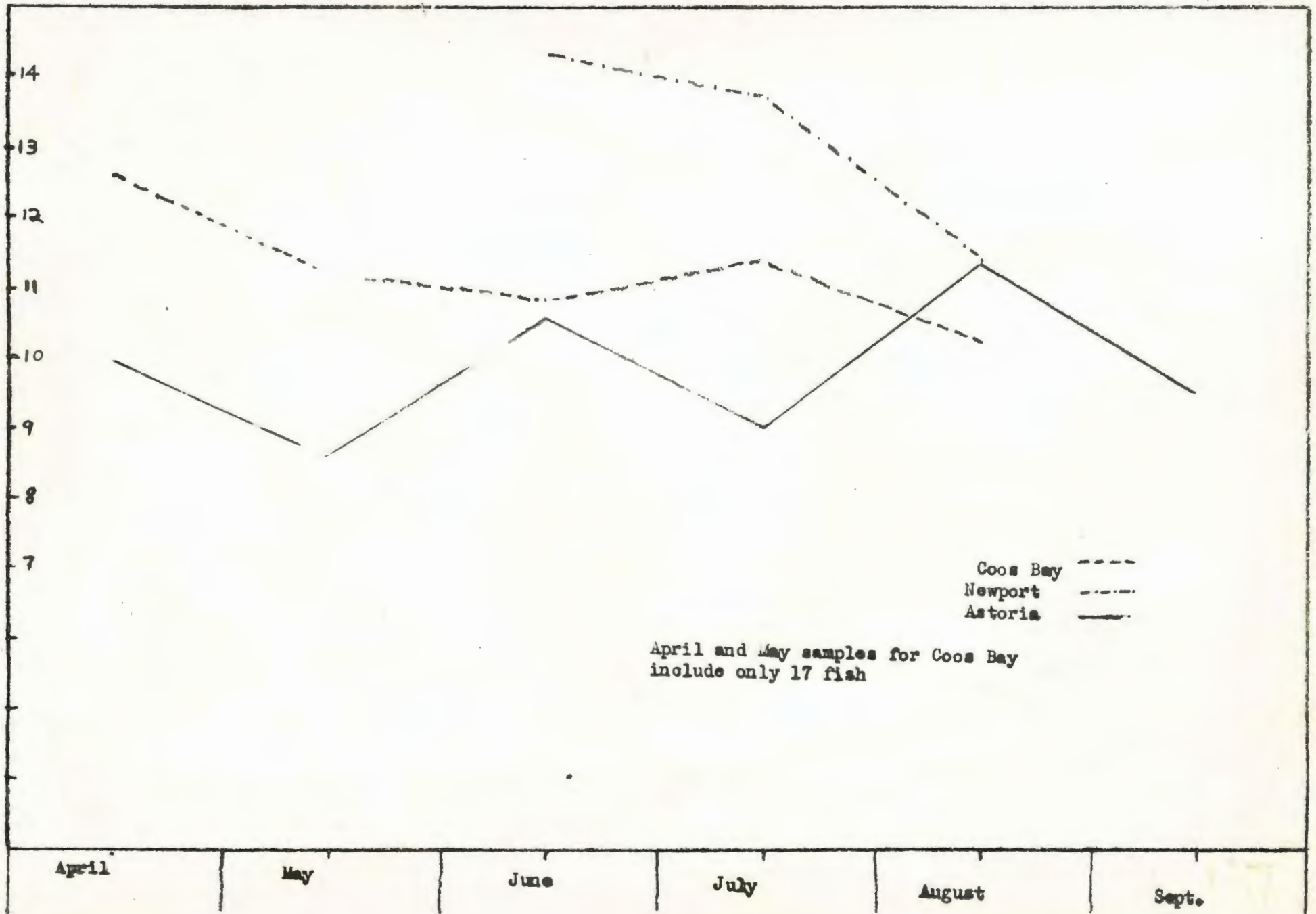


Figure 5

Average Weights of Troll Chinook Salmon - 1947 to 1950

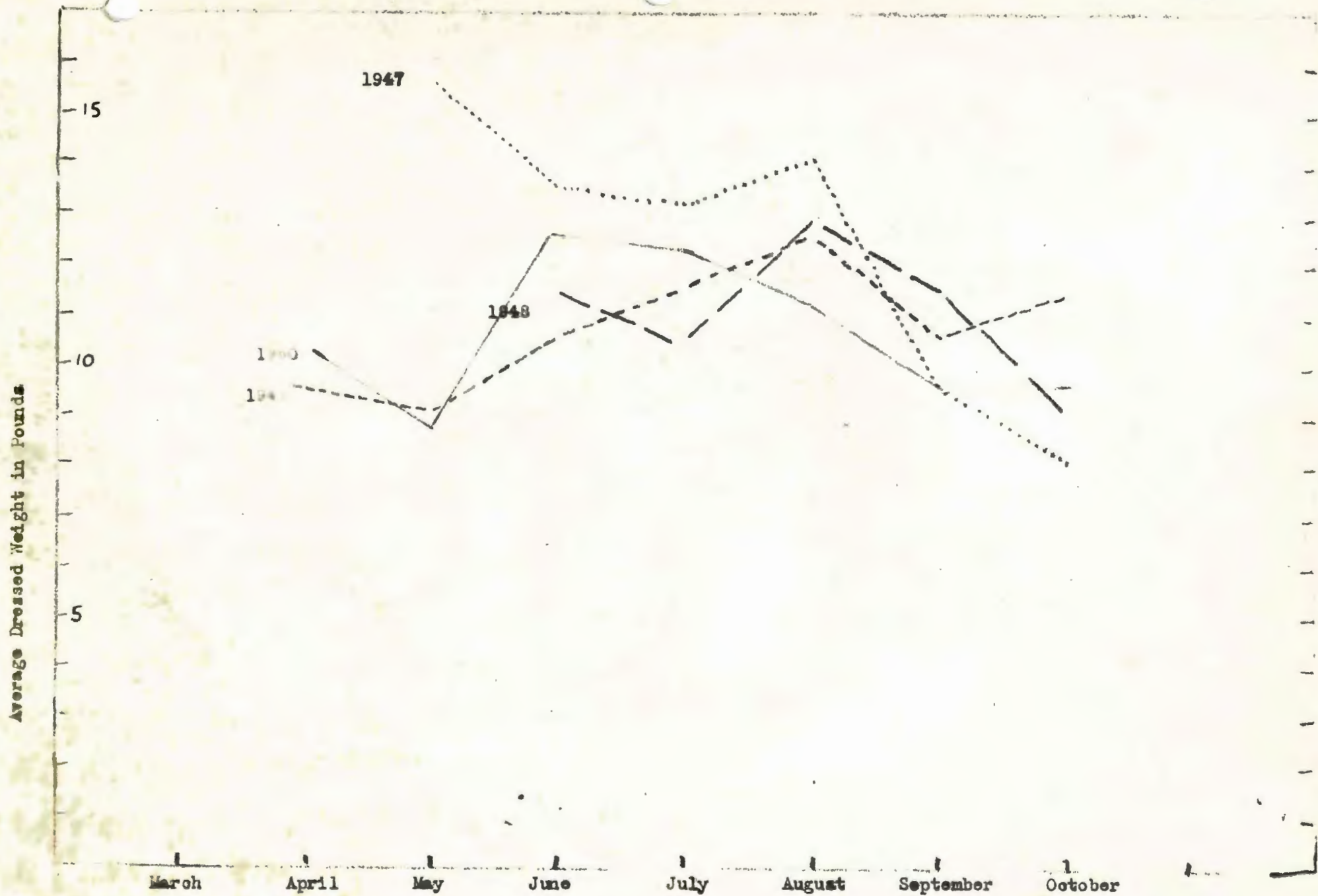


Figure 4  
Length Frequencies of Troll Chinook Salmon- 1947 to 1950

Smoothed by 3

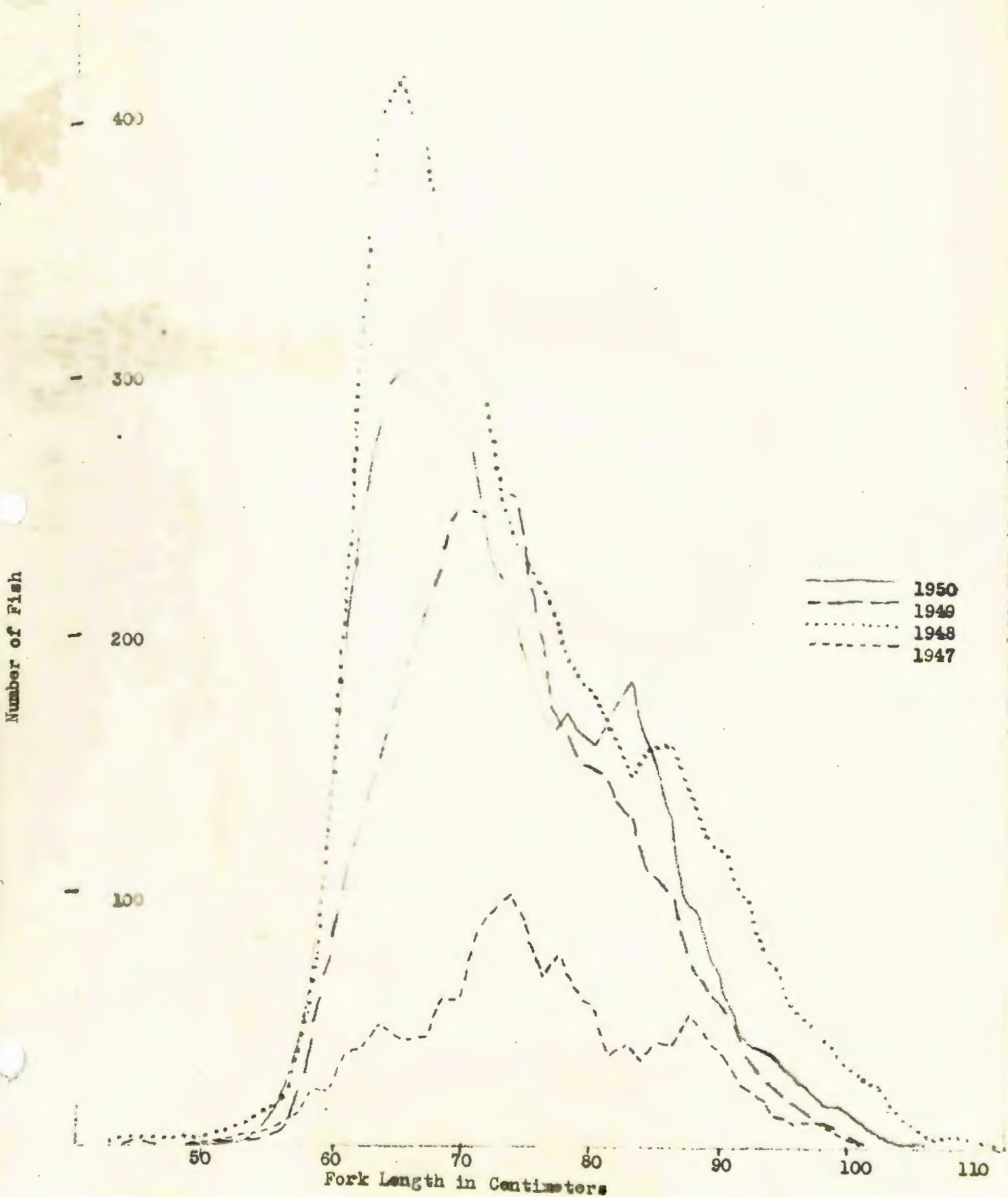




Figure 5  
Random Length Frequencies of Troll Silver Salmon- 1949 and 1950

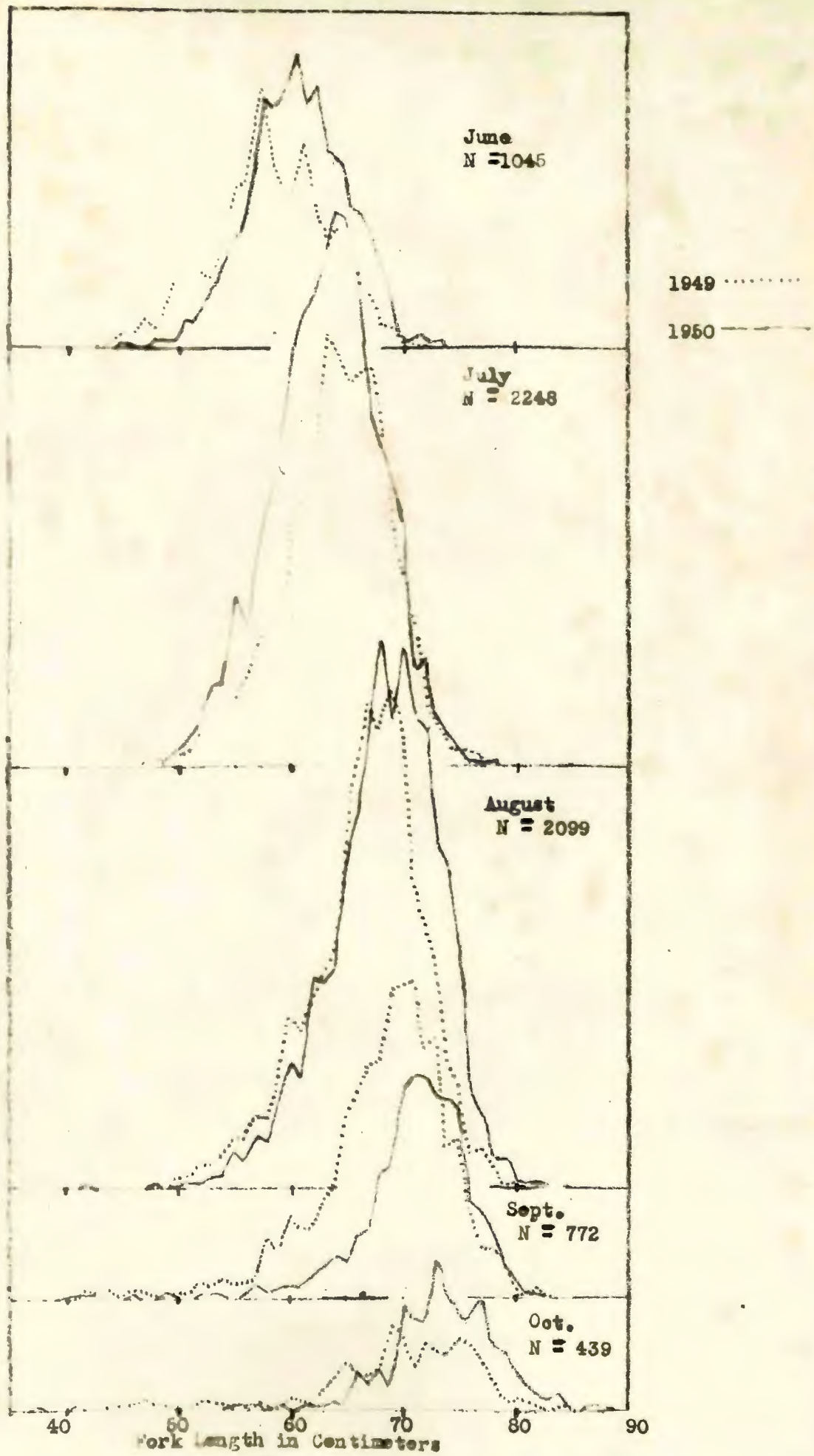


Figure 6

Average Weights of Troll Silver Salmon by Area - 1950

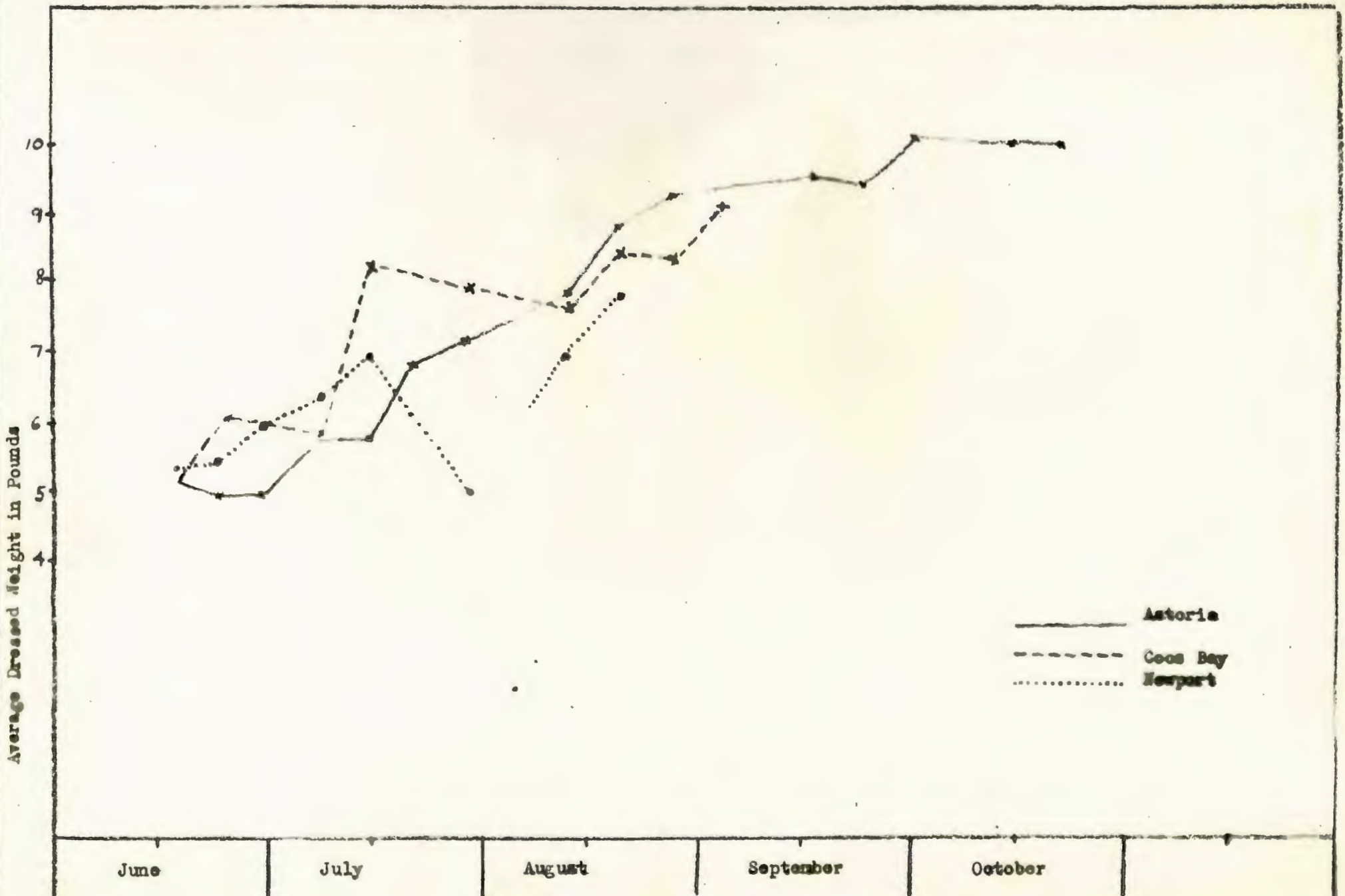


Figure 7

Average Weights of Troll Silver Salmon by Week- 1947 to 1950

