

FRESHWATER FISHERIES ADVISORY SERVICE

MARINE DEPARTMENT

INVESTIGATION REPORT

JOB No. 63

ACCLIMATISATION SOCIETY DISTRICTS:

North Canterbury, Ashburton, South Canterbury, Waimate,  
Waitaki.

TITLE OF JOB: Salmon Spawning Survey 1965.

OBJECTIVES: To assess the 1965 Quinnat salmon spawning run.

INTRODUCTION.

In the period 6 May to 26 June 1965, surveys were made in the following waters:

(a)	Glenariffe System	6-7/5/65	27/5/65	22/6/65
(b)	Hakataramea River	9/5/65	29/5/65	-
(c)	Awakino Stream	9/5/65	-	-
(d)	Deep Creek-Mesopotamia	10/5/65	30/5/65	26/6/65
(e)	Hydra Waters	12/5/65		

METHODS.

The same two-man team was used for each survey. Redds, live and dead fish were counted from the stream banks. The areas surveyed were the same as previous years from 1962.

FINDINGS:

PART I - RAKAIA RIVER SYSTEM.

(a) Glenariffe Stream.

A fish trap was installed in the Glenariffe stream this season.

The barrier was in position on 28.2.65, at least 20 salmon were already in the stream at this stage. Results of trapping and comparisons with the Salmon Survey will be given in a separate report - as Job No. 65.

No salmon were seen above the Hydro lake. Superimposition of redds had again taken place below the Hydro dam, in the overflow and parts of the South and East branches. Superimposition was particularly heavy below the trap in the Rakaia River bed channels, and in the spring fed streams which run direct into the Rakaia from Double Hill Flats. Salmon usually spawn in those streams and channels but not in large numbers. It is certain that the trap had a "stopping" affect on the salmon, thereby causing a percentage of the run to fall back and find suitable spawning gravel in the river bed below the trap.

It is not unusual for fish to concentrate spawning below trap or rack sites. (Hobbs 1948)

(b) Hydra Waters:

Due to adverse weather and access difficulty the Hydro Waters were visited once only this year. It appeared that spawning had started earlier than usual and many dead spent fish were seen for this time of year.

PART II - RANGITATA RIVER SYSTEM.

Deep Creek - Mesopotamia.

Weather conditions were good for each visit to Deep Creek and visibility excellent except in the lower Nos 1 and 6 streams during the last visit.

Salmon were seen to be spawning in the above streams during the two previous visits, when the water was clear. On the 3rd visit the Rangitata was high, and a stream from it had cut across the flats below the groynes into No. 6 stream. About a mile of this stream, and  $\frac{1}{2}$  mile of No. 1 stream is thereby discoloured by Rangitata water, making counting impossible. There were not as many fish or redds seen in Deep Creek as in previous years. This was markedly noticeable by the amount of spawning gravel utilised, especially in Nos. 1 and 6 streams. However, superimposition did occur in Nos. 3 and 4 streams, the upper reaches of which usually have heavy concentrations of fish, this year being no exception.

#### PART III - WAITAKI RIVER SYSTEM.

##### (a) Hakataramea River.

The Hakataramea was visited twice, and each time the weather was fine and visibility good. The observation area was the same as previous years but as can be seen from Table 1 few fish or redds were seen.

##### (b) Awakino Stream.

The Awakino stream was visited once, 1 Redd and 2 salmon were seen.

#### DISCUSSION.

##### (a) Glenariffe Stream.

1. The fish-pass at the Hydro dam should be re-built. This would give a further  $1\frac{1}{2}$  miles of spawning water, and perhaps cut out much of the superimposition of redds below the dam and overflow.

2. Weed growth appears to be increasing in many parts of the Glenariffe system.

(b) Deep Creek.

1. Weed and algal growth is increasing in Deep Creek.

2. The numbers of fish and redds were less than last year.

(c) Hakataramea River.

Small numbers of salmon were again recorded in the area surveyed. The river had not been particularly low, as it was last year.

CONCLUSIONS.

1. The Quinntat salmon spawning run appears to be much the same as last year, except at Deep Creek where a definite drop has occurred.

References:

1. Salmon Spawning Survey 1964 - Investigation Report Job No. 58.

2. N.Z. Marine Department, Fisheries Bulletin No. 9  
(Derisley F. Hobbs)

EXECUTED BY

J. GALLOWAY

TECHNICAL FIELD OFFICER

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TABLE I  
SALMON SPAWNING 1965

System	Date	Redds	Salmon		Conditions
			Live	Dead	
Glenariffe	6/7-5-65	882	914	55	Clear but strong N/W
	27-5-65	941 <sup>712</sup>	367	194	Good
	22-6-65		54	220	Lower main Stm discoloured
Hydra Waters	12-6-65	1001	1259	390	Good
	-	-	-	-	No Survey
	-	-	-	-	No Survey
Deep Creek	10-5-65	636	586	67	Good
	30-5-65	834 <sup>789</sup>	253	313	Good
	26-6-65	806	21	106	Good
Hakataramea	9-5-65	64	80	16	Good River below normal
	29-5-65	77 <sup>71</sup>	37	65	" " " "
	-	-	-	-	No Survey
Awakino	9-5-65	1	2	0	Good
	-	-	-	-	No Survey
	-	-	-	-	No Survey

Table II = 1964, Table III = 1963, Table IV = 1962.

TABLE II  
SALMON SPAWNING 1964

System	Date	Redds	Salmon		Conditions
			Live	Dead	
Glenariffe	8/9-5-64	791	905	118	Good
	1/2-6-64	667	290	265	Main Stream level high
	19/20-6-64	1116	149	223	" " " "
Hydra Waters	6/75-64	1345	1688	128	Good
	30/31-5-64	977	407	317	Main Stream level high
	17/18-6-64	1197	151	566	" " " "
Deep Creek	10/11-5-64	1292	1249	156	Clear but strong NW wind
	3-6-64	999	207	375	Heavy rain from SE
	21-6-64	1033	39	366	Good
Hakataramea	12-5-64	88	55	16	River very low
	Nil	-	-	-	No survey
	21-6-64	67	5	14	River a little below normal
Awakino	12-5-64	1	-	-	Not recorded
	-	-	-	-	No survey
	22-6-64	1	-	-	Not recorded

TABLE IIISALMON SPAWNING 1963

System	Date	Redds	Salmon		Conditions
			Live	Dead	
Glenariffe	6/7-5-63	420	802	102	Main stream discoloured
	24/25-5-63	1112	737	493	Slightly discoloured
	14/15-6-63	1182	210	483	Higher than normal, clear
Hydra Waters	8/9-5-63	809	1048	160	Strong NW winds clear
	22/23-5-63	1348	1335	545	Heavy flood 6 days earlier
	12/13-6-63	1154	291	268	Continued flooding
Deep Creek	4/5-5-63	708	931	59	Poor SE winds, rain, hail
	17/28-5-63	1025	512	424	Poor snow
	16/17-6-63	1174	89	426	Good - Flooding earlier
Hakataramea	2-5-63	107	172	1	Good, little higher than normal
	30-5-63	244	140	140	" " " " "
	19-6-63	120	18	45	Poor-discoloured flooding
Awakino	1-5-63	-	-	-	Not recorded
	29-5-63	3	-	1	" "
	19-6-63	6	-	1	" "

TABLE IV  
SALMON SPAWNING 1962

System	Date				Conditions
Glenariffe	16/17-5-62	1179	893	404	Excellent
	31-5-62	1369	292	505	Flooding earlier
		+2	-	-	Not recorded
Hydra Waters	-	-	-	-	Inaccessible
	-	-	-	-	Flooding
	6-6-62	1344	126	352	Affected by earlier flood
Deep Creek	18/20-5-62	1254	694	297	Flooding
	3/4-6-62	1648	158	408	2 streams silted by floods
	27/28-6-62	-	-	-	Not recorded
Hakataramea	21-5-62	420	100	91	Not recorded
	8-6-62	697	9	47	Earlier fresh, poor
	28-6-62	-	-	-	-
Awakino	21-5-62	12	1	4	Not recorded
	8-6-62	5	-	-	" "
	28-6-62	-	-	-	" "