

REPORT

on

WATER RESOURCE DEVELOPMENT IN EAST DEVON

River Axe Fish Study - Stage 3

by

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(i)

Contents

	Page
1. INTRODUCTION	1
2. METHOD OF DATA ANALYSIS	1
Validation of method of simulating daily catches	3
3. RESULTS	3
4. CONCLUSIONS	4
5. REFERENCES	5
FIGURES	
1. Daily flow and observed and predicted catch of seatrout in the River Axe, August, 1965	6
2. Daily flow and observed and predicted catch of whitling in the River Axe, August, 1965	7
3. Daily flow (historical) and number of seatrout in the River Axe, 1976	8
4. Daily flow (option no. 1) and number of seatrout in the River Axe, 1976	9
5. Daily flow (option no. 2) and number of seatrout in the River Axe, 1976	10
6. Daily flow (option no. 3) and number of seatrout in the River Axe, 1976	11
7. Daily flow (historical) and number of whitling in River Axe, 1976	12
8. Daily flow (option no. 1) and number of whitling in River Axe, 1976	13
9. Daily flow (option no. 2) and number of whitling in River Axe, 1976	14
10. Daily flow (option no. 3) and number of whitling in River Axe, 1976	15
11. Daily flow (historical) and number of salmon in River Axe, 1976	16
12. Daily flow (option no. 1) and number of salmon in River Axe, 1976	17
13. Daily flow (option no. 2) and number of salmon in River Axe, 1976	18
14. Daily flow (option no. 3) and number of salmon in River Axe, 1976	19
15. Average catch of salmon in May to September as a percentage of those at low historical flows	20
16. Average catch of seatrout in May to September as a percentage of those at low historical flows	20

17. Average catch of whitling in May to September as a percentage of those at low historical flows	20
18. Average catch of salmon in May to September in years of low historical flow (monthly values)	21
19. Average catch of seatrout in May to September in years of low historical flow (monthly values)	21
20. Average catch of whitling in May to September in years of low historical flow (monthly values)	21
21. Average catch of salmon in May to September in years of low historical flow (May to September values)	22
22. Average catch of seatrout in May to September in years of low historical flow (May to September values)	22
23. Average catch of whitling in May to September in years of low historical flow (May to September values).	22

APPENDIX I. Summary of predicted monthly, annual and 4-year catches of fish in relation to different flows:	
salmon	23
seatrout	24
whitling	25

APPENDIX II. Daily flows and catches of fish:

	Salmon	Large seatrout and whitling
	Page	Page
1959 Historical	26	46
Option no. 1	27	47
Option no. 2	28	48
Option no. 3	29	49
1975 Historical	30	50
Option no. 1	31	51
Option no. 2	32	52
Option no. 3	33	53
1976 Historical	34	54
Option no. 1	35	55
Option no. 2	36	56
Option no. 3	37	57
1984 Historical*	38	58
Option no. 1*	39	59
Option no. 2*	40	60
Option no. 3*	41	61
1989 Historical	42	62
Option no. 1	43	63
Option no. 2	44	64
Option no. 3	45	65

* Plotted in Figs. 3-22

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1. INTRODUCTION

Studies have already been made of the relation between fish catches and river flow in the R. Axe (Alabaster, 1986; 1987; 1989a; 1989b), and these provide essential information relevant to the present study, particularly in describing in detail the data-base, the statistical methods of analysis, the results obtained, and the caveats to be borne in mind in drawing conclusions.

The present report deals with a further analysis of daily catches of salmon and sea trout in relation to daily flows, as required by Dr. J. E. Cochrane of the National Rivers Authority, South West Region (NRA), in order to confirm the existence of a relationship between fish movement and small spates in the River Axe, using flow data for a number of years, including 1959 and 1976, which were particularly dry years.

Sea trout, as well as salmon, have been considered because of the fear expressed that low prescribed flows might not be adequate for the movement of the fish into the river.

Data on rates of migration are not considered further in this report.

3. METHODS OF DATA ANALYSIS

Data on actual daily catches of fish in the trap operated by the Ministry of Agriculture, Fisheries and Food are not available for the years 1959 and 1976, and have, therefore, had to be generated using relationships between daily catch of fish and daily flow for other years, some of which have already been described in previous reports for salmon (Alabaster, 1989a; Table 5) and referred to for sea trout (Alabaster, 1989b; Table 3).

The relationships that have now been used are those from 1967 for salmon and 1965 for sea trout; these are years when not only was water level at the trap measured, but the river flow at Whitford was also recorded and found to be relatively low. A further reason for choosing these years was that they provided some of the most significant relationships with flow, accounting for a high proportion of the variance in catch.

For both species, the analysis has been restricted to the period May to September because this was when high proportions of the fish were caught (57% of salmon, 61% of large sea trout and 80% of small sea trout or 'whitling'). It was also the period when the lowest flows were recorded

(Table 1, from Alabaster, 1986).

Linear regressions of daily counts on daily average flows were fitted for each month, separately. Significant relationships were found in all cases except for salmon in June, large seatrout in May and whiting in May and July.

Table 1. Percentage distribution of average annual trap catch of fish in the R. Axe and mean and minimum monthly water level (inches).

Period	Salmon 1960-1976	Large seatrout 1962-1966	Whiting 1962-1966	Mean level 1962-1976	Min. level
Jan.	0.4	0.1	0.2	11.5	0.2
Feb.	0.8	0.4	0.1	9.7	0.4
March	2.0	1.3	0.4	7.7	0.8
April	4.9	8.7	0.2	5.7	0.5
May	10.7	18.5	0.3	4.6	2.0
June	12.8	17.2	5.1	2.7	0.0
July	9.8	12.8	35.1	1.5	0.0
August	14.1	7.0	28.5	1.8	0.0
Sept.	9.2	5.2	11.2	2.8	0.0*
Oct.	11.8	13.1	10.5	4.7	0.0*
Nov.	18.7	13.4	7.1	8.0	1.8
Dec.	4.8	2.3	1.3	7.8	4.4

* below zero on the depth gauge

Table 2. Terms in the regression equations used to calculate daily catches of fish from average daily flows in the River Axe. The proportion of the variance that is accounted for is shown in parenthesis.

**, $P = 0.01-0.001$; *, $P = 0.05-0.01$.

Month	Intercept	Constant for flow	Standard deviation of residuals
S A L M O N			
May	0.45	0.36(0.36)**	1.95
July	-2.84	2.20(0.83)**	2.43
August	-3.92	2.85(0.69)**	1.05
September	10.92	1.08(0.56)**	2.83
L A R G E S E A T R O U T			
June	-9.41	9.16(0.62)**	4.34
July	37.60	0.49(0.21)*	6.03
August	0.60	0.15(0.48)**	1.03
September	-1.68	1.43(0.58)**	3.31
W H I T L I N G			
June	-1.94	2.28(0.52)**	1.36
August	1.39	1.49(0.48)**	10.90
September	2.83	1.09(0.14)*	7.33

Where there was a statistically significant relationship between

catch and flow, the distribution of the residual variances was examined and found to be approximately normal. The standard deviation of the residual variances was therefore calculated and multiplied by a random standardised normal deviate in order to add a stochastic term when using the regression equation in order to calculate individual daily catches of fish. The same series of random numbers was used for all months and all flow régimes so that any variation in the results from year to year would be attributable to flow only. The terms in the equations that were used are summarised in Table 2.

Validation of method of simulating daily catches

In order to show that the method of simulating daily catches is realistic, a comparison has been made of the actual daily observed catches of large seatrout and whitling in August, 1965, and the output from the equations given in Table 2. These are shown for large seatrout, together with daily flows, in Fig. 1 and for whitling in Fig. 2. As might be expected, observed and predicted catches show a wide, but similar variation, even at constant low flow, similar distributions of zero catches and a similar tendency for the highest catches to occur at the highest flows. (Of course, regression equations fitted to the simulated data give answers close to those from the raw data itself).

Thus, although the approach cannot predict the exact sequence of daily catches, it can certainly estimate the mean, mimic the fluctuations found, and also still show the effect of an increase in flow in increasing the catch, as occurs during small spates.

For months in which no significant relationships were found between catch and flow, consideration was given to the possibility of using the relationships found for an adjacent month. However, this was rejected because examination of the distribution of catches in these cases (where the data lent itself to rigorous Chi squared testing) showed that a Poisson fit was acceptable, whereas, in those cases where a relationship was found, it was not. For these months, therefore, the actual daily catch was used in the simulations.

The simulations of daily catches have been carried out for each of the years 1959, 1975, 1976, 1984 and 1989, using flows provided by MRM Partnership, namely the observed historical values for all years except 1959 (for which the historical flows were simulated using a rainfall-runoff model), together with the flows calculated for each year to result from each of three abstraction options: 1) 100% take and mean residual flow (MRF) of $0.72 \text{ m}^3/\text{s}$; 2) 50% take and $0.72 \text{ m}^3/\text{s}$ MRF; and 3) 100% take and $1.3 \text{ m}^3/\text{s}$ MRF.

All the years chosen had low summer flows, the driest year being 1976.

3. RESULTS

The daily predicted catches of fish are listed in Appendix II. Those for the driest year (1976) are plotted in Figs. 3-14.

The daily results for large seatrout in 1976 are shown for historical

flows, and for flows resulting from the three options in Figs. 3-6, respectively. It is clear that substantial runs of fish occur in late spring and late summer, despite relatively low and fairly constant flows.

The effects of each of the three optional flow régimes are quite small and difficult to see from the figures, although it is fairly clear that catches in June, which tend to be low, are most affected.

The results for whitling in 1976 are shown in Figs. 7-10 for historical flows and the three options, respectively. There is a very marked run of fish in July, August and September, despite fairly constant low flows, although there is a small run of fish associated with a small freshet at the end of September (Fig. 7). Again, the differences in catches between the régimes are hardly noticeable from the graphs.

The corresponding results for salmon in 1976 are shown in Figs 11-14; Some slight differences between régimes can be seen; the small peak in numbers under natural flows at the beginning of September, for example, (Fig. 11) is not evident with Option no. 1 (Fig. 12). Generally, the visible differences are minimal.

The effects are more clearly demonstrated by expressing the monthly catch as a percentage of the catch associated with historical flows. The figures for May, June, July, August and September, 1976 are: 100, 61.8, 89.6, 100, 89.6 and 92.7% respectively, for Option 1 (Fig. 2); 100, 82.4, 89.6, 100, 90.9 and 94.3% respectively, for Option 2 (Fig. 3); and 100, 100, 89.6, 100, 89.6 and 85.4% respectively, for Option 3 (Fig. 4).

The monthly summaries for all years are tabulated for salmon, large seatrout and whitling in Appendix I, together with the averages for all years. These summaries are also illustrated in Figs. 15-17, respectively; they show that the greatest impact on monthly catches occurs in July, August and September for salmon, and in June for large seatrout and whitling. However, since relatively high catches occur outside these months, the impact on the catches for the whole season is considerably less than it is during these critical months. This is shown in Figs. 18-20 in which the average numbers per month and the average for the period May to September are shown for salmon, large seatrout and whitling, respectively.

Generally, the effects of reduction in flow on catches of fish is largest for salmon and smallest for whitling. Option No. 3 has the least effect, but there is very little difference between the three options.

The effects of reduction in flow in 1976, the driest year, generally appear to be rather less than those in other years (Figs. 21-23 for salmon, large seatrout and whitling, respectively), but there is no significant relationship between these effects and either flow or the frequency of freshets.

4. CONCLUSIONS

Taking a worst case, by assuming that the relationships found between catches and flow *per se* are causal (which is doubtful), and that there

would be no tendency for reduced catches to be compensated for at all later in the year by increased catches, the effects, on average, of the three abstraction options in drought years would be to reduce catches of salmon over the period May to September by 12% for Option No. 1, 13% for Option No. 2 and 9% for Option No. 3. The effects on large seatrout and whitling would be less; the corresponding figures being 11%, 11% and 8% for large seatrout and 3%, 3% and 2% for whitling.

5. REFERENCES

- Alabaster, J. S. (1986) River Axe Fish Study - Evaluation of Fish Movements in the Estuary. Report to Mander, Raikes & Marshall. July, 1986. 14pp.
- Alabaster, J. S. (1987) River Axe Fish Study - Supplementary Report. Report to Mander, Raikes & Marshall. June, 1987. 4pp.
- Alabaster, J. S. (1989a) River Axe Fish Study - Stage 2. Environmental Assessment for River Abstraction. Report to Mander, Raikes & Marshall. April, 1989. 16pp.
- Alabaster, J. S. (1989b) River Axe Fish Study - Stage 2. Environmental Assessment for River Abstraction. Report to Mander, Raikes & Marshall. August, 1989. 7pp.

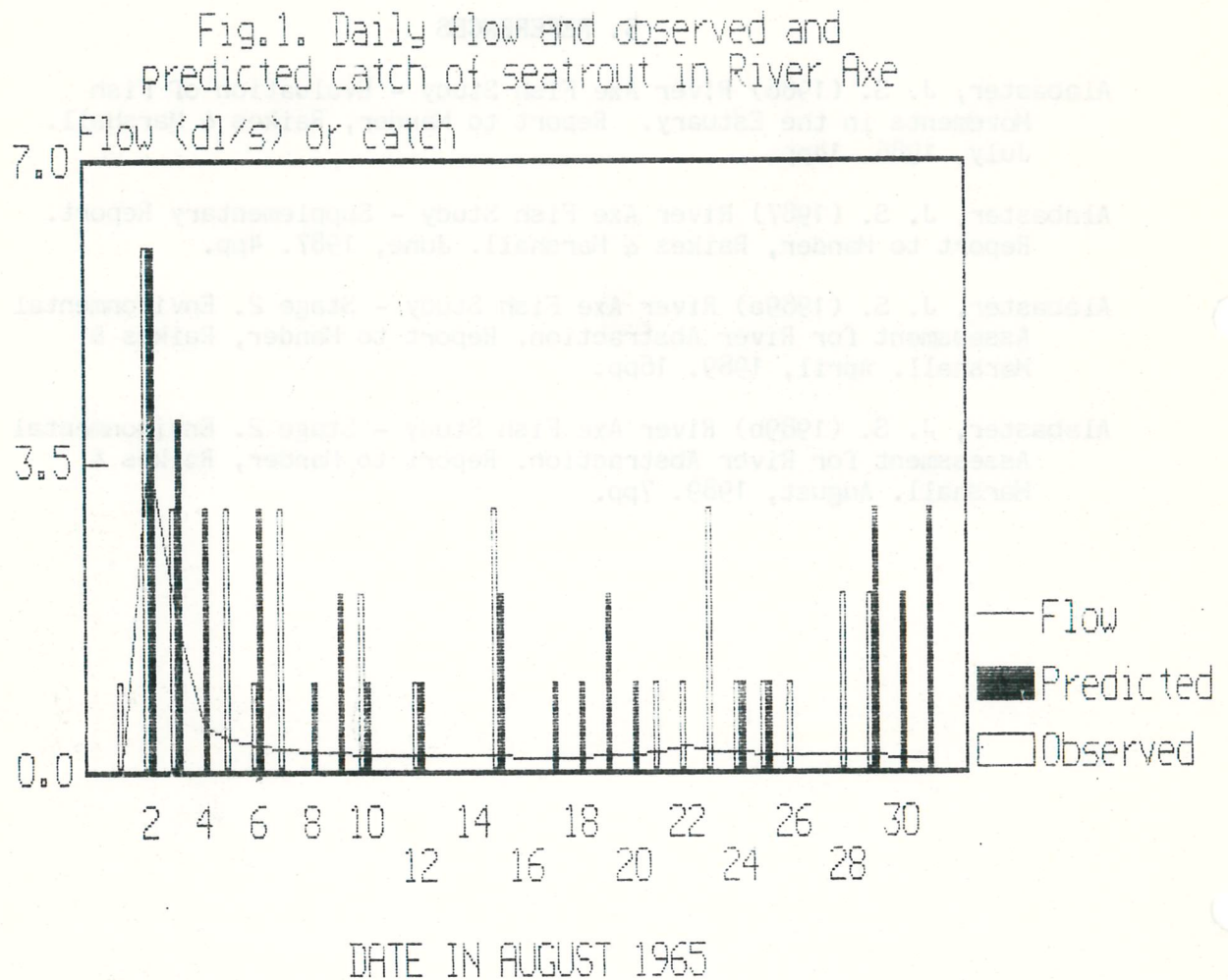


Fig.2..Daily flow and observed and predicted catch of whitling in River Axe

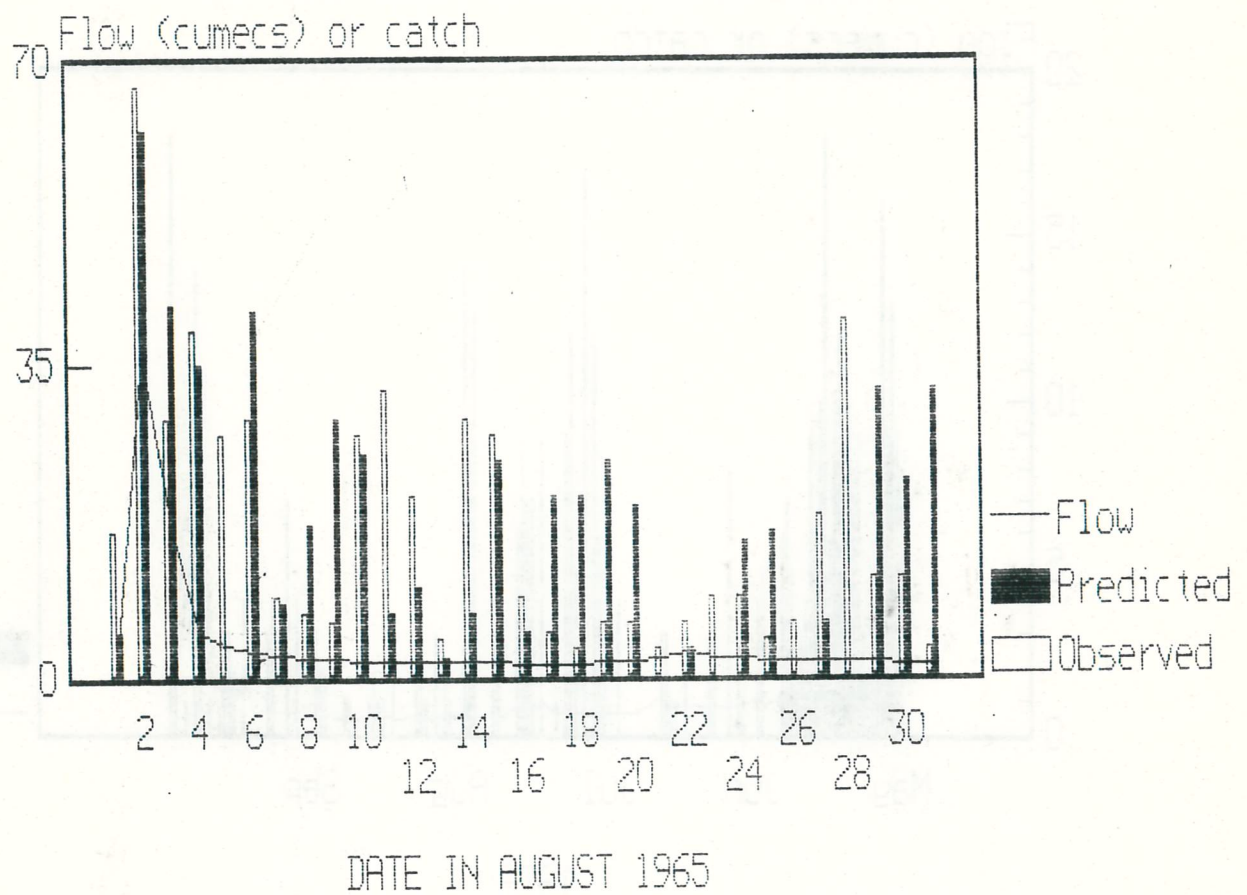


Fig.3. Daily flow (historical) and
number of seatrout in River Axe 1976

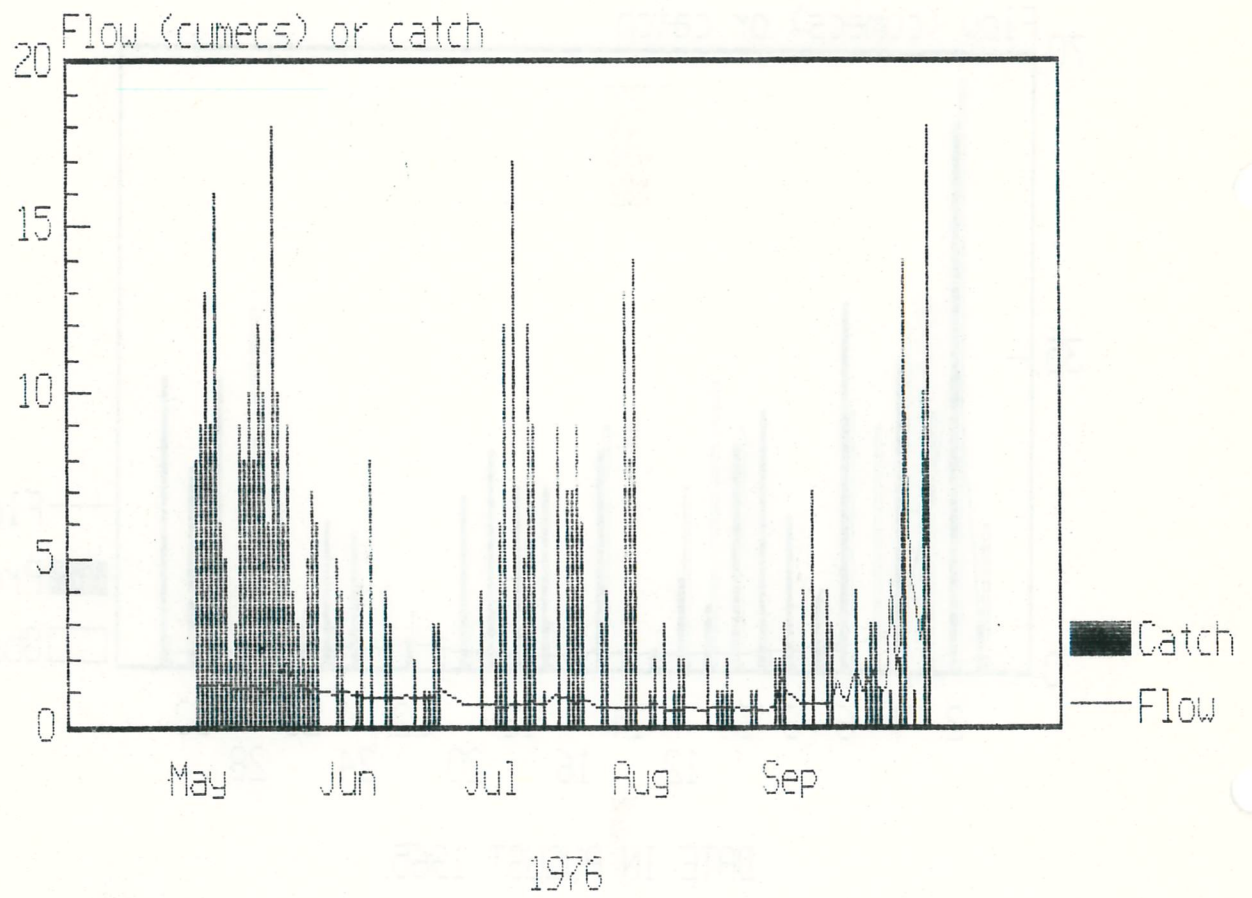


Fig.4. Daily flow (option no. 1) and
number of seatrout in River Axe 1976

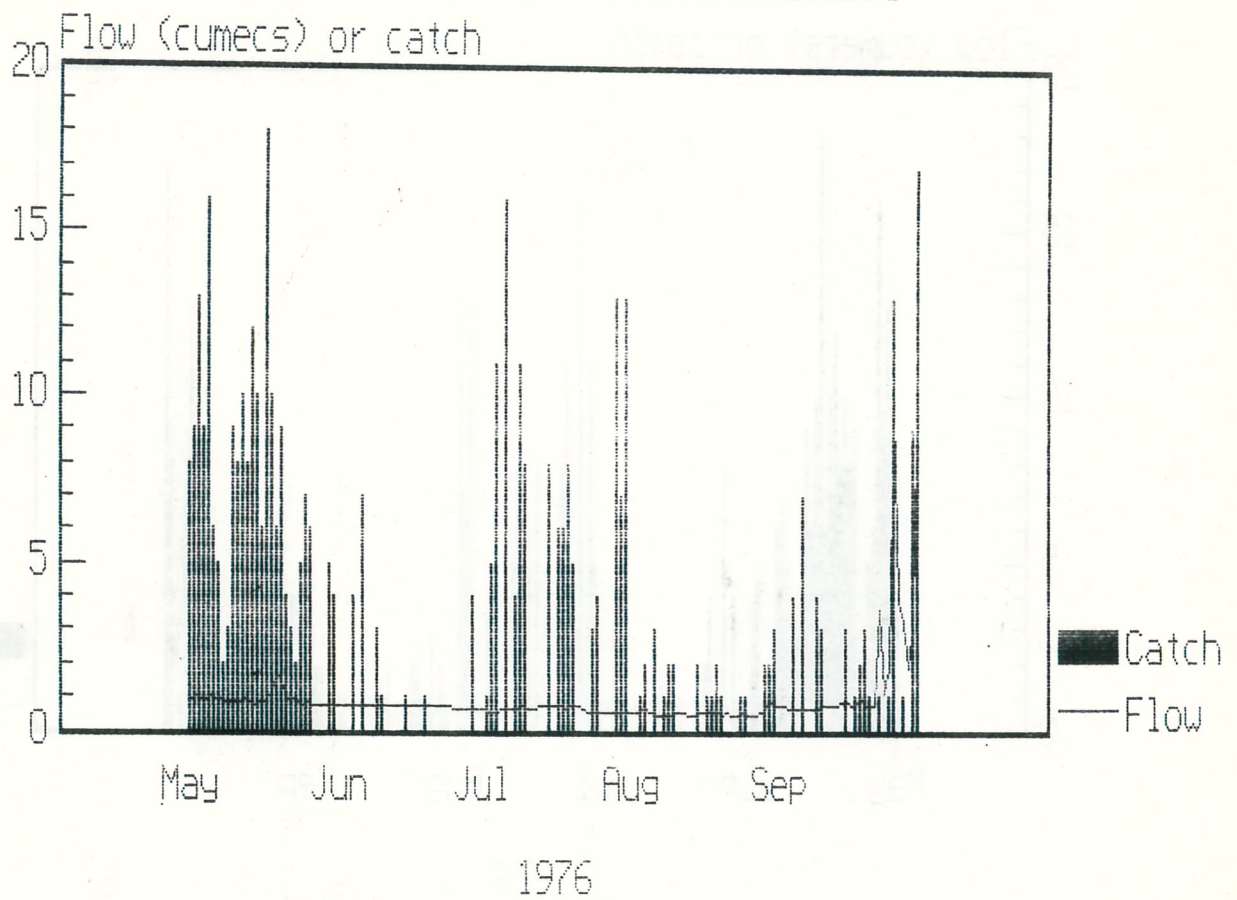


Fig.5. Daily flow (option no. 2) and
number of seatrout in River Axe 1976

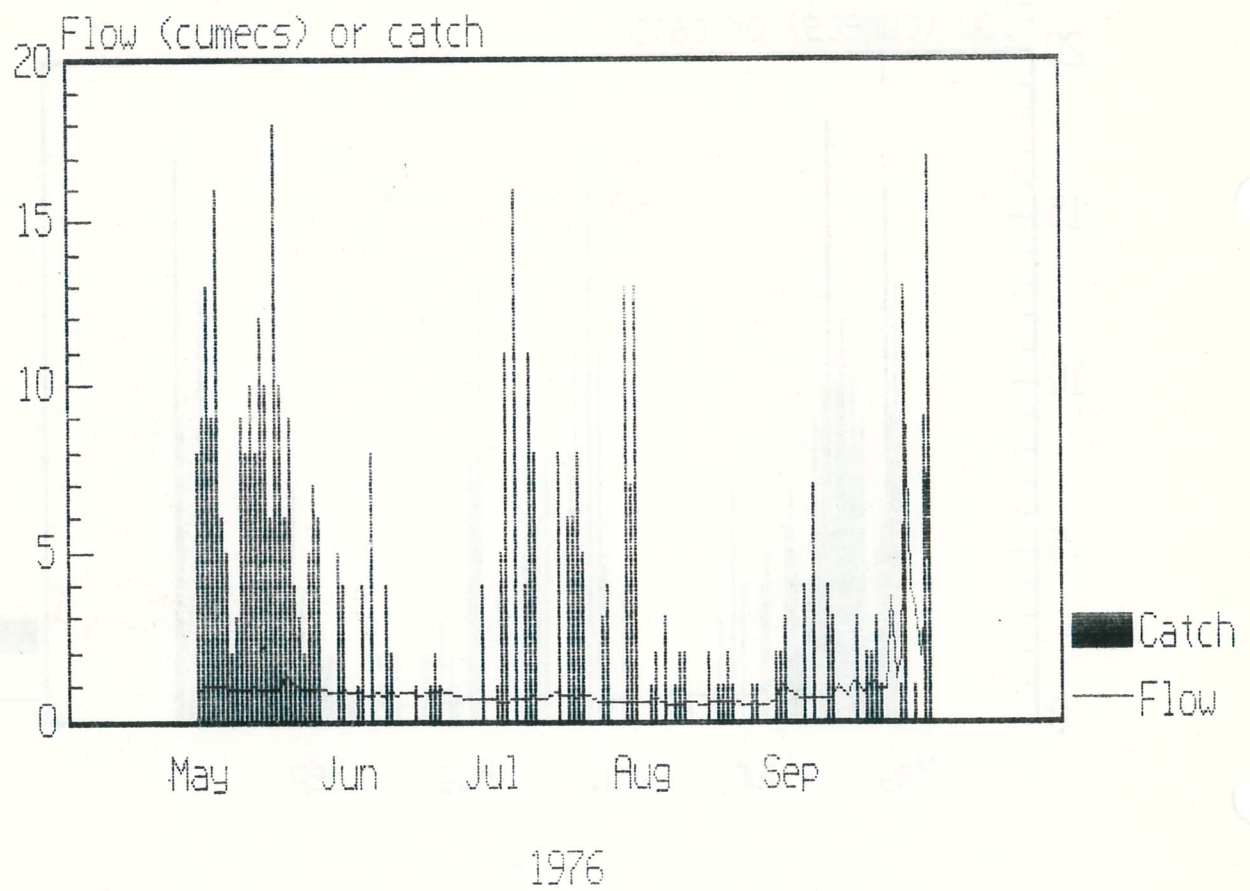


Fig.6. Daily flow (option no. 3) and
number of seatrout in River Axe 1976

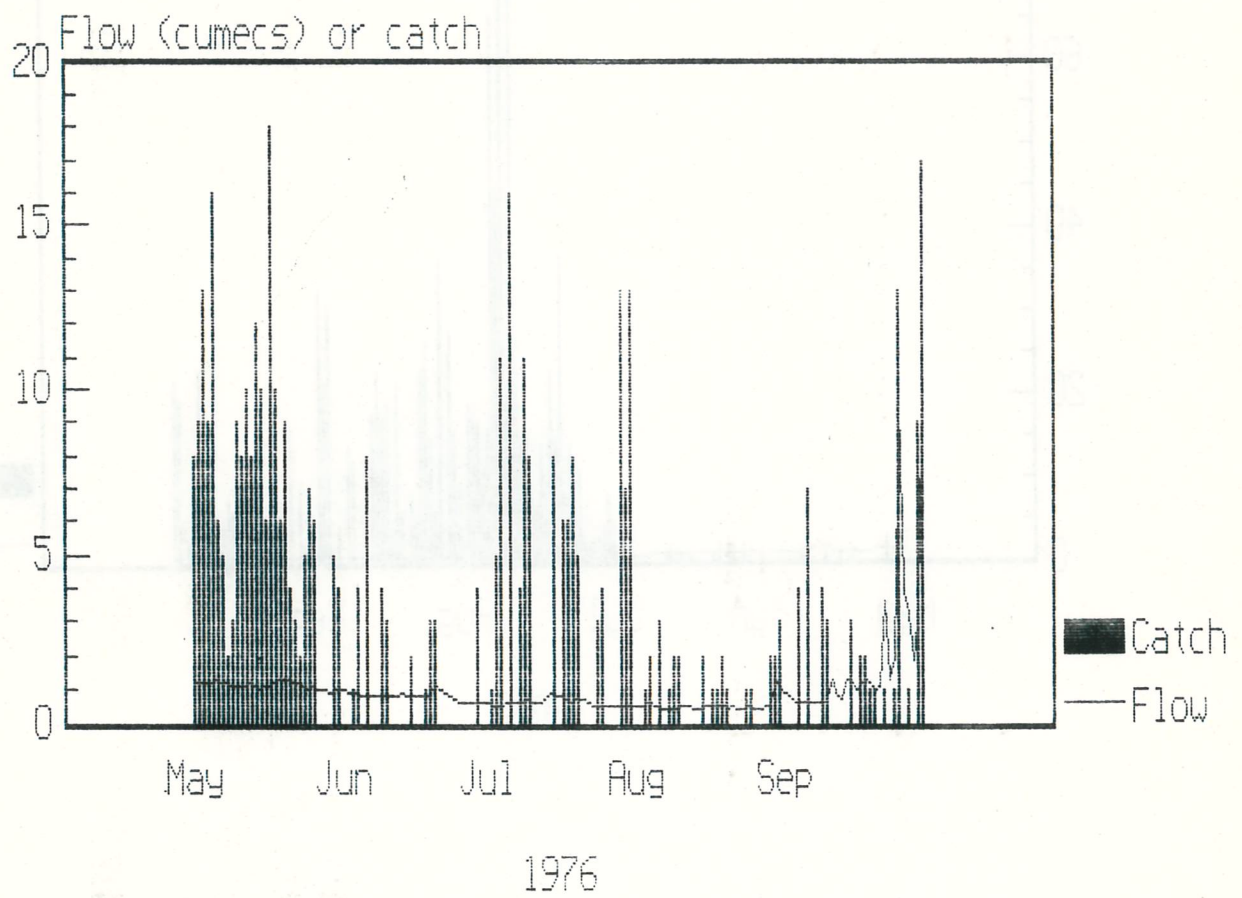


Fig.7. Daily flow (historical) and
number of whitling in River Axe

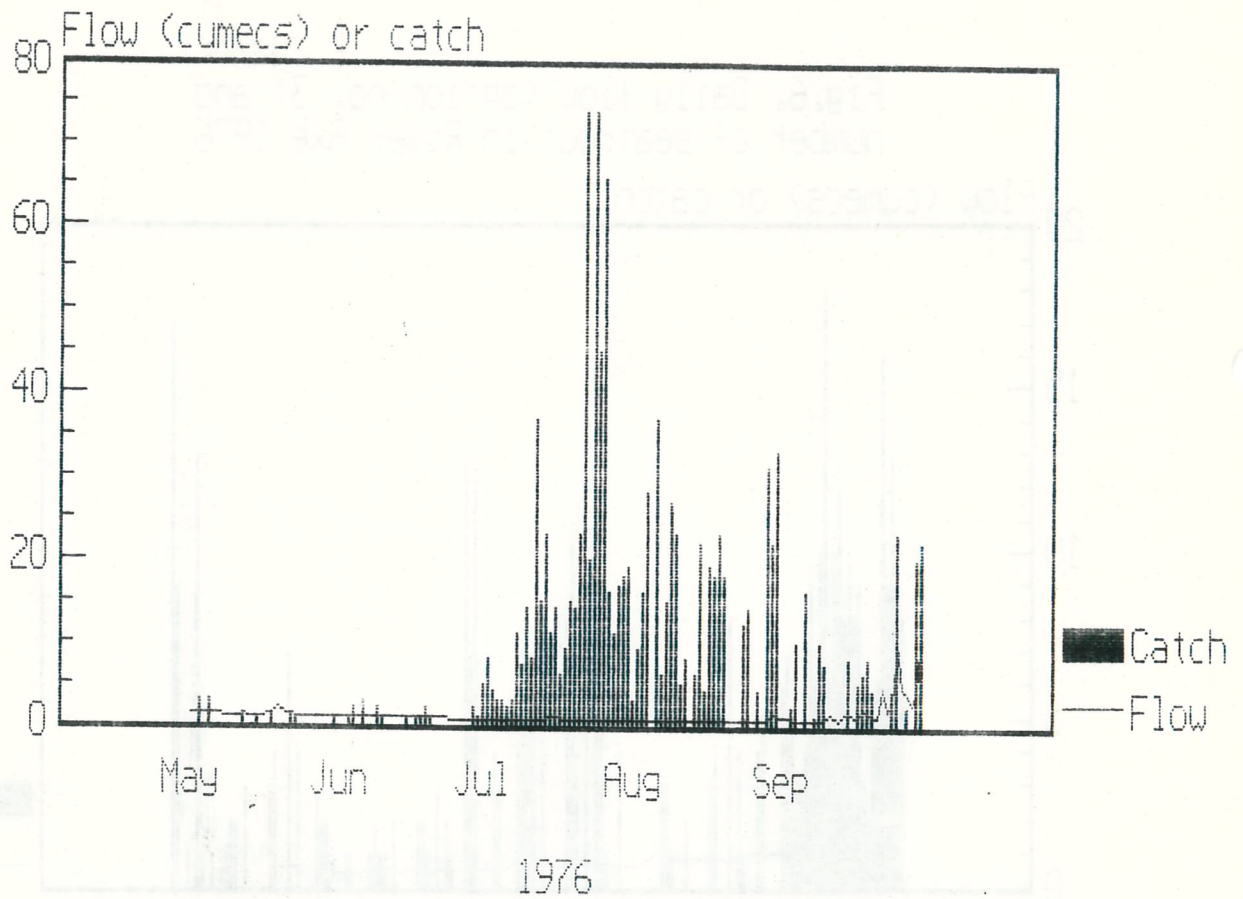


Fig.8. Daily flow (option no. 1) and
number of whitling in River Axe

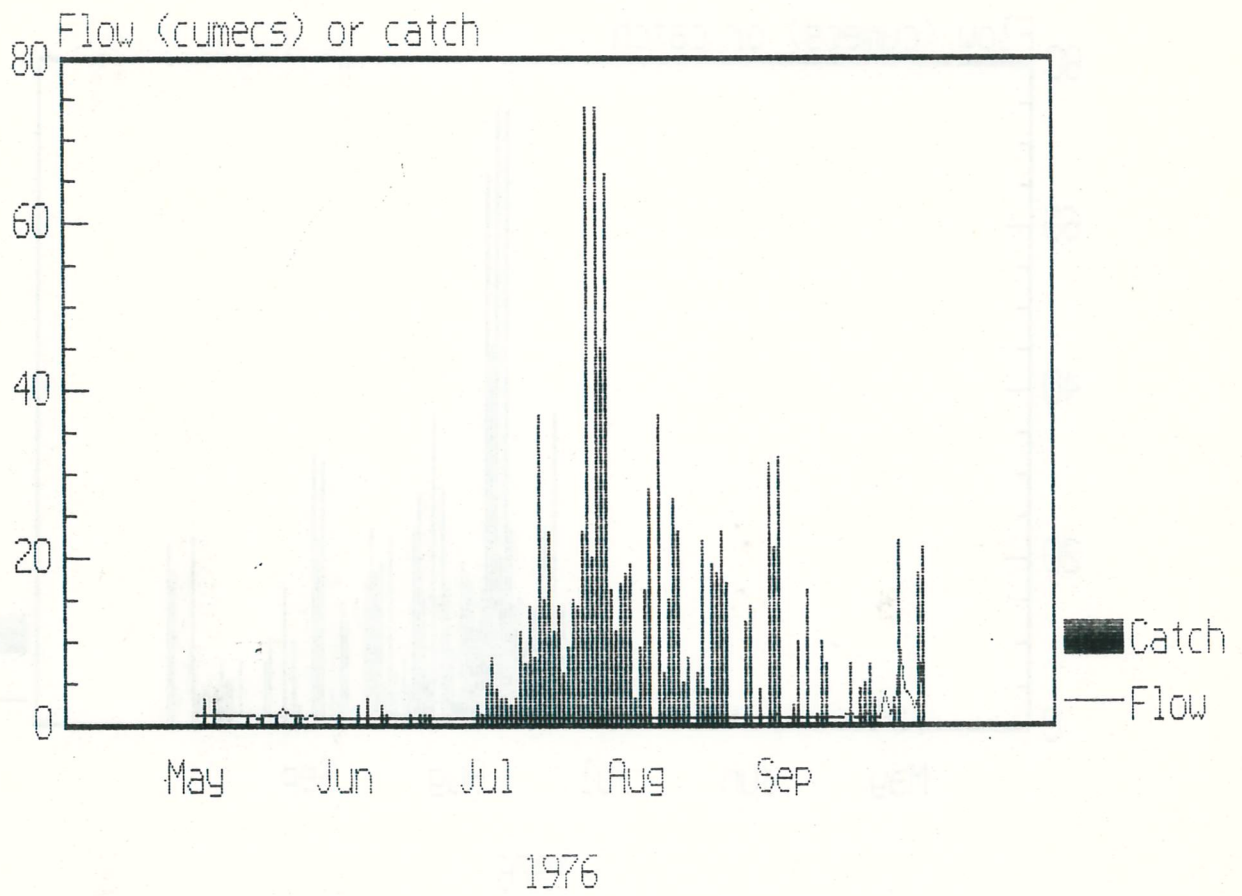
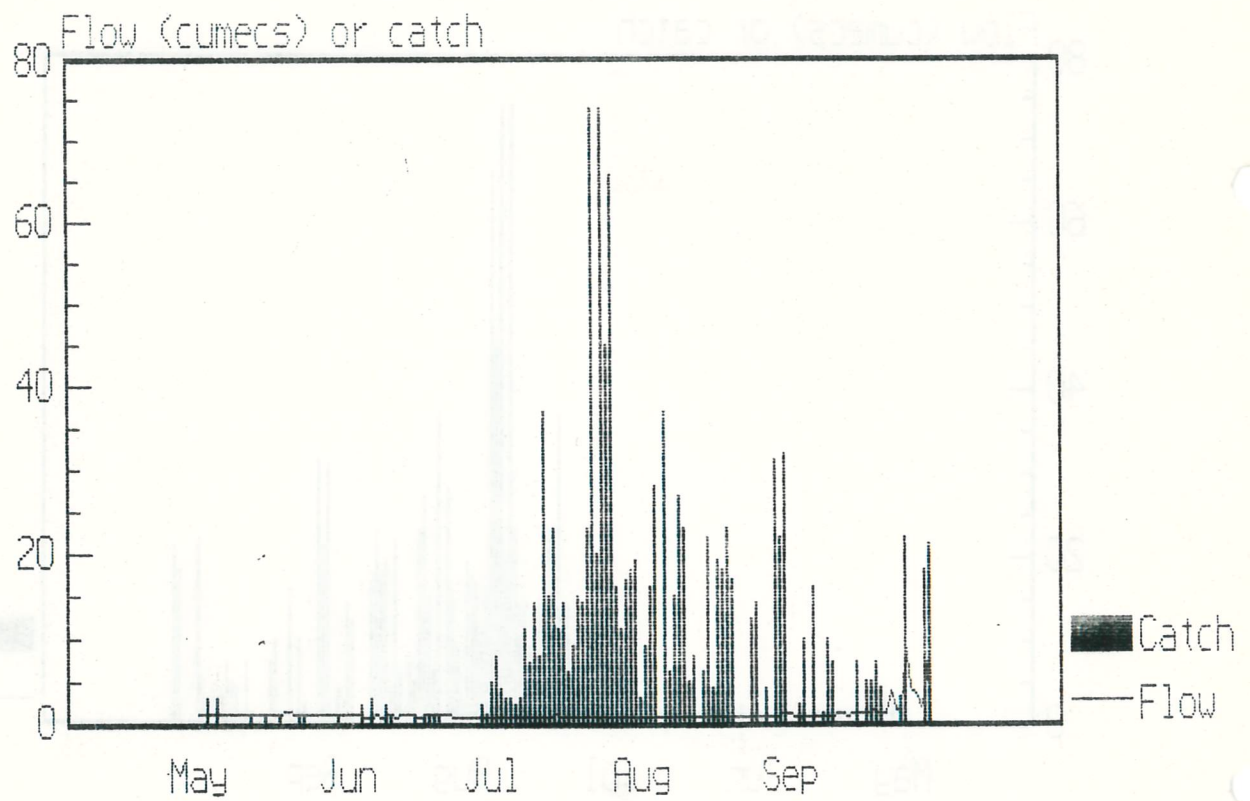


Fig.9. Daily flow (option no. 2) and
number of whitling in River Axe



1976

Fig.10. Daily flow (option no. 3) and
number of whittling in River Axe

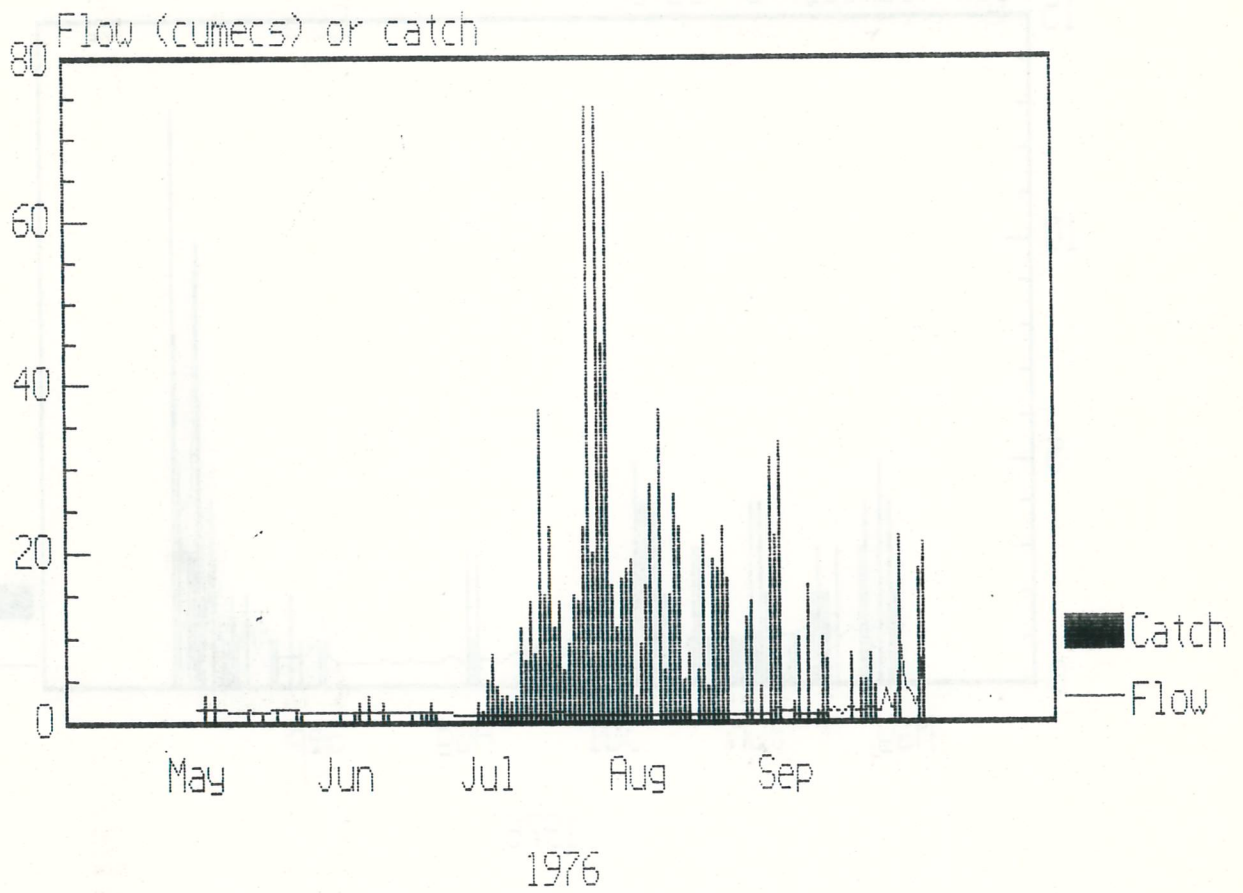


Fig.11. Daily flow (historical) and
number of salmon in River Axe

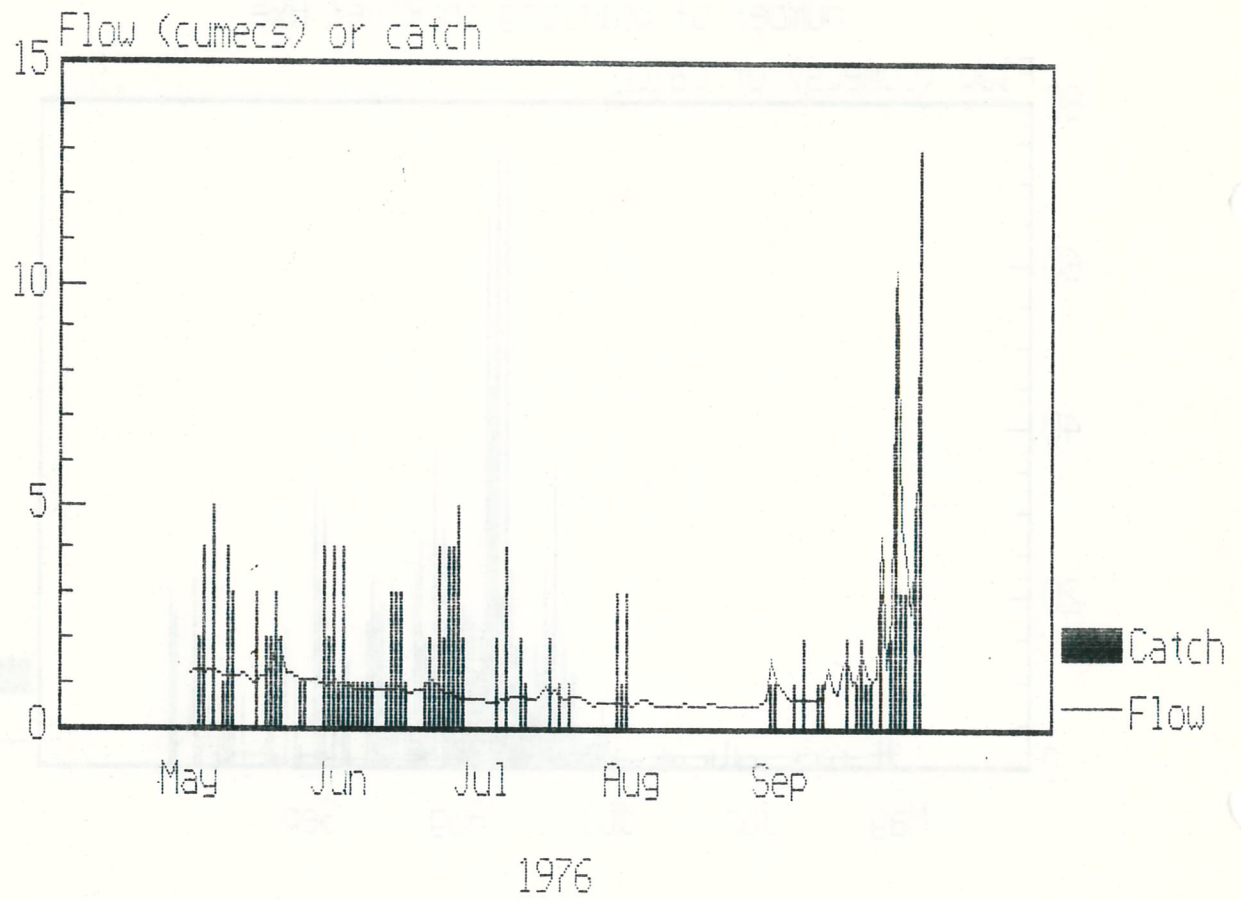


Fig.12. Daily flow (option no. 1) and
number of salmon in River Axe 1976

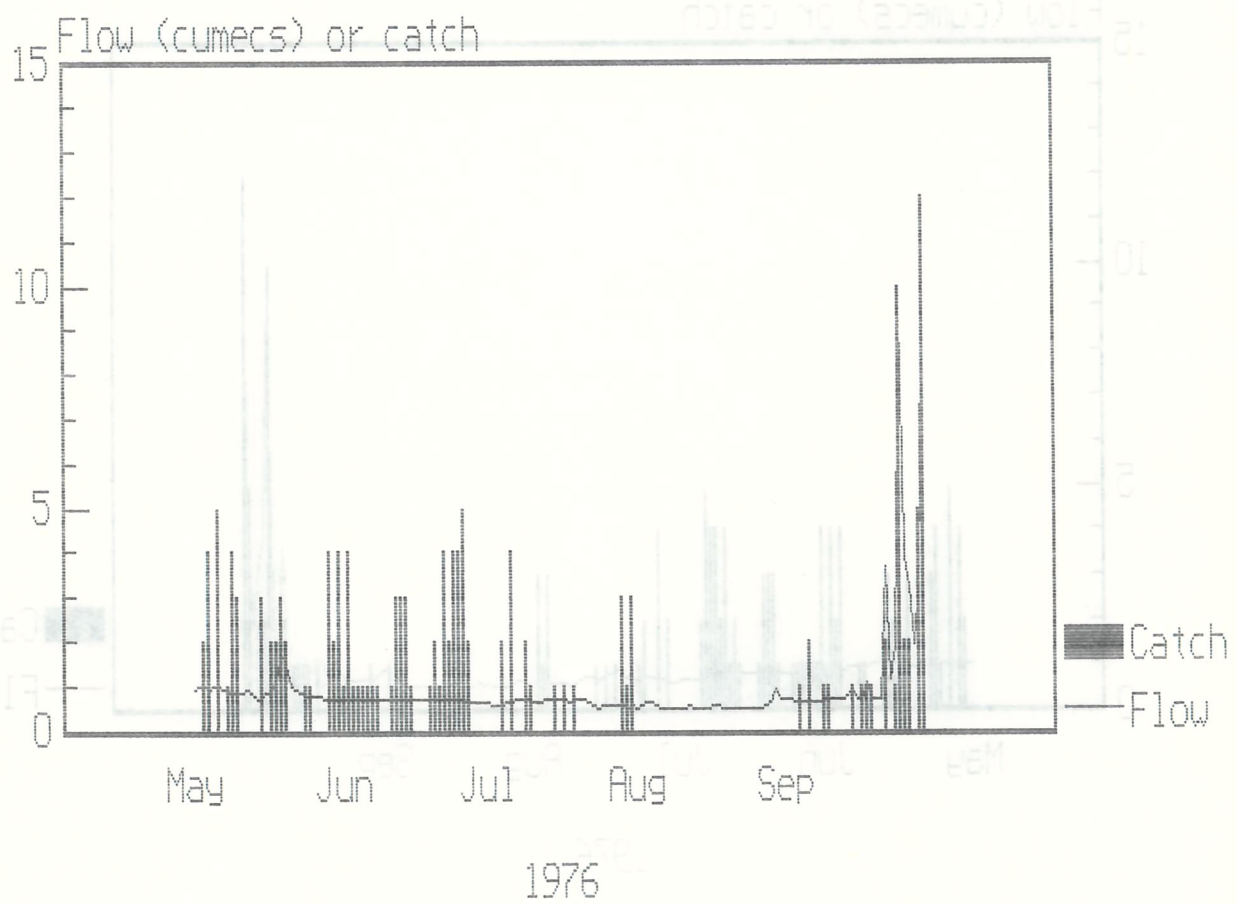


Fig.13. Daily flow (option no. 2) and
number of salmon in River Axe

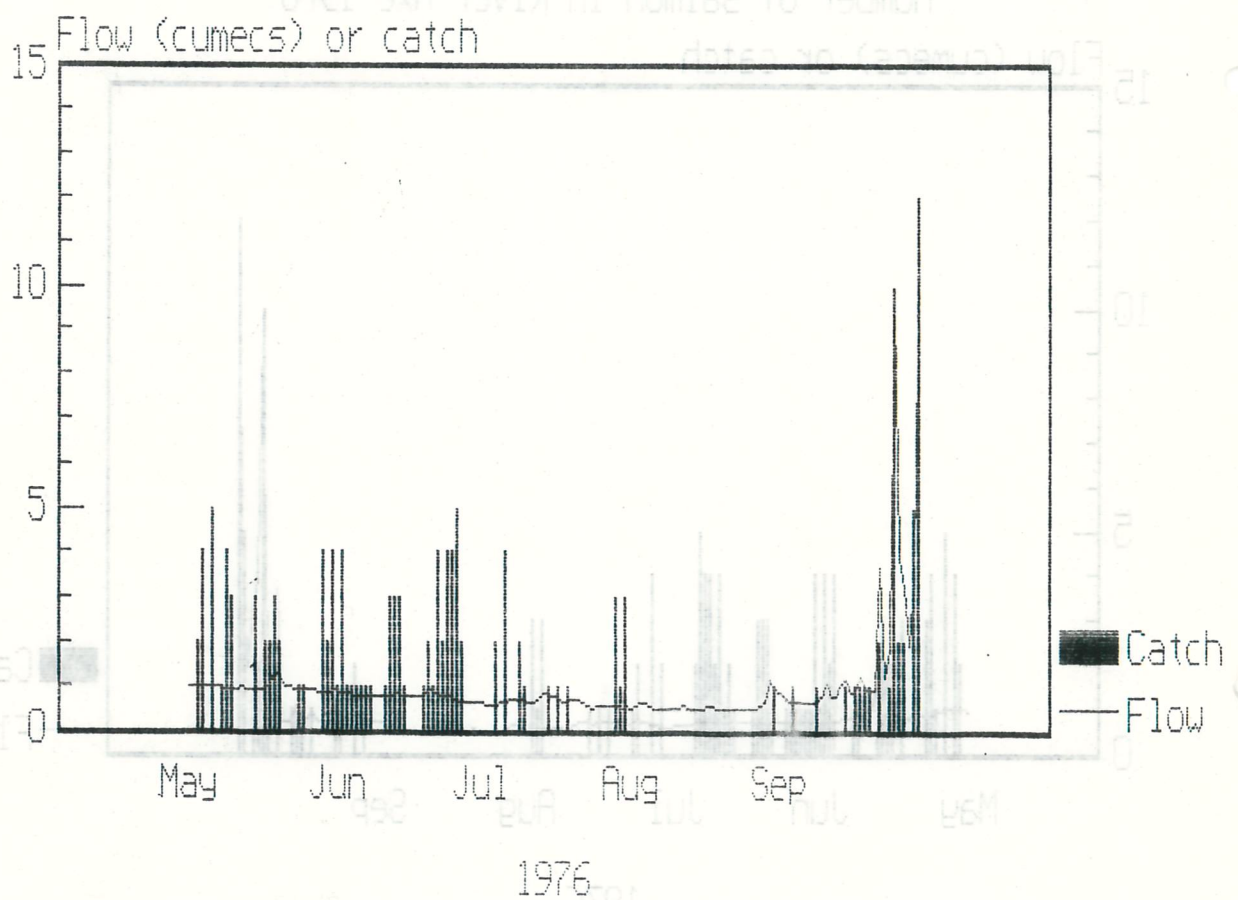


Fig.14. Daily flow (option no. 3) and
number of salmon in River Axe

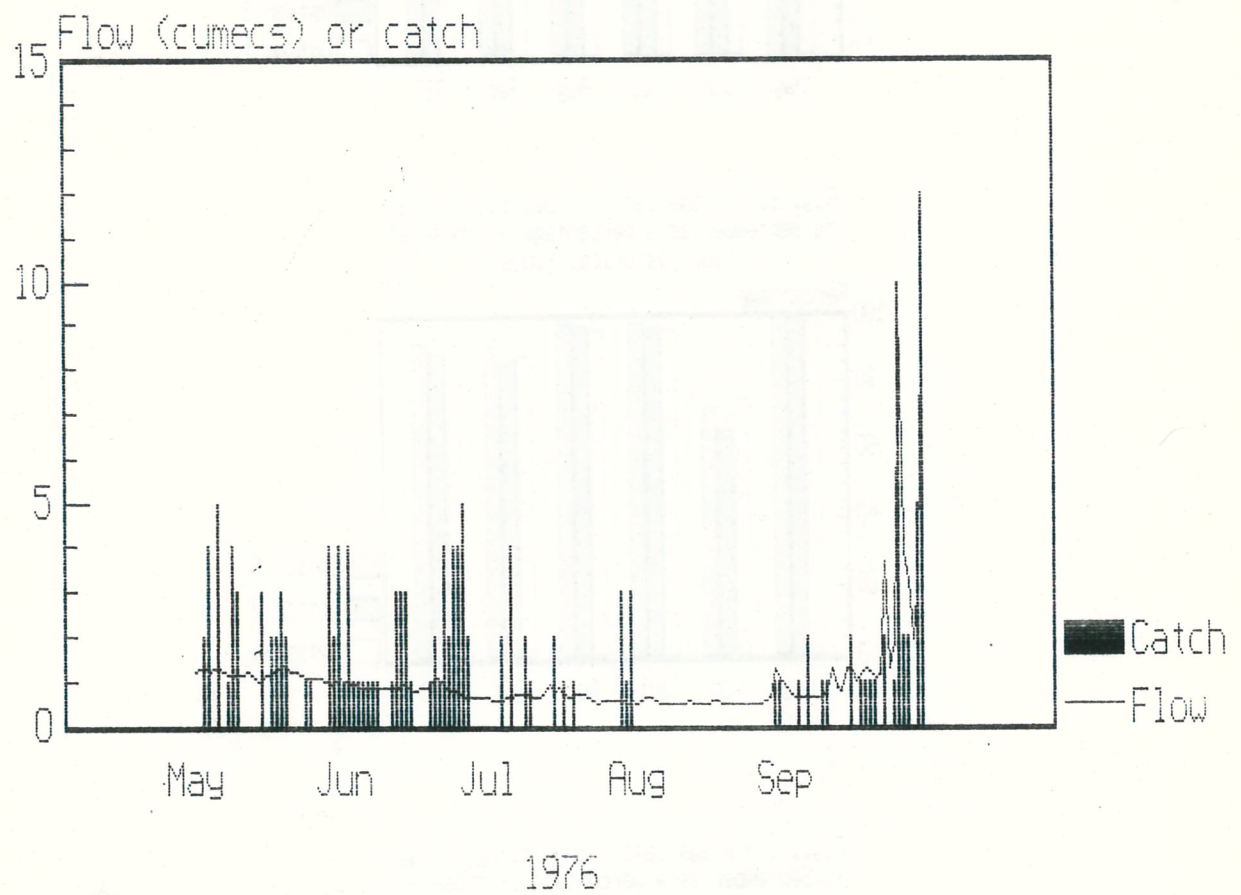


Fig.15. Average catch of salmon in May to September as a percentage of those at low historical flows

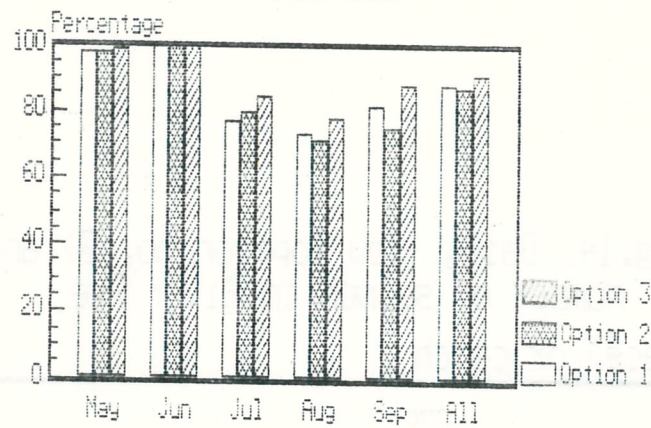


Fig.16. Average catch of seastrout in May to September as a percentage of those at low historical flows

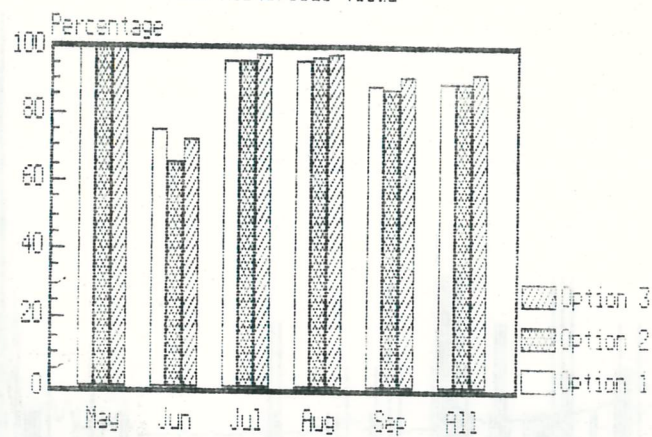


Fig.17. Average catch of whiting in May to September as a percentage of those at low historical flows

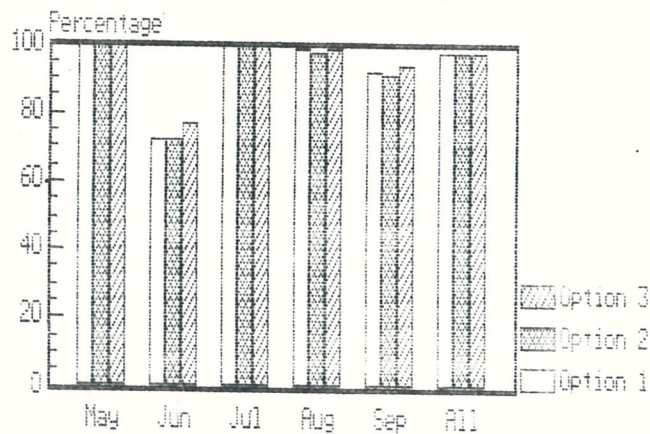


Fig.18. Average catch of salmon in May to September at low historical flows

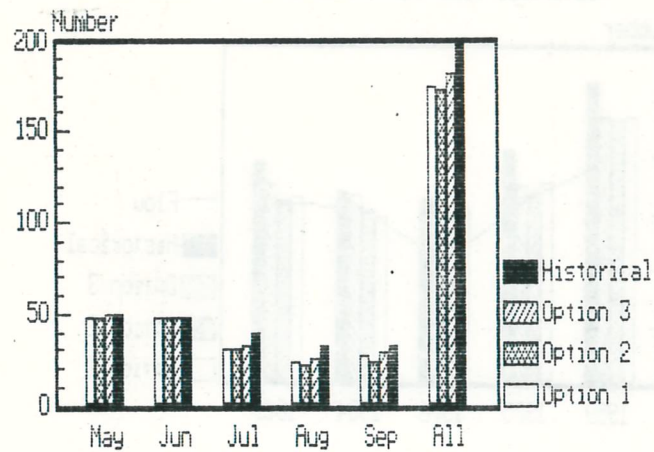


Fig.19. Average catch of seatrout in May to September at low historical flows

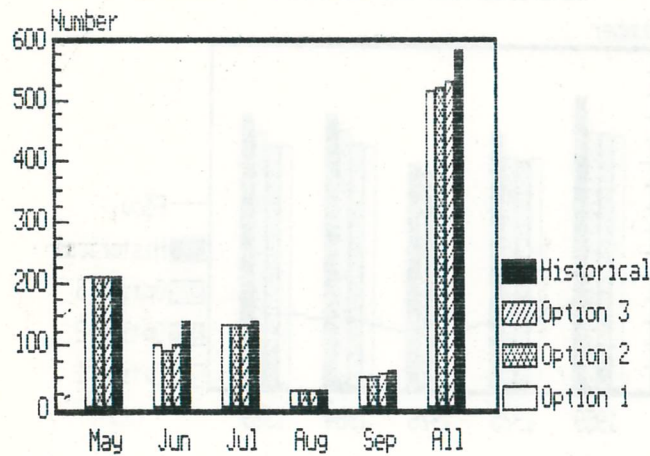


Fig.20. Average catch of whiting in May to September in years of low historical flows

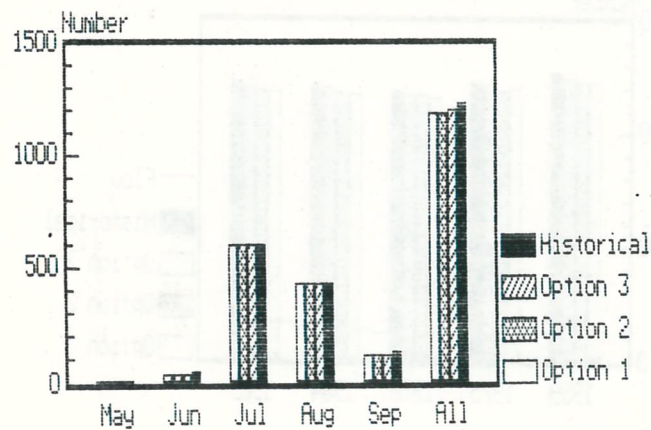


Fig.21. Average catch of salmon in May to September in years of low historical flow (ADF in dl/s)

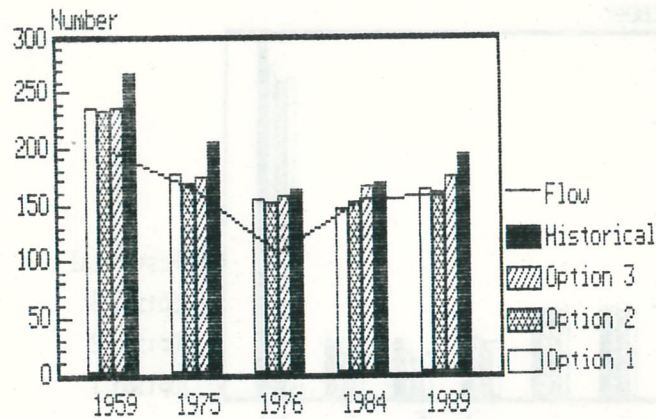


Fig.22. Average catch of seatrout in May to September in years of low historical flow (ADF in dl/s)

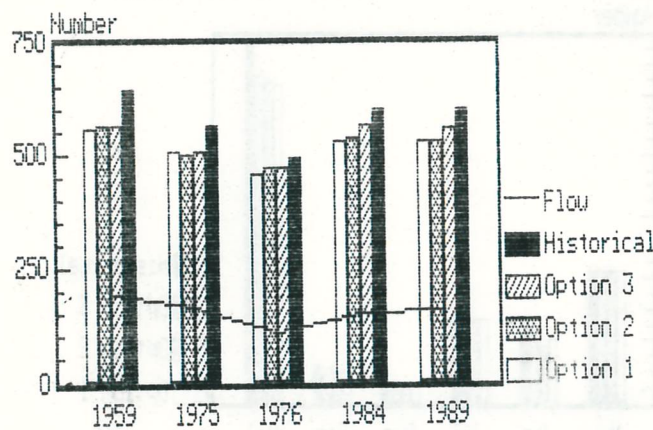
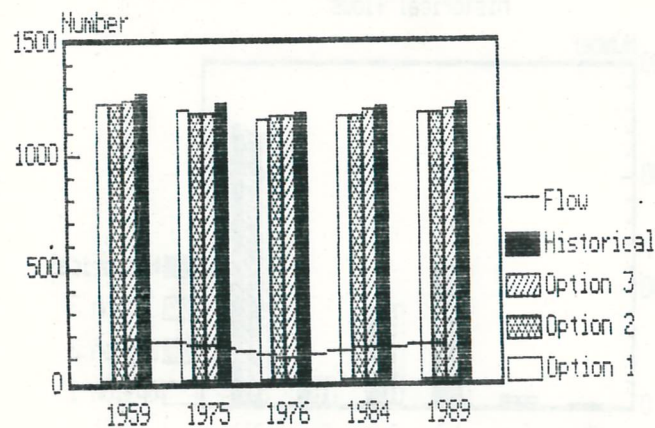


Fig.23. Average catch of whiting in May to September in years of low historical flow (ADF in dl/s)



Salmon

Year	1959		1975		1976		1984		1989		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
May	55	100	50	100	43	100	50	100	50	100	49.6	100
June	47	100	47	100	47	100	47	100	47	100	47	100
His. July	59	100	49	100	20	100	29	100	38	100	39	100
Aug.	102	100	17	100	2	100	18	100	19	100	31.6	100
Sept.	5	100	42	100	51	100	24	100	39	100	32.2	100
M-S	268	100	205	100	163	100	168	100	193	100	199.	100
May	54	98.2	48	96	43	100	50	100	48	96	48.6	98.0
June	47	100	47	100	47	100	47	100	47	100	47	100
Opt. July	50	84.7	36	73.5	19	95	19	65.5	26	68.4	30	76.9
No.1 Aug.	85	83.3	8	47.1	2	100	11	61.1	10	52.6	23.2	73.4
Sept.	1	20	37	88.1	43	84.3	19	79.2	32	82.1	26.4	82.0
M-S	237	88.4	176	85.9	154	94.5	146	86.9	163	84.5	175.	87.9
May	53	96.4	48	96	43	100	50	100	48	96	48.4	97.6
June	47	100	47	100	47	100	47	100	47	100	47	100
Opt. July	47	79.7	36	73.5	19	95	26	89.7	27	71.1	31	79.5
No.2 Aug.	85	83.3	5	29.4	1	50	10	55.6	11	57.9	22.4	70.9
Sept.	2	40	33	78.6	41	80.4	18	75	27	69.2	24.2	75.2
M-S	234	87.3	169	82.4	151	92.6	151	89.9	160	82.9	173	86.8
May	53	96.4	49	98	43	100	50	100	49	98	48.8	98.4
June	47	100	47	100	47	100	47	100	47	100	47	100
Opt. July	48	81.4	35	71.4	20	100	29	100	33	86.8	33	84.6
No.3 Aug	83	81.4	7	41.2	2	100	18	100	13	68.4	24.6	77.8
Sept.	5	100	37	88.1	45	88.2	22	91.7	33	84.6	28.4	88.2
M-S	236	88.1	175	85.4	157	96.3	166	98.8	175	90.7	182.	91.2

Seatrout

Year	1959		1975		1976		1984		1989		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
May	213	100	213	100	213	100	213	100	213	100	213	100
June	215	100	116	100	34	100	173	100	160	100	140.	100
His. July	139	100	138	100	144	100	135	100	136	100	138.	100
Aug.	35	100	30	100	27	100	30	100	29	100	30.2	100
Sept.	41	100	67	100	77	100	48	100	62	100	59	100
M-S	643	100	564	100	495	100	599	100	600	100	580.	100
May	213	100	213	100	213	100	213	100	213	100	213	100
June	215	100	68	58.6	21	61.8	113	65.3	104	65	104.	74.6
Opt. July	138	99.3	135	97.8	129	89.6	131	97.0	131	96.3	133.	96.0
No.1 Aug.	33	94.3	29	96.7	27	100	29	96.7	27	93.1	29	96.0
Sept.	36	87.8	60	89.6	69	89.6	42	87.5	53	85.5	52	88.1
M-S	557	86.6	505	89.5	459	92.7	528	88.1	528	88	515.	88.8
May	213	100	213	100	213	100	213	100	213	100	213	100
June	137	63.7	69	59.5	28	82.4	115	66.5	106	66.3	91	65.2
Opt. July	138	99.3	135	97.8	129	89.6	131	97.0	132	97.1	133	96.1
No.2 Aug.	33	94.3	29	96.7	27	100	29	96.7	28	96.6	29.2	96.7
Sept.	38	92.7	56	83.6	70	90.9	44	91.7	49	79.0	51.4	87.1
M-S	559	86.9	502	89.0	467	94.3	532	88.8	528	88	518.	89.2
May	213	100	213	100	213	100	213	100	213	100	213	100
June	139	64.7	68	58.6	34	100	138	79.8	126	78.8	101	72.3
Opt. July	139	100	136	98.6	129	89.6	135	100	135	99.3	135.	97.4
No.3 Aug.	33	94.3	29	96.7	27	100	29	96.7	29	100	29.4	97.4
Sept.	41	100	59	88.1	69	89.6	46	95.8	53	85.5	53.6	90.8
M-S	565	87.9	505	89.5	472	95.4	561	93.7	556	92.7	532.	91.7

Whitling

Year	1959		1975		1976		1984		1989		All	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
May	12	100	12	100	12	100	12	100	12	100	12	100
June	65	100	42	100	18	100	54	100	51	100	46	100
His. July	595	100	595	100	595	100	595	100	595	100	595	100
Aug.	480	100	430	100	403	100	430	100	426	100	434	100
Sept.	111	100	144	100	148	100	114	100	136	100	131	100
M-S	1263	100	1223	100	1176	100	1205	100	1220	100	1217	100
May	12	100	12	100	12	100	12	100	12	100	12	100
June	47	72.3	28	66.7	15	83.3	40	74.1	35	68.6	33	71.7
Opt. July	595	100	595	100	595	100	595	100	595	100	595	100
No.1 Aug.	469	97.7	422	98.1	400	99.3	420	97.7	420	98.6	426	98.2
Sept.	98	88.3	134	93.1	136	91.9	106	93.0	124	91.2	120	91.6
M-S	1221	96.7	1191	97.4	1158	98.5	1173	97.3	1186	97.2	1186	97.4
May	12	100	12	100	12	100	12	100	12	100	12	100
June	47	72.3	27	64.3	16	88.9	40	74.1	37	72.5	33	72.6
Opt. July	595	100	595	100	595	100	595	100	595	100	595	100
No.2 Aug.	469	97.7	419	97.4	401	99.5	418	97.2	419	98.4	425	98.0
Sept.	101	91.0	129	89.6	138	93.2	106	93.0	122	89.7	119	91.3
M-S	1224	96.9	1182	96.6	1162	98.8	1171	97.2	1185	97.1	1185	97.3
May	12	100	12	100	12	100	12	100	12	100	12	100
June	47	72.3	25	59.5	18	100	47	87.0	40	78.4	35	77.0
Opt. July	595	100	595	100	595	100	595	100	595	100	595	100
No.3 Aug.	469	97.7	420	97.7	402	99.8	427	99.3	427	100	429	98.9
Sept.	110	99.1	127	88.2	140	94.6	114	100	124	91.2	123	94.2
M-S	1233	97.6	1179	96.4	1167	99.2	1195	99.2	1198	98.2	1194	98.1

APPENDIX II

Daily flows and predicted catches of fish

('Natural' refers to historical flows; '% natural' refers to the monthly predicted catch expressed as percentage of the corresponding monthly catch predicted from corresponding historical flows)

River Axe Salmon Nos		1959	Natural			
	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	0
2	1	4	0	0	0	0
3	2	1	1	0	0	0
4	5	1	4	1	1	1
5	0	1	0	0	0	0
6	6	1	6	2	2	2
7	0	1	0	0	0	0
8	2	1	1	0	0	0
9	4	0	3	1	1	1
10	3	0	0	14	0	0
11	0	1	4	12	0	0
12	1	3	1	9	0	0
13	0	3	0	23	0	0
14	0	3	0	19	0	0
15	3	1	3	0	0	0
16	0	0	0	2	0	0
17	3	0	2	2	0	0
18	3	0	2	1	0	0
19	3	1	3	2	0	0
20	2	2	1	1	0	0
21	0	1	0	0	0	0
22	0	4	0	0	0	0
23	0	2	0	0	0	0
24	2	4	0	0	0	0
25	2	4	0	0	0	0
26	0	5	0	0	0	0
27	0	2	0	0	0	0
28	0	0	1	0	0	0
29	5	0	10	2	1	1
30	3	0	4	1	0	0
31	5		5	2	0	0
	55	47	59	102	5	268
% natural	100.00	100.00	100.00	100.00	100.00	100.00

River Axe Salmon Nos

		1959	MRF 0.72	Take 100%		
	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	1	0	0	
4	4	1	3	0	0	
5	0	1	0	0	0	
6	6	1	5	1	1	
7	0	1	0	0	0	
8	2	1	1	0	0	
9	4	0	3	0	0	
10	3	0	7	13	0	
11	0	1	3	11	0	
12	1	3	1	8	0	
13	0	3	0	22	0	
14	0	3	0	18	0	
15	3	1	2	7	0	
16	0	0	0	1	0	
17	3	0	1	1	0	
18	3	0	1	0	0	
19	3	1	2	1	0	
20	2	2	1	0	0	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	2	4	0	0	0	
25	2	4	0	0	0	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	1	0	0	
29	5	0	9	1	0	
30	3	0	4	0	0	
31	5		5	1	0	
	54	47	50	65	1	237
% natural	98.18	100.00	84.75	83.33	20.00	88.43

River Axe Salmon Nos

1959 MRF 0.72 Take 50%

May June July August September May-Sept.

Date

1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	1	0	0	
4	4	1	3	1	1	
5	0	1	0	0	0	
6	6	1	5	1	1	
7	0	1	0	0	0	
8	2	1	1	0	0	
9	4	0	3	0	0	
10	3	0	7	12	0	
11	0	1	3	11	0	
12	1	3	0	8	0	
13	0	3	0	22	0	
14	0	3	0	18	0	
15	3	1	2	7	0	
16	0	0	0	1	0	
17	3	0	1	1	0	
18	2	0	1	0	0	
19	3	1	2	1	0	
20	2	2	1	0	0	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	2	4	0	0	0	
25	2	4	0	0	0	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	0	0	0	
29	5	0	0	1	0	
30	3	0	4	0	0	
31	5		5	1	0	
	53	47	47	85	2	234
% natural	96.36	100.00	79.66	83.33	40.00	87.31

River Axe Salmon Nos

		1959	MRF 0.72	Take 50%		
	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	1	0	0	
4	4	1	4	1	1	
5	0	1	0	0	0	
6	6	1	6	2	2	
7	0	1	0	0	0	
8	2	1	1	0	0	
9	4	0	3	1	1	
10	3	0	7	12	0	
11	0	1	3	10	0	
12	1	3	0	7	0	
13	0	3	0	21	0	
14	0	3	0	17	0	
15	3	1	2	6	0	
16	0	0	0	0	0	
17	3	0	2	0	0	
18	2	0	1	0	0	
19	3	1	2	1	0	
20	2	2	1	0	0	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	2	4	0	0	0	
25	2	4	0	0	0	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	0	0	0	
29	5	0	0	2	1	
30	3	0	3	1	0	
31	5		4	2		
	53	47	48	83	5	236
% natural	96.36	100.00	81.36	81.37	100.00	88.06

River Axe Salmon Nos

	May	1975 June	Natural July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	1	0	1	
4	4	1	3	1	2	
5	0	1	0	0	0	
6	0	1	0	2	3	
7	0	1	0	0	0	
8	2	1	0	0	1	
9	4	0	4	1	2	
10	0	0	3	0	1	
11	0	1	0	0	0	
12	1	3	2	0	0	
13	0	3	0	0	4	
14	0	3	0	0	6	
15	3	1	6	4	2	
16	0	0	0	1	0	
17	2	0	2	2	1	
18	2	0	2	1	2	
19	3	1	0	2	2	
20	2	2	2	1	2	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	1	
25	2	4	0	0	2	
26	0	5	0	0	0	
27	0	2	0	0	5	
28	0	0	0	0	0	
29	4	0	4	1	3	
30	3	0	1	0	2	
31	5		4	1	0	
	50	47	49	17	42	205
% natural	100.00	100.00	100.00	100.00	100.00	100.00

River Axe Salmon Nos

1975 MRF 0.72 Take 100%

	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	0	0	0	
4	4	1	2	0	2	
5	0	1	0	0	0	
6	6	1	4	1	2	
7	0	1	0	0	0	
8	2	1	5	0	0	
9	4	0	3	0	2	
10	3	0	2	0	1	
11	0	1	0	0	0	
12	1	3	1	0	0	
13	0	3	0	0	4	
14	0	3	0	0	6	
15	3	1	5	3	2	
16	0	0	0	0	0	
17	2	0	2	1	1	
18	2	0	1	1	2	
19	3	1	2	2	2	
20	2	2	1	0	2	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	1	4	0	0	1	
26	0	5	0	0	0	
27	0	2	0	0	5	
28	0	0	0	0	0	
29	4	0	3	0	3	
30	3	0	2	0	2	
31	4		3	0	0	
	48	47	36	8	37	176
% natural	96.00	100.00	73.47	47.06	88.10	85.85

River Axe Salmon Nos

		1975	MRF 0.72	TAKE 50%		
	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	0	0	0	
4	4	1	3	0	2	
5	0	1	0	0	0	
6	6	1	5	1	2	
7	0	1	0	0	0	
8	2	1	4	0	0	
9	4	0	0	0	2	
10	3	0	2	0	1	
11	0	1	0	0	0	
12	1	3	1	0	0	
13	0	3	0	0	3	
14	0	3	0	0	6	
15	3	1	4	2	2	
16	0	0	0	0	0	
17	2	0	2	0	1	
18	2	0	1	0	1	
19	3	1	2	1	1	
20	2	2	1	0	1	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	1	4	0	0	1	
26	0	5	0	0	0	
27	0	2	0	0	5	
28	0	0	0	0	0	
29	4	0	3	0	3	
30	3	0	1	0	2	
31	4		4	1	0	
	48	47	36	5	33	169
% natural	96.00	100.00	73.47	29.41	78.57	82.44

River Axe Salmon Nos

	May	1975 June	MRF July	1.3 August	TAKE September	100% May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	0	0	0	
4	4	1	2	0	2	
5	0	1	0	0	0	
6	6	1	4	1	2	
7	0	1	0	0	0	
8	2	1	5	0	0	
9	4	0	3	0	2	
10	3	0	2	0	1	
11	0	1	0	0	0	
12	1	3	1	0	0	
13	0	3	0	0	4	
14	0	3	0	0	6	
15	3	1	5	3	2	
16	0	0	0	0	0	
17	2	0	2	1	1	
18	2	0	1	1	2	
19	3	1	2	1	2	
20	2	2	1	0	2	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	1	4	0	0	1	
26	0	5	0	0	0	
27	0	2	0	0	5	
28	0	0	0	0	0	
29	4	0	3	0	3	
30	3	0	1	0	2	
31	5		3	0	0	
	49	47	35	7	37	175
% natural	98.00	100.00	71.43	41.18	88.10	85.37

River Axe Salmon Nos

	May	1976 June	Natural July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	0	4	0	0	0	
3	2	1	0	0	0	
4	4	1	2	0	1	
5	0	1	0	0	0	
6	5	1	4	0	2	
7	0	1	0	0	0	
8	1	1	0	0	0	
9	4	0	2	0	1	
10	3	0	1	0	1	
11	0	1	0	0	0	
12	0	3	0	0	0	
13	0	3	0	0	0	
14	0	3	0	0	0	
15	3	1	2	0	2	
16	0	0	0	0	0	
17	2	0	1	0	1	
18	2	0	0	0	2	
19	3	1	1	0	1	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	3	
23	0	2	0	0	0	
24	1	4	0	0	2	
25	1	4	0	0	10	
26	0	5	0	0	3	
27	0	2	0	0	3	
28	0	0	0	0	0	
29	4	0	3	0	5	
30	2	0	1	1	13	
31	4		3	1		
	43	47	20	2	51	163
% natural	100.00	100.00	100.00	100.00	100.00	100.00

River Axe Salmon Nos

Date	1976 MRF 0.72 Take 100%					May-Sept.
	May	June	July	August	September	
1	0	1	0	0	0	0
2	0	4	0	0	0	0
3	2	1	0	0	0	0
4	4	1	2	0	1	1
5	0	1	0	0	0	0
6	5	1	4	0	2	2
7	0	1	0	0	0	0
8	1	1	0	0	0	0
9	4	0	2	0	1	1
10	3	0	1	0	1	1
11	0	1	0	0	0	0
12	0	3	0	0	0	0
13	0	3	0	0	0	0
14	0	3	0	0	0	0
15	3	1	1	0	1	1
16	0	0	0	0	0	0
17	2	0	1	0	1	1
18	2	0	0	0	1	1
19	3	1	1	0	1	1
20	2	2	0	0	0	0
21	0	1	0	0	0	0
22	0	4	0	0	2	2
23	0	2	0	0	0	0
24	1	4	0	0	1	1
25	1	4	0	0	10	10
26	0	5	0	0	2	2
27	0	2	0	0	2	2
28	0	0	0	0	0	0
29	4	0	3	0	5	5
30	2	0	1	1	12	12
31	4		3	1		
	43	47	19	2	43	154
% natural	100.00	100.00	95.00	100.00	84.31	94.48

River Axe Salmon Nos

	May	1976 June	MRF 0.72 July	Take 50% August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	0	4	0	0	0	
3	2	1	0	0	0	
4	4	1	2	0	1	
5	0	1	0	0	0	
6	5	1	4	0	0	
7	0	1	0	0	0	
8	1	1	0	0	0	
9	4	0	2	0	1	
10	3	0	1	0	0	
11	0	1	0	0	0	
12	0	3	0	0	0	
13	0	3	0	0	0	
14	0	3	0	0	0	
15	3	1	1	0	1	
16	0	0	0	0	0	
17	2	0	1	0	1	
18	2	0	0	0	1	
19	3	1	1	0	1	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	2	
23	0	2	0	0	0	
24	1	4	0	0	1	
25	1	4	0	0	10	
26	0	5	0	0	2	
27	0	2	0	0	2	
28	0	0	0	0	0	
29	4	0	3	0	5	
30	2	0	1	0	12	
31	4		3	0		
	43	47	19	1	41	151
% natural	100.00	100.00	95.00	50.00	80.39	92.64

River Axe Salmon Nos

1976 MRF 1.3 Take 100%
 June July August September May-Sept.

Date	May	June	July	August	September	May-Sept.
1	0	1	0	0	0	
2	0	4	0	0	0	
3	2	1	0	0	0	
4	4	1	2	0	1	
5	0	1	0	0	0	
6	5	1	4	0	2	
7	0	1	0	0	0	
8	1	1	0	0	0	
9	4	0	2	0	1	
10	3	0	1	0	1	
11	0	1	0	0	0	
12	0	3	0	0	0	
13	0	3	0	0	0	
14	0	3	0	0	0	
15	3	1	2	0	2	
16	0	0	0	0	0	
17	2	0	1	0	1	
18	2	0	0	0	1	
19	3	1	1	0	1	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	2	
23	0	2	0	0	0	
24	1	4	0	0	1	
25	1	4	0	0	10	
26	0	5	0	0	2	
27	0	2	0	0	2	
28	0	0	0	0	0	
29	4	0	3	0	5	
30	2	0	1	1	12	
31	4		3	1		
	43	47	20	2	45	157
% natural	100.00	100.00	100.00	100.00	88.24	96.32

River Axe Salmon Nos

	May	1984 June	Natural July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	2	0	
3	2	1	0	4	1	
4	4	1	3	7	2	
5	0	1	0	0	0	
6	6	1	5	2	3	
7	0	1	0	0	0	
8	2	1	3	0	1	
9	4	0	2	0	2	
10	3	0	0	1	1	
11	0	1	0	0	0	
12	0	3	0	0	0	
13	0	3	0	0	0	
14	0	3	0	0	0	
15	3	1	2	0	1	
16	0	0	0	0	0	
17	2	0	1	0	1	
18	2	0	1	0	1	
19	3	1	2	0	1	
20	2	2	1	0	1	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	2	4	1	0	1	
26	0	5	0	0	0	
27	0	2	0	0	1	
28	0	0	0	0	0	
29	5	0	3	1	3	
30	3	0	1	0	4	
31	5		4	1	0	
	50	47	29	18	24	168
% natural	100.00	100.00	100.00	100.00	100.00	100.00

River Axe Salmon Nos

1984 MRF 0.72 TAKE 100%

	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	1	0	
3	2	1	0	3	1	
4	4	1	2	6	2	
5	0	1	0	0	0	
6	6	1	4	1	2	
7	0	1	0	0	0	
8	2	1	0	0	0	
9	4	0	2	0	2	
10	3	0	2	0	1	
11	0	1	0	0	0	
12	0	3	0	0	0	
13	0	3	0	0	0	
14	0	3	0	0	0	
15	3	1	1	0	1	
16	0	0	0	0	0	
17	2	0	0	0	1	
18	2	0	0	0	1	
19	3	1	1	0	1	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	2	4	0	0	0	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	0	0	0	
29	5	0	3	0	3	
30	3	0	1	0	3	
31	5	0	3	0	0	
	50	47	19	11	19	146
% natural	100.00	100.00	65.52	61.11	79.17	86.90

River Axe Salmon Nos

	1984	HRF 0.72	TAKE 50%		
	May	June	July	August	September
Date					May-Sept.
1	0	1	0	0	0
2	1	4	0	1	0
3	2	1	0	2	1
4	4	1	3	5	2
5	0	1	0	0	0
6	6	1	5	1	2
7	0	1	0	0	0
8	2	1	0	0	0
9	4	0	3	0	2
10	3	0	2	0	1
11	0	1	0	0	0
12	0	3	0	0	0
13	0	3	0	0	0
14	0	3	0	0	0
15	3	1	2	0	1
16	0	0	0	0	0
17	2	0	1	0	1
18	2	0	1	0	1
19	3	1	1	0	1
20	2	2	0	0	1
21	0	1	0	0	0
22	0	4	0	0	0
23	0	2	0	0	0
24	1	4	0	0	0
25	2	4	0	0	0
26	0	5	0	0	0
27	0	2	0	0	0
28	0	0	0	0	0
29	5	0	3	0	2
30	3	0	1	0	3
31	5		4	1	0
	50	47	26	10	18
% natural	100.00	100.00	89.66	55.56	75.00
					151
					89.88

River Axe Salmon Nos

1984
JuneMRF 1.3 TAKE 100%
July

August September May-Sept.

May

Date

1	0	1	0	0	0	0
2	1	4	0	2	0	0
3	2	1	0	4	1	0
4	4	1	3	7	2	0
5	0	1	0	0	0	0
6	6	1	5	2	3	0
7	0	1	0	0	0	0
8	2	1	0	0	1	0
9	4	0	3	1	2	0
10	3	0	2	0	1	0
11	0	1	0	0	0	0
12	0	3	0	0	0	0
13	0	3	0	0	0	0
14	0	3	0	0	0	0
15	3	1	2	0	1	0
16	0	0	0	0	0	0
17	2	0	1	0	1	0
18	2	0	1	0	1	0
19	3	1	2	0	1	0
20	2	2	1	0	1	0
21	0	1	0	0	0	0
22	0	4	0	0	0	0
23	0	2	0	0	0	0
24	1	4	0	0	0	0
25	2	4	1	0	1	0
26	0	5	0	0	0	0
27	0	2	0	0	0	0
28	0	0	0	0	0	0
29	5	0	3	1	3	0
30	3	0	1	0	3	0
31	5		4	1	0	0
	50	47	29	18	22	166
% natural	100.00	100.00	100.00	100.00	91.67	98.81

River Axe Salmon Nos

	May	1989 June	Natural July	August	September	May-Sept.
Date						
1	0	1	0	0	0	0
2	1	4	0	0	0	0
3	2	1	1	0	1	1
4	4	1	3	0	2	2
5	0	1	0	0	0	0
6	6	1	6	1	3	3
7	0	1	3	0	0	0
8	2	1	3	0	0	0
9	4	0	4	2	2	2
10	3	0	3	4	2	2
11	0	1	0	0	3	3
12	1	3	0	0	2	2
13	0	3	0	0	0	0
14	0	3	0	4	5	5
15	3	1	2	6	4	4
16	0	0	0	0	2	2
17	2	0	1	0	3	3
18	2	0	1	0	2	2
19	3	1	2	0	2	2
20	2	2	1	0	1	1
21	0	1	0	0	0	0
22	0	4	0	0	0	0
23	0	2	0	0	0	0
24	1	4	0	0	1	1
25	2	4	0	0	1	1
26	0	5	0	0	0	0
27	0	2	0	0	0	0
28	0	0	0	0	0	0
29	4	0	3	1	2	2
30	3	0	1	0	1	1
31	5		4	1	0	0
	50	47	38	19	39	193
% natural	100.00	100.00	100.00	100.00	100.00	100.00

River Axe Salmon Nos

1989 MRF 0.72 TAKE 100%

	May	June	July	August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	1	0	0	
4	4	1	2	0	1	
5	0	1	0	0	0	
6	6	1	5	1	2	
7	0	1	2	0	0	
8	2	1	2	0	0	
9	4	0	3	0	1	
10	3	0	2	2	1	
11	0	1	0	0	3	
12	0	3	0	0	1	
13	0	3	0	0	0	
14	0	3	0	2	4	
15	3	1	1	5	4	
16	0	0	0	0	2	
17	2	0	0	0	3	
18	2	0	0	0	2	
19	3	1	1	0	2	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	1	
25	2	4	0	0	1	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	0	0	0	
29	4	0	3	0	2	
30	3	0	1	0	1	
31	4		3	0	0	
	48	47	26	10	32	163
% natural	96.00	100.00	68.42	52.63	82.05	84.46

River Axe Salmon Nos

	May	1989 June	MRF 0.72 July	TAKE 50% August	September	May-Sept.
Date						
1	0	1	0	0	0	
2	1	4	0	0	0	
3	2	1	0	0	0	
4	4	1	3	0	2	
5	0	1	0	0	0	
6	6	1	5	1	2	
7	0	1	2	0	0	
8	2	1	1	0	0	
9	4	0	3	1	2	
10	3	0	2	2	1	
11	0	1	0	0	3	
12	0	3	0	0	1	
13	0	3	0	0	0	
14	0	3	0	2	4	
15	3	1	1	5	3	
16	0	0	0	0	1	
17	2	0	1	0	2	
18	2	0	1	0	1	
19	3	1	1	0	1	
20	2	2	0	0	1	
21	0	1	0	0	0	
22	0	4	0	0	0	
23	0	2	0	0	0	
24	1	4	0	0	0	
25	2	4	0	0	0	
26	0	5	0	0	0	
27	0	2	0	0	0	
28	0	0	0	0	0	
29	4	0	3	0	2	
30	3	0	1	0	1	
31	4		3	0	0	
	48	47	27	11	27	160
% natural	96.00	100.00	71.05	57.89	69.23	82.96

River Axe Salmon Nos

1989
June

MRF 1.3 TAKE 100%

July August September May-Sept.

May

Date

1	0	1	0	0	0
2	1	4	0	0	0
3	2	1	1	0	1
4	4	1	3	0	2
5	0	1	0	0	0
6	6	1	6	1	3
7	0	1	2	0	0
8	2	1	1	0	0
9	4	0	3	1	2
10	3	0	2	2	2
11	0	1	0	0	3
12	0	3	0	0	1
13	0	3	0	0	0
14	0	3	0	2	4
15	3	1	2	5	3
16	0	0	0	0	1
17	2	0	1	0	2
18	2	0	1	0	1
19	3	1	2	0	2
20	2	2	1	0	1
21	0	1	0	0	0
22	0	4	0	0	0
23	0	2	0	0	0
24	1	4	0	0	1
25	2	4	0	0	1
26	0	5	0	0	0
27	0	2	0	0	0
28	0	0	0	0	0
29	4	0	3	1	2
30	3	0	1	0	1
31	5		4	1	0

49

47

33

13

33

175

% natural

98.00

100.00

86.84

68.42

84.62

90.67

R. Axe	Seatrout Nos.						Whitlins Nos.					
	1959						Natural					
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
Date												
1	8	7	0	0	0		0	2	5	4	0	
2	9	9	1	1	0		0	3	8	10	0	
3	13	12	5	1	1		3	3	4	17	4	
4	9	16	12	2	5		0	5	3	29	12	
5	16	1	0	0	0		3	0	3	0	0	
6	6	19	17	3	0		0	6	2	38	18	
7	5	6	0	0	0		0	2	3	7	0	
8	2	10	4	1	1		0	3	11	16	3	
9	3	14	11	2	5		0	4	7	28	11	
10	9	12	10	3	3		0	4	14	31	8	
11	8	5	0	1	0		0	1	8	13	0	
12	10	6	1	1	0		1	2	37	14	0	
13	8	3	0	1	0		0	1	15	14	0	
14	12	5	0	1	0		0	1	23	17	0	
15	10	11	8	2	3		1	3	11	27	7	
16	6	3	0	0	0		0	1	14	6	0	
17	18	9	6	2	2		0	3	6	21	5	
18	10	9	6	1	2		1	3	9	20	5	
19	6	10	9	2	3		0	3	15	24	8	
20	9	8	6	1	1		0	3	14	19	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	1	0	0	0		1	0	74	2	0	
23	2	6	0	0	0		1	0	20	0	0	
24	5	5	3	1	0		0	2	74	14	1	
25	7	6	4	1	0		0	2	45	16	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	1	0	0	0		0	1	16	6	0	
28	0	3	0	0	0		0	0	11	0	0	
29	0	11	14	3	5		0	4	17	32	13	
30	5	7	8	2	2		0	3	18	22	10	
31	4		14	3	0		1		19	33		
	213	215	139	35	41	643	12	65	595	480	111	1263
% nat	100	100	100	100	100	100	100	100	100	100	100	100

R. Axe	Seatrout Nos.					M-S	Whitling Nos.					M-S
	1959						MRF .72 Take 100%					
	May	June	July	Aug.	Sept.		May	June	July	Aug.	Sept.	
Date												
1	8	4	0	0	0		0	1	5	4	0	
2	9	6	1	1	0		0	2	8	10	0	
3	13	9	5	1	1		3	3	4	17	3	
4	9	13	12	2	5		0	4	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	16	16	3	7		0	5	2	38	17	
7	5	3	0	0	0		0	1	3	6	0	
8	2	7	4	1	0		0	2	11	15	2	
9	3	12	11	2	4		0	4	7	28	10	
10	9	9	10	2	3		0	3	14	30	7	
11	8	2	0	1	0		0	1	8	12	0	
12	10	3	1	1	0		1	1	37	14	0	
13	8	0	0	1	0		0	0	15	14	0	
14	12	2	0	1	0		0	1	23	17	0	
15	10	8	8	2	3		1	3	11	27	7	
16	6	0	0	0	0		0	0	14	6	0	
17	18	6	6	1	1		0	2	6	20	4	
18	10	6	6	1	1		1	2	9	20	4	
19	6	7	9	2	3		0	3	15	24	7	
20	9	5	6	1	1		0	2	14	19	3	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	2	3	1	0		0	1	74	13	0	
25	7	3	4	1	0		0	1	45	15	1	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	9	14	3	5		0	3	17	31	12	
30	5	5	8	2	2		0	2	18	22	10	
31	4		14	3			1		19	32		
	213	137	138	33	36	557	12	47	595	469	98	1221
% nat	100	63.7	99.3	94.3	87.8	86.6	100	72.3	100	97.7	88.3	96.7

R. Axe	Seatrout Nos.						Whitling Nos.					
	1959						MRF	.72	Take	50%		
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	4	0	0	0		0	1	5	4	0	
2	9	6	1	1	0		0	2	8	10	0	
3	13	9	5	1	1		3	3	4	17	3	
4	9	13	12	2	5		0	4	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	16	16	3	7		0	5	2	38	17	
7	5	3	0	0	0		0	1	3	6	0	
8	2	7	4	1	0		0	2	11	15	2	
9	3	12	11	2	4		0	4	7	28	10	
10	9	9	10	2	3		0	3	14	30	7	
11	8	2	0	1	0		0	1	0	12	0	
12	10	3	1	1	0		1	1	37	14	0	
13	8	0	0	1	0		0	0	15	14	0	
14	12	2	0	1	0		0	1	23	17	0	
15	10	8	8	2	3		1	3	11	27	7	
16	6	0	0	0	0		0	0	14	6	0	
17	18	6	6	1	2		0	2	6	20	5	
18	10	6	6	1	2		1	2	9	20	4	
19	6	7	9	2	3		0	3	15	24	7	
20	9	5	6	1	1		0	2	14	19	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	2	3	1	0		0	1	74	13	0	
25	7	3	4	1	0		0	1	45	15	1	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	9	14	3	5		0	3	17	31	13	
30	5	5	8	2	2		0	2	18	22	10	
31	4		14	3			1		19	32		
							12	47	595	469	101	1224
% nat	100	63.7	99.3	94.3	92.7	86.9	100	72.3	100	97.7	91.0	96.9

R. Axe	Seatrout Nos.						Whitling Nos.					
	1959						NRF 1.3 Take 100%					
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
Date												
1	8	4	0	0	0		0	1	5	4	0	
2	9	6	1	1	0		0	2	8	10	0	
3	13	9	5	1	1		3	3	4	17	4	
4	9	13	12	2	5		0	4	3	29	12	
5	16	0	0	0	0		3	0	3	0	0	
6	6	16	17	3	0		0	5	2	38	18	
7	5	3	0	0	0		0	1	3	7	0	
8	2	7	4	1	0		0	2	11	16	3	
9	3	12	11	2	5		0	4	7	28	11	
10	9	9	10	2	3		0	3	14	30	8	
11	8	2	0	1	0		0	1	8	12	0	
12	10	3	1	1	0		1	1	37	13	0	
13	8	0	0	1	0		0	0	15	13	0	
14	12	2	0	1	0		0	1	23	16	0	
15	10	8	8	2	4		1	3	11	26	7	
16	6	0	0	0	0		0	0	14	5	0	
17	18	6	6	1	2		0	2	6	20	5	
18	10	5	6	1	2		1	2	9	20	5	
19	6	7	9	2	3		0	2	15	24	8	
20	9	5	6	1	1		0	2	14	19	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	3	3	1	0		0	1	74	14	0	
25	7	3	4	1	0		0	1	45	15	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	1	11	0	0	
29	0	10	14	3	5		0	3	17	32	13	
30	5	6	8	2	2		0	2	18	22	10	
31	4		14	3			1		19	33		
	213	139	139	33	41	565	12	47	595	469	110	1233
% nat	100	64.7	100	94.3	100	87.9	100	72.3	100	97.7	99.1	97.6

[illegible]

R. Axe	Seatrout Nos.					M-S	Whitling Nos.					M-S
	May	June	July	Aug.	Sept.		May	June	July	Aug.	Sept.	
Date												
1	8	0	0	0	0		0	0	5	3	0	
2	9	2	1	0	0		0	1	8	10	0	
3	13	3	5	1	1		3	1	4	17	3	
4	9	8	11	2	4		0	3	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	11	16	3	7		0	4	2	38	17	
7	5	0	0	0	0		0	0	3	6	0	
8	2	1	5	1	1		0	1	11	15	2	
9	3	6	11	2	4		0	2	7	28	10	
10	9	4	9	2	3		0	2	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	1	0	0		1	0	37	9	0	
13	8	0	0	0	0		0	0	15	1	2	
14	12	3	0	0	6		0	0	23	7	9	
15	10	2	9	2	4		1	2	11	25	9	
16	6	9	0	0	0		0	1	14	5	0	
17	18	5	6	2	2		0	3	6	20	5	
18	10	6	6	1	3		1	2	9	20	6	
19	6	2	9	2	4		0	2	15	24	9	
20	9	0	6	1	2		0	1	14	19	6	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	1	
25	7	0	4	1	2		0	0	45	15	4	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	5		0	0	16	5	7	
28	0	0	0	0	0		0	0	11	0	0	
29	0	5	13	3	7		0	2	17	31	15	
30	5	1	7	2	3		0	1	18	21	11	
31	4		13	3	0		1		19	32		
	213	68	135	29	60	505	12	28	595	422	134	1191
% nat	100	58.6	97.8	96.7	89.6	89.5	100	66.7	100	98.1	93.1	97.4

R. Axe	Seatrout Nos.						Whitling Nos.					
	1975						MRF .72 TAKE 50%					
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	0	0	0	0		0	0	5	3	0	
2	9	2	1	1	0		0	0	8	10	0	
3	13	3	5	1	1		3	1	4	17	3	
4	9	8	11	2	5		0	3	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	11	16	3	7		0	4	2	38	17	
7	5	0	0	0	0		0	0	3	6	0	
8	2	1	5	1	0		0	1	11	15	2	
9	3	6	11	2	4		0	2	7	28	10	
10	9	4	9	2	3		0	2	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	1	0	0		1	0	37	9	0	
13	8	0	0	0	2		0	0	15	1	2	
14	12	0	0	0	6		0	0	23	7	9	
15	10	4	9	2	3		1	2	11	24	8	
16	6	0	0	0	0		0	0	14	5	0	
17	18	9	6	1	2		0	3	6	20	5	
18	10	5	6	1	2		1	2	9	19	5	
19	6	6	9	2	3		0	2	15	24	8	
20	9	2	6	1	2		0	1	14	18	5	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	1	
25	7	0	4	1	1		0	1	45	15	3	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	5		0	0	16	5	7	
28	0	0	0	0	0		0	0	11	0	0	
29	0	6	13	3	7		0	2	17	31	15	
30	5	2	7	2	3		0	1	18	21	11	
31	4		13	3	0		1		19	32		
	213	69	135	29	56	502	12	27	595	419	129	1182
% nat	100	59.5	97.8	96.7	83.6	89.0	100	64.3	100	97.4	89.6	96.6

R. Axe	Seatrout Nos.						Whitling Nos.				
	1975						MRF 1.3 TAKE 100%				
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept
Date											
1	8	0	0	0	0		0	0	5	3	0
2	9	2	1	1	0		0	1	8	10	0
3	13	3	5	2	1		3	1	4	17	3
4	9	0	12	0	4		0	3	3	29	11
5	16	0	0	0	0		3	0	3	0	0
6	6	11	16	3	7		0	4	2	38	17
7	5	0	0	0	0		0	0	3	6	0
8	2	1	5	1	0		0	1	11	15	2
9	3	6	11	2	4		0	2	7	28	10
10	9	4	9	2	3		0	2	14	23	0
11	8	0	0	0	0		0	0	8	5	0
12	10	0	1	0	0		1	0	37	9	0
13	8	0	0	0	2		0	0	15	0	2
14	12	0	0	0	6		0	0	23	7	9
15	10	3	9	2	4		1	0	11	25	9
16	6	2	0	0	0		0	0	14	5	0
17	18	9	6	2	2		0	3	6	20	5
18	10	5	6	1	3		1	2	9	20	6
19	6	6	9	2	4		0	2	15	24	9
20	9	2	6	1	2		0	1	14	19	6
21	4	0	0	0	0		0	0	23	0	0
22	3	0	0	0	0		1	0	74	0	0
23	2	0	0	0	0		1	0	20	0	0
24	5	0	3	1	0		0	0	74	13	1
25	7	0	4	1	2		0	0	45	15	4
26	6	0	0	0	0		0	0	66	0	0
27	0	0	0	0	5		0	0	16	5	7
28	0	0	0	0	0		0	0	11	0	0
29	0	5	13	3	7		0	2	17	31	15
30	5	1	7	2	3		0	1	18	21	11
31	4		13	3	0		1		19	32	
	213	68	136	29	59	505	12	25	595	420	127
% nat	100	58.6	98.6	96.7	88.1	78.5	100	59.5	100	97.7	88.2

Whitling Nos.
Natural

R. Axe	Seatrout Nos.						Whitling Nos.					
	1976						MRF 0.72 Take 100%					
Date	May	June	July	aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	0	0	0	0		0	0	5	3	0	
2	9	0	1	0	0		0	0	8	9	0	
3	13	0	5	1	0		3	0	4	16	2	
4	9	4	11	2	4		0	2	3	28	10	
5	16	0	0	0	0		3	0	3	0	0	
6	6	7	16	3	7		0	3	2	37	16	
7	5	0	0	0	0		0	0	3	6	0	
8	2	0	4	1	0		0	0	11	15	1	
9	3	3	11	2	4		0	2	7	27	10	
10	9	1	8	2	3		0	1	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	0	0	0		1	0	37	8	0	
13	8	0	0	0	0		0	0	15	0	0	
14	12	0	0	0	0		0	0	23	6	0	
15	10	1	8	2	3		1	1	11	22	7	
16	6	0	0	0	0		0	0	14	4	0	
17	18	0	6	1	1		0	1	6	19	4	
18	10	0	6	1	2		1	1	9	18	5	
19	6	1	8	2	3		0	1	15	23	7	
20	9	0	5	1	1		0	0	14	17	3	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	0	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	1		0	0	74	12	3	
25	7	0	4	1	13		0	0	45	14	22	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	1		0	0	16	4	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	4	13	2	9		0	2	17	31	18	
30	5	0	7	2	17		0	1	18	21	21	
31	4		13	3			1		19	32		
	213	21	129	27	69	459	12	15	595	400	136	1158
% nat	100	61.8	89.6	100	89.6	92.7	100	83.3	100	99.3	91.9	98.5

R. Axe	Seatrout Nos. 1976						Whitling Nos.						Take	50%
	May	June	July	aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S		
Date														
1	8	0	0	0	0		0	0	5	3	0			
2	9	0	1	0	0		0	0	8	9	0			
3	13	1	5	1	0		3	0	4	16	2			
4	9	4	11	2	4		0	2	3	28	10			
5	16	0	0	0	0		3	0	3	0	0			
6	6	8	16	3	7		0	3	2	37	16			
7	5	0	0	0	0		0	0	3	6	0			
8	2	0	4	1	0		0	0	11	15	1			
9	3	4	11	2	4		0	2	7	27	10			
10	9	2	8	2	3		0	1	14	23	7			
11	8	0	0	0	0		0	0	8	5	0			
12	10	0	0	0	0		1	0	37	8	0			
13	8	0	0	0	0		0	0	15	0	0			
14	12	0	0	0	0		0	0	23	6	0			
15	10	1	8	2	3		1	1	11	22	7			
16	6	0	0	0	0		0	0	14	4	0			
17	18	0	6	1	2		0	1	6	19	5			
18	10	1	6	1	2		1	1	9	18	5			
19	6	2	8	2	3		0	1	15	23	7			
20	9	1	5	1	1		0	1	14	17	4			
21	4	0	0	0	0		0	0	23	0	0			
22	3	0	0	0	0		1	0	74	0	0			
23	2	0	0	0	0		1	0	20	0	0			
24	5	0	3	1	1		0	0	74	12	3			
25	7	0	4	1	13		0	0	45	14	22			
26	6	0	0	0	0		0	0	66	0	0			
27	0	0	0	0	1		0	0	16	4	0			
28	0	0	0	0	0		0	0	11	0	0			
29	0	4	13	2	9		0	2	17	31	18			
30	5	0	7	2	17		0	1	18	22	21			
31	4		13	3			1		19	32				
	213	28	129	27	70	467	12	16	595	401	138	1162		
% nat	100	82.4	89.6	100	90.9	94.3	100	88.9	100	99.5	93.2	98.8		

R. Axe	Seatrout Nos.						Whitling Nos.					
	1976						MRF 1.3 Take 100%					
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
Date												
1	8	0	0	0	0		0	0	5	3	0	
2	9	0	1	0	0		0	0	8	9	0	
3	13	1	5	1	0		3	1	4	16	2	
4	9	4	11	2	4		0	2	3	28	10	
5	16	0	0	0	0		3	0	3	0	0	
6	6	8	16	3	7		0	3	2	37	16	
7	5	0	0	0	0		0	0	3	6	0	
8	2	0	4	1	0		0	0	11	15	1	
9	3	4	11	2	4		0	2	7	27	10	
10	9	3	8	2	3		0	1	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	0	0	0		1	0	37	8	0	
13	8	0	0	0	0		0	0	15	0	0	
14	12	0	0	0	0		0	0	23	6	0	
15	10	2	8	2	3		1	1	11	22	8	
16	6	0	0	0	0		0	0	14	4	0	
17	18	1	6	1	2		0	1	6	19	5	
18	10	1	6	1	2		1	1	9	18	5	
19	6	3	8	2	1		0	2	15	23	8	
20	9	3	5	1	1		0	1	14	17	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	1		1	0	74	0	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	1		0	0	74	12	3	
25	7	0	4	1	13		0	0	45	14	22	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	1		0	0	16	4	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	4	13	2	9		0	2	17	31	18	
30	5	0	7	2	17		0	1	18	22	21	
31	4		13	3			1		19	33		
	213	34	129	27	69	472	12	18	595	402	140	1167
% nat	100	100	89.6	100	89.6	95.4	100	100	100	99.8	94.6	99.2

$\frac{1}{2}$ pint

R. Axe	Seatrout Nos.						Whitling Nos.					
	1984						MRF .72 TAKE 50%					
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	5	0	0	0		0	2	5	3	0	
2	9	10	1	1	0		0	3	8	11	0	
3	13	24	5	1	1		3	6	4	18	3	
4	9	15	11	3	5		0	5	3	31	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	15	16	3	7		0	5	2	38	17	
7	5	2	0	0	0		0	1	3	6	0	
8	2	4	4	1	1		0	2	11	15	2	
9	3	8	11	2	4		0	3	7	28	11	
10	9	6	9	2	3		0	2	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	0	0	0		1	0	37	9	0	
13	8	0	0	0	0		0	0	15	1	0	
14	12	0	0	0	0		0	0	23	6	0	
15	10	5	0	2	3		1	2	11	23	7	
16	6	0	0	0	0		0	0	14	4	0	
17	18	3	6	1	2		0	1	6	19	5	
18	10	3	6	1	2		1	1	9	19	4	
19	6	4	0	1	3		0	1	15	23	7	
20	9	2	6	1	2		0	1	14	18	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	2	
25	7	0	4	1	0		0	1	45	15	0	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	6	13	3	6		0	3	17	31	14	
30	5	3	7	2	5		0	1	18	21	12	
31	4		13	3	0		1		19	32		
	213	115	131	29	44	532	12	40	595	418	106	1171
% nat	100	66.5	97.0	96.7	91.7	88.8	100	74.1	100	97.2	93.0	97.2

R. Axe	Seatrout Nos.						Whitling Nos.					
	1984						MRF .72 TAKE 100%					
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	5	0	0	0		0	2	5	3	0	
2	9	10	1	1	0		0	3	8	11	0	
3	13	24	5	1	1		3	6	4	19	3	
4	9	15	11	3	5		0	5	3	32	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	15	16	3	7		0	5	2	38	17	
7	5	2	0	0	0		0	1	3	6	0	
8	2	4	4	1	1		0	2	11	15	2	
9	3	8	11	2	4		0	3	7	28	10	
10	9	6	9	2	3		0	2	14	23	7	
11	8	0	0	0	0		0	0	8	5	0	
12	10	0	1	0	0		1	0	37	9	0	
13	8	0	0	0	0		0	0	15	1	0	
14	12	0	0	0	0		0	0	23	6	0	
15	10	5	8	2	2		1	2	11	23	7	
16	6	0	0	0	0		0	0	14	4	0	
17	18	3	6	1	1		0	1	6	19	4	
18	10	3	6	1	1		1	1	9	19	4	
19	6	4	8	1	3		0	1	15	23	7	
20	9	1	5	1	2		0	1	14	18	5	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	2	
25	7	0	4	1	0		0	0	45	15	0	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	2	11	0	0	
29	0	6	13	3	7		0	1	17	31	15	
30	5	2	7	2	5		0	2	18	21	12	
31	4		13	3	0		1		19	32		
	213	113	131	29	42	528	12	40	595	420	106	1173
% nat	100	65.3	97.0	96.7	87.5	88.1	100	74.1	100	97.7	93.0	97.3

R. Axe	Seatrout Nos. 1984						Whitling Nos.					
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
Date												
1	8	5	0	0	0		0	2	5	4	0	
2	9	10	1	1	0		0	3	8	11	0	
3	13	24	5	1	1		3	6	4	18	4	
4	9	15	12	3	5		0	5	3	31	12	
5	16	0	0	0	0		3	0	3	0	0	
6	6	15	16	3	7		0	5	2	38	17	
7	5	2	0	0	0		0	1	3	7	0	
8	2	4	4	1	1		0	2	11	16	3	
9	3	9	11	2	5		0	3	7	28	11	
10	9	7	9	2	3		0	2	14	24	8	
11	8	0	0	0	0		0	0	8	6	0	
12	10	1	1	0	0		1	1	37	9	0	
13	8	0	0	0	0		0	0	15	1	0	
14	12	0	0	0	0		0	0	23	7	0	
15	10	7	8	2	3		1	2	11	23	7	
16	6	0	0	0	0		0	0	14	4	0	
17	10	5	6	1	2		0	2	6	20	5	
18	10	5	6	1	2		1	2	9	19	5	
19	6	7	9	2	3		0	2	15	23	8	
20	9	4	6	1	2		0	2	14	18	5	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	2	3	1	0		0	1	74	13	1	
25	7	3	4	1	1		0	1	45	15	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	0	13	3	6		0	3	17	31	14	
30	5	5	7	2	5		0	2	18	22	12	
31	4		14	2	0		1	0	19	33		
	213	138	135	29	46	561	12	47	595	427	114	1195
% nat	100	79.8	100	96.7	95.8	93.7	100	87.0	100	99.3	100	99.2

2. next

R. Axe	Seatrout Nos.						Whitling Nos.					
	1989						MRF .72 TAKE 100%					
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept.	M-S
1	8	6	0	0	0		0	2	5	3	0	
2	9	4	1	0	0		0	1	8	10	0	
3	13	6	5	1	1		3	2	4	17	3	
4	9	10	11	2	4		0	3	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	16	17	3	7		0	5	2	37	17	
7	5	5	0	0	0		0	1	3	6	0	
8	2	7	4	1	0		0	2	11	15	1	
9	3	11	11	2	4		0	4	7	28	10	
10	9	11	9	2	3		0	3	14	25	7	
11	8	3	0	0	2		0	1	8	5	2	
12	10	3	0	0	1		1	1	37	9	0	
13	8	0	0	0	0		0	0	15	1	0	
14	12	0	0	0	4		0	1	23	8	6	
15	10	4	0	2	6		1	2	11	25	13	
16	6	0	0	0	0		0	0	14	4	0	
17	18	2	6	1	4		0	1	6	19	9	
18	10	2	6	1	3		1	1	9	19	6	
19	6	3	0	1	4		0	1	15	23	9	
20	9	1	5	1	2		0	1	14	18	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	1	
25	7	0	4	1	1		0	0	45	15	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	6	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	7	13	3	5		0	2	17	31	13	
30	5	3	7	2	2		0	1	18	21	10	
31	4		13	3	0		1		19	32		
	213	104	131	27	53	528	12	35	595	420	124	1186
% nat	100	65	96.3	93.1	85.5	88	100	68.6	100	93.6	91.2	97.2

R.Axe	Seatrout Nos.						Whitling Nos.					
	1989						MRF .72TAKE 50%					
Date	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept	M-S
1	8	6	0	0	0		0	2	5	3	0	
2	9	4	1	0	0		0	1	8	9	0	
3	13	6	5	1	1		0	2	4	17	3	
4	9	10	11	2	4		0	3	3	29	11	
5	16	0	0	0	0		0	0	0	0	0	
6	6	16	17	3	7		0	5	2	38	17	
7	5	5	0	0	0		0	1	3	6	0	
8	2	7	4	1	0		0	2	11	15	2	
9	3	11	11	2	4		0	4	7	28	10	
10	9	11	9	2	3		0	3	14	25	8	
11	8	3	0	0	2		0	1	8	5	2	
12	10	3	0	0	0		1	1	37	9	0	
13	8	0	0	0	0		0	0	15	1	0	
14	12	0	0	0	4		0	0	23	8	5	
15	10	4	8	2	6		1	2	11	25	12	
16	6	0	0	0	0		0	0	14	4	0	
17	18	2	6	1	4		0	1	6	19	8	
18	10	2	6	1	2		1	1	9	19	6	
19	6	4	8	2	3		0	2	15	23	8	
20	9	2	6	1	2		0	1	14	18	4	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	0	3	1	0		0	0	74	13	1	
25	7	0	4	1	0		0	1	45	15	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	7	13	3	5		0	3	17	31	13	
30	5	3	7	2	2		0	1	18	21	10	
31	4		13	3	0		1		19	32		
	213	106	132	28	49	528	12	37	595	419	122	1185
% nat	100	66.3	97.1	96.6	79.0	88	100	72.5	100	98.4	89.7	97.1

R.Axe	Seatrout Nos.						Whitling Nos.					
	1989						MRF 1.3 TAKE 100%					
	May	June	July	Aug.	Sept.	M-S	May	June	July	Aug.	Sept.	M-S
Date												
1	8	4	0	0	0		0	1	5	4	0	
2	9	4	1	1	0		0	1	8	10	0	
3	13	6	5	1	1		3	2	4	17	3	
4	9	10	12	2	5		0	3	3	29	11	
5	16	0	0	0	0		3	0	3	0	0	
6	6	16	17	3	7		0	5	2	38	17	
7	5	5	0	0	0		0	1	3	6	0	
8	2	7	4	1	0		0	2	11	15	2	
9	3	11	11	2	4		0	4	7	23	11	
10	9	11	9	2	3		0	3	14	25	8	
11	8	3	0	0	2		0	1	8	6	2	
12	10	3	1	0	0		1	1	37	9	0	
13	8	0	0	0	0		0	0	15	2	0	
14	12	0	0	0	4		0	0	23	8	5	
15	10	7	8	2	6		1	2	11	25	12	
16	6	0	0	0	0		0	0	14	5	0	
17	18	5	6	1	4		0	2	6	20	8	
18	10	5	6	1	2		1	2	9	19	6	
19	6	6	9	2	3		0	2	15	24	8	
20	9	4	6	1	2		0	1	14	18	5	
21	4	0	0	0	0		0	0	23	0	0	
22	3	0	0	0	0		1	0	74	1	0	
23	2	0	0	0	0		1	0	20	0	0	
24	5	1	3	1	0		0	1	74	13	1	
25	7	2	4	1	1		0	1	45	15	2	
26	6	0	0	0	0		0	0	66	0	0	
27	0	0	0	0	0		0	0	16	5	0	
28	0	0	0	0	0		0	0	11	0	0	
29	0	10	13	3	6		0	3	17	31	13	
30	5	6	7	2	3		0	2	18	22	10	
31	4		13	3	0		1		19	32		
	213	126	135	29	53	556	12	40	595	427	124	1198
% nat	100	78.8	99.3	100	85.5	92.7	100	78.4	100	100.	91.2	98.2

