

Larval lice plankton sampling at the mouth of the River Laxford 2002 – 2004.

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The Loch Laxford system is unique on the west coast in that the local salmon farm operates in a three year cycle rather than the more usual two year cycle. The salmon smolts go to sea in year one they stay at sea throughout that year and to the end of the second year. In the third year the site is left fallow. A joint FRS/AWCFT project looking at larval lice levels in 2002 and 2003 was continued into 2004 in the Loch Laxford system because of this three year cycle. The results from the first two years was previously reported in an internal FRS report entitled “Larval sea lice densities and sea lice levels on post-smolts sea trout in western Scotland, 2002-2003”.

A 50 metre plankton haul was taken at the mouth of the River Laxford from mid March to the end of August each year and the samples preserved in formalin and later analysed at the FRS Freshwater Laboratory field station in Shieldaig. A total of 75 samples were taken and analysed. As can be seen from figure 1 sea lice copepodids were only found in the second spring/summer of the study. Three samples contained sea lice copepodids, all at a level of 8 lice m⁻³. These levels are lower than those found in Shieldaig but they were found at the same time of the fish farm cycle that they are regularly found in Loch Shieldaig, the spring of the second year of production. There were found early in the season, March and April and two of the positive samples were from consecutive weeks, 10/04/03 and the 17/04/03 (Table 2).

These positive results were also found on days when the river level was low. The only salinity data taken at this site was during these conditions and the salinity levels were high – 34. However salinity samples were never taken during medium river levels or during spate conditions and it maybe, as was found at other sites that salinity levels fall sharply at these times.

Figure 1: Summary of the results of the plankton sampling at the mouth of the River Laxford 2002 – 2004.

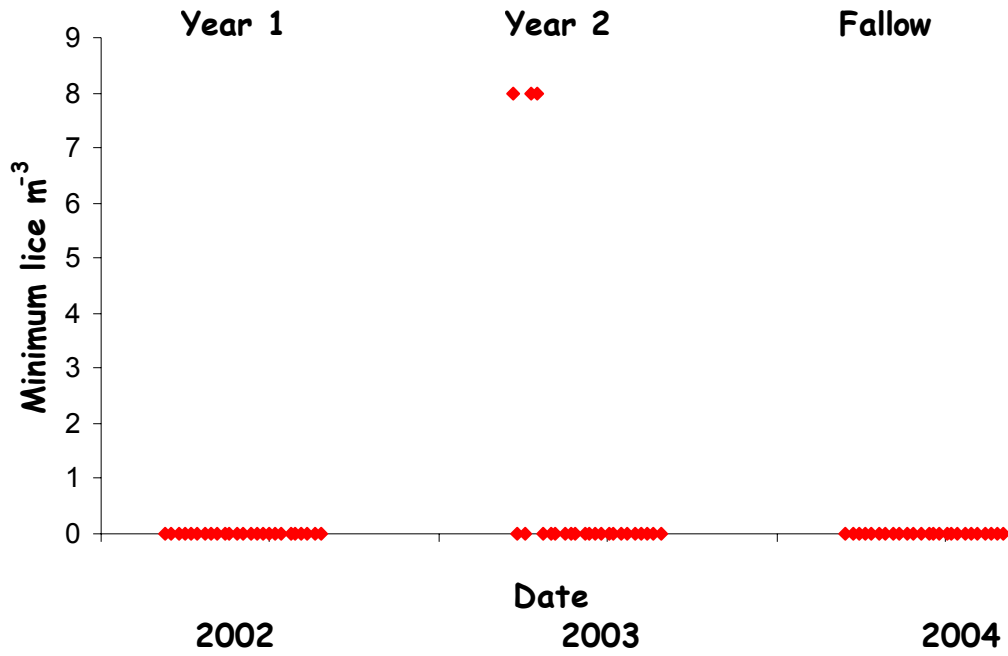


Table 1: River Laxford results 2002.

No.	Date	Lice m ⁻³	Haul Length	High tide	River level	Cloud cover	Wind speed	Wind Direction
1	11/03/02	0	50	18.15	S	7	L	SW
2	18/03/02	0	50	09.06	M	8	L	SW
3	25/03/02	0	50	16.45	L	4	M	W
4	02/04/02	0	50	10.59	L	8	M	SE
5	08/04/02	0	50	18.30	L	7	L	N
6	15/04/02	0	50	09.10	L	0	M	SE
7	22/04/02	0	50	16.30	L	8	M	SW
8	30/04/02	0	50	09.55	S	8	L	SE
9	06/05/02	0	50	17.05	M	4	L	E
10	14/05/02	0	50	08.50	L	5	M	E
11	19/05/02	0	50	13.30	M	5	L	SW
12	27/05/02	0	50	20.15	M	8	L	SE
13	04/06/02	0	50	16.00	L	6	L	SW
14	11/06/02	0	50	08.00	L	8	L	SE
15	18/06/02	0	50	14.20	L	6	S	S
16	25/06/02	0	50	08.10	M	8	M	SW
17	01/07/02	0	50	12.40	S	8	L	SW
18	07/07/02	0	50	18.15	M	8	M	SW
19	15/07/02	0	50	11.45	M	7	M	SW
20	24/07/02	0	50	08.00	M	8	M	W
21	29/07/02	0	50	11.00	S	5	L	SE
22	05/08/02	0	50	17.50	L	0	L	W
23	12/08/02	0	50	10.25	L	3	L	W
24	20/08/02	0	50	18.45	L	0	L	W
25	26/08/02	0	50	09.40	L	8	L	SW

Table 2: River Laxford results 2003.

No.	Date	Lice m ⁻³	Haul Length	High tide	River level	Cloud cover	Wind speed	Wind Direction
1	13/03/03	0	50	15.37	M	6	L	SW
2	21/03/03	8	50	08.38	L	6	M	SW
3	27/03/03	0	50	16.11	L	8	L	SE
4	04/04/03	0	50	09.08	M	8	L	SW
5	10/04/03	8	50	14.31	L	2	M	NW
6	17/04/03	8	50	08.00	L	0	M	SE
7	24/04/03	0	50	15.35	L	2	M	E
8	02/05/03	0	50	08.17	L	6	M	E
9	07/05/03	0	50	11.28	M	7	M	SW
10	16/05/03	0	50	07.41	M	1	S	SE
11	23/05/03	0	50	14.57	M	7	L	SW
12	28/05/03	0	50	18.47	M	7	M	S
13	07/06/03	0	50	13.33	L	7	M	S
14	11/06/03	0	50	17.33	L	8	M	SE
15	19/06/03	0	50	11.50	L	8	S	SW
16	25/06/03	0	50	17.40	L	2	L	S
17	04/07/03	0	50	11.08	L	8	L	NW
18	09/07/03	0	50	16.16	L	5	L	NW
19	17/07/03	0	50	10.26	L	1	M	SE
20	24/07/03	0	50	17.02	L	6	S	S
21	31/07/03	0	50	09.18	L	8	S	SE
22	08/08/03	0	50	17.06	L	0	M	SE
23	14/08/03	0	50	09.18	L	1	L	NW
24	21/08/03	0	50	15.03	M	7	S	SW
25	28/08/03	0	50	08.15	L	5	C	

Table 3: River Laxford results 2004.

No.	Date	Lice m ⁻³	Haul Length	High tide	River level	Cloud cover	Wind speed	Wind Direction
1	15/03/04	0	50	14.54	L	8	S	SE
2	23/03/04	0	50	08.55	M	6	L	NW
3	29/03/04	0	50	09.06	M	6	L	SW
4	06/04/04	0	50	09.00	L	4	L	NW
5	12/04/04	0	50	14.12	M	8	M	SW
6	21/04/04	0	50	09.24	M	7	S	E
7	27/04/04	0	50	13.36	L	3	L	SW
8	06/05/04	0	50	09.18	M	3	M	SE
9	12/05/04	0	50	15.36	L	1	L	SW
10	20/05/04	0	50	09.00	L	5	C	-
11	28/05/04	0	50	15.36	L	8	S	SE
12	06/04/04	0	50	09.06	M	8	M	W
13	13/06/04	0	50	17.48	M	8	S	SW
14	18/06/04	0	50	08.42	S	7	L	NW
15	25/06/04	0	50	13.41	L	1	L	W
16	02/07/04	0	50	09.05	L	8	L	S
17	07/07/04	0	50	12.12	L	2	L	SE
18	13/07/04	0	50	06.00	L	7	M	SE
19	23/07/04	0	50	12.12	L	5	M	S
20	28/07/04	0	50	17.24	L	7	L	SW
21	04/08/04	0	50	11.00	L	7	L	NW
22	12/08/04	0	50	17.24	L	2	L	E
23	19/08/04	0	50	09.50	S	8	M	NW
24	26/08/04	0	50	17.18	L	8	M	SE
25	01/09/04	0	50	09.48	S	6	L	E