SWRFT sea trout sampling, Flowerdale estuary, Loch Gairloch, 19th April 2019 *Please contact Peter Cunningham info@swrft.org.uk for more information.*

Sweep netting for sea trout at this site is supported by the Wester Ross Area Salmon Fishery Board and The Scottish Government.

	Location:	**Flowerdale Estuary, Loch Gairloch**																	
	Date:	19-Apr-19		**Time:**	net in at about 12 noon. Low tide 13:50 ish. We were just about too late; water level slightly lower than usual.														
	***Counts:**	Peter Cunningham																	
	Team:	15 other helpers																	
	Weather:	bright and sunny. Warm southerly breeze, waves onshore. High pressure 1027MB - may have pushed tide out a bit faster than usual?																	
	Other notes:	Just one sweep when top of shingle by stones already exposed. So we had to go quite quickly! Sweep netting area cleared of some sticks and stones (potential snags) on the day before.																	
								Lepeophtheirus salmonis											
No.	**Location**	**Date**	**Method**	**Fish**	**length (mm)**	**weight (g)**	**condition factor**	**Copepodid & Chalimus**	**Pre-adult & adult**	**Ovigerous females**	**Total L. s**	**lice per (g)[1.]**	**Dorsal fin damage**	***Cryptocotyle sp.* (spots per cm² of tail fin)**	**Predator damage**	**Photo**	**Scale sample**	**Comments**	**sc**
1	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	410	686	1.00	150	6	1	157	**0.23**	1	nr	y	Y	Y	M tail damaged	
2	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	450	920	1.01	130	6	2	138	**0.15**	1.5	30	n	Y	Y	F	
3	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	380	545	0.99	120	3	0	123	**0.23**	1	30	n	Y	Y	M	
4	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	405	558	0.84	250	14	1	265	**0.47**	1	0	n	Y	Y	M	
5	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	410	620	0.90	70	0	0	70	**0.11**	0.5	2	n	Y	Y	m?	
6	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	310	222	0.75	36	2	1	39	**0.18**	0	0	n	Y	Y	f?	
7	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	345	320	0.78	150	8	2	160	**0.50**	2	10	y	Y	Y	F dorsal fin photo	
8	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	315	262	0.84	40	6	0	46	**0.18**	0.5	1	n	Y	Y	f?	
9	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	352	370	0.85	220	20	4	244	**0.66**	2	0	n	Y	Y	F	
10	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	330	310	0.86	46	2	2	50	**0.16**	1.5	1	n	Y	Y	F	
11	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	388	400	0.68	140	0	0	140	**0.35**	0.5	12	?	Y	Y	F scale cage on fring left flank	
12	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	340	320	0.81	80	0	0	80	**0.25**	0.5	0	n	Y	Y	f?	
13	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	275	172	0.83	20	5	0	25	**0.15**	1.5	1	n	Y	Y	f?	
14	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	285	200	0.86	80	3	0	83	**0.42**	1.5	0	old	Y	Y	im	
15	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	225	102	0.90	16	1	0	17	**0.17**	0.5	8	n	Y	Y	im	
16	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	295	230	0.90	0	3	0	3	**0.01**	0	1	n	Y	Y	f?	
17	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	303	266	0.96	90	0	0	90	**0.34**	1	10	?	Y	Y	f? scale damage	
18	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	280	190	0.87	120	0	0	120	**0.63**	1	1	n	Y	Y	f?	
19	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	382	468	0.84	42	3	3	48	**0.10**	1.5	0	Y	Y	Y	m? bird damage	
20	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	340	348	0.89	270	6	3	279	**0.80**	1.5	1	n	Y	Y	M	
21	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	322	315	0.94	50	4	3	57	**0.18**	2	30	n	Y	Y	M pot bellied	
22	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	290	198	0.81	200	3	0	203	**1.03**	1.5	1	n	Y	Y	twisted jaw	
23	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	350	385	0.90	100	6	0	106	**0.28**	1	20	n	Y	Y	f? Tail photo	
24	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	322	300	0.90	65	1	0	66	**0.22**	1	0	n	Y	Y	F slightly pot bellied	
25	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	315	280	0.90	16	7	0	23	**0.08**	0.2	0	n	Y	Y	M sunny photo	
26	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	302	225	0.82	300	3	0	303	**1.35**	1	0	n	Y	Y	f sunny photo	
27	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	308	298	1.02	50	3	0	53	**0.18**	1	0	n	Y	Y	slightly deformed tail	
28	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	305	292	1.03	60	1	0	61	**0.21**	0	0	n	Y	Y	F	
29	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	303	228	0.82	66	2	0	68	**0.30**	1	0	n	Y	Y	F	
30	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	283	205	0.90	120	1	0	121	**0.59**	0.2	0	n	Y	Y	f? (three fingers end of photos)	
				Averages	**330.67**	**341.17**	**0.88**	**103.23**	**3.97**	**0.73**	**107.93**	**0.35**							

31	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	240	just measured		**total lice**	**3238**
32	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	300	just measured		**number of fish**	**30**
33	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	252	just measured		**number infested**	**30**
34	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	252	just measured		**prevalence**	**100%**
35	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	282	just measured		**total lice**	**3238**
36	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	283	just measured		**abundance**	**107.93**
37	Flowerdale estuary	19-Apr-19	Sweep Net	sea trout	282	just measured		**intensity**	**107.93**
								fish with >0.3 lice per g	**11**
								fish with >0.3 lice per g	**37%**

Notes:

[1] These figures can be compared with those provided in Taranger *et al* (2014) to categorise into groups according to likelihood of mortality or premature return to freshwater, based on the assumption that small salmonid post-smolts (<150g body weight) will suffer 100% lice-related marine mortality, or return prematurely to freshwater for sea trout in the wild if the are infected with >0.3 lice per g of fish weight. Furthermore, the lice related marine mortality is estmated to 50%, if the infection is between 0.2 and 0.3 lice per g fish weight, 20% if the infection rate is between 0.1 and 0.2 lice per g fish weight, and finally 0% if the salmon lice infection is <0.1 g fish weight. For larger salmonids (over 150 g), Taranger *et al* (2014) assumes that lice-related mortality will be 100% in the group if they have 0.15 lice per g fish weight; 75% for lice infections between 0.1 and 0.15 lice per g fish weight, 50% for lice infections between 0.05 and 0.01 lice per g fish weight, 20% for lice infections between 0.05 and 0.01 lice per g fish weight, and finally 0% if the salmon lice infection is <0.01 lice g fish weight.

For further discussion and assessment of risk, please see Taranger *et al* (2014)

Taranger, G. L., Karlsen, Ø., Bannister, R. J., Glover, K. A., Husa,V., Karlsbakk, E., Kvamme, B. O., Boxaspen, K. K., Bjørn, P. A., Finstad, B., Madhun, A. S., Morton, H. C., and Sva˚sand, T. (2014) Risk assessment of the environmental impact of Norwegian Atlantic salmon farming. – ICES Journal of Marine Science, doi: 10.1093/icesjms/fsu132.

https://www.researchgate.net/publication/266672998_Risk_assessment_of_the_environmental_impact_of_Norwegian_Atlantic_salmon_farming