

Sea lice monitoring report for Torridon River estuary sampling, 9th August 2024.

Peter Cunningham, Biologist, WRFT. 15th August 2024 info@wrft.org.uk

Sea trout data

Location:	Torridon river estuary																							
Date:	09-Aug-24		Time:	14:30 High tide around 12 noon																				
*Counts:	Peter Cunningham																							
Team:	7																							
Weather:	strong sw breeze, overcast rain nearby																							
River	medium level, slightly coloured																							
Other notes:	2 sweeps; ~9 trout taken on first sweep at tail of sea pool; ~4 on second sweep lower down weights +/- ~10g (because of wind) DNA clips taken by Jim R																							
											<i>Caligus</i>		<i>Lepeophtheirus salmonis</i>											
No.	Location	Date	Method	Riv/Est/B each	Fish	Fish no.	length (mm)	weight (g)	condition factor	total	Copepodid & Chalinus (estimate)	Pre-adult & adult	Ov. female	Total L. salmonis sea lice	*estimated lice/g fish weight	Dorsal fin damage	<i>Cryptocotyle ligua</i> spots per cm ² of caudal fin	Predator damage	Photo	scale sample?	Comments			
1	Torridon	09-Aug-24	Sweep Net	est	Sea trout	1	200	90	1.13	0	0	0	0	0	0.000	0	2	0	Y	y	lice scars			
2	Torridon	09-Aug-24	Sweep Net	est	Sea trout	2	210	95	1.03	0	1	0	0	1	0.011	0	0.5	0	Y	y				
3	Torridon	09-Aug-24	Sweep Net	est	Sea trout	3	250	175	1.12	0	1	0	0	1	0.006	0.5	0	0	Y	y	lice scars			
4	Torridon	09-Aug-24	Sweep Net	est	Sea trout	4	220	105	0.99	0	0	0	0	0	0.000	0.5	3	0	Y	y	caudal fin base missing			
5	Torridon	09-Aug-24	Sweep Net	est	Sea trout	5	225	122	1.07	0	5	0	0	5	0.041	1.5	2	0	Y	y				
6	Torridon	09-Aug-24	Sweep Net	est	Sea trout	6	171	54	1.08	0	0	0	0	0	0.000	0	0	0	Y	y	recapture; estuarine			
7	Torridon	09-Aug-24	Sweep Net	est	Sea trout	7	182	74	1.23	0	0	0	0	0	0.000	0	0	0	Y	y				
8	Torridon	09-Aug-24	Sweep Net	est	Sea trout	8	193	75	1.04	0	0	0	0	0	0.000	0.2	5	0	Y	y				
9	Torridon	09-Aug-24	Sweep Net	est	Sea trout	9	190	68	0.99	0	5	4	2	11	0.162	1	2	0	Y	y				
10	Torridon	09-Aug-24	Sweep Net	est	Sea trout	10	231	145	1.18	0	4	2	1	7	0.048	1	1	0	Y	y				
11	Torridon	09-Aug-24	Sweep Net	est	Sea trout	11	180	54	0.93	0	6	0	0	6	0.111	0.2	4	0	Y	y				
12	Torridon	09-Aug-24	Sweep Net	est	B trout	12	134	30	1.25	0	0	0	0	0	0.000	0	0	0	Y	y				
13	Torridon	09-Aug-24	Sweep Net	est	Sea trout	13	185	50	0.79	0	0	0	0	0	0.000	0	0.5	0	Y	y				
							Averages	197.77	87.46	1.06	0.00	0.50	0.00	0.00	0.50	0.00	0.25	1.38						
														total lice			31							
														number of fish			13							
														number infested			6							
														prevalence			46%							
														total lice			31							
														abundance			2.38							
														intensity			5.17							
														fish with >0.3 lice / g			0							
														fish with >0.3 lice / g			0%							

Other fish

No.	Location	Date	Method	Riv/Est/B each	Fish	length (mm)	weight (g)
9	Torridon	09-Aug-24	Sweep Net	est	Flounder	173	0
10	Torridon	09-Aug-24	Sweep Net	est	3sp. Stckbk	81	0

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Mortality / early returned estimates for sea trout in sample based on method from Taranger et al 2015, Risk assessment for the environmental impact of Norwegian salmon farming ([PDF](https://www.researchgate.net/publication/266672998)) [Risk assessment of the environmental impact of Norwegian Atlantic salmon farming \(researchgate.net\)](https://www.researchgate.net/publication/266672998)

Fish no.	≥13 lice/fish?	Lice/g fish weight	Range	Mortality category	Number of fish in category	Total number of fish in sample	% of sample in category	projected mortality for category %	projected mortality of fish in sample %
1	No	0.000	>0.3	100%	0	13	0.00	0.00	
2	No	0.011	0.2-0.3	50%	0		0.00	0.00	
3	No	0.006	0.1-0.2	20%	2		15.38	3.08	
4	No	0.000	<0.1	0%	11		84.62	0.00	3.08
5	No	0.041							
6	No	0.000							
7	No	0.000							
8	No	0.000							
9	No	0.162							
10	No	0.048							
11	No	0.111							
12	No	0.000							
13	No	0.000							

Processing team Torridon 9th August 2024



Notes:	
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 estimated 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.	
0.05 and 0.1 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.	
	colour code
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.	100% sea lice related mortality or early return to freshwater
	>50% to 99% sea lice related mortality or early return to freshwater
	>20% to 50% sea lice related mortality or early return to freshwater
	<20% sea lice related mortality or early return to freshwater
https://www.researchgate.net/publication/266672998 Risk assessment of the environmental impact of Norwegian Atlantic salmon farming	

Acknowledgements

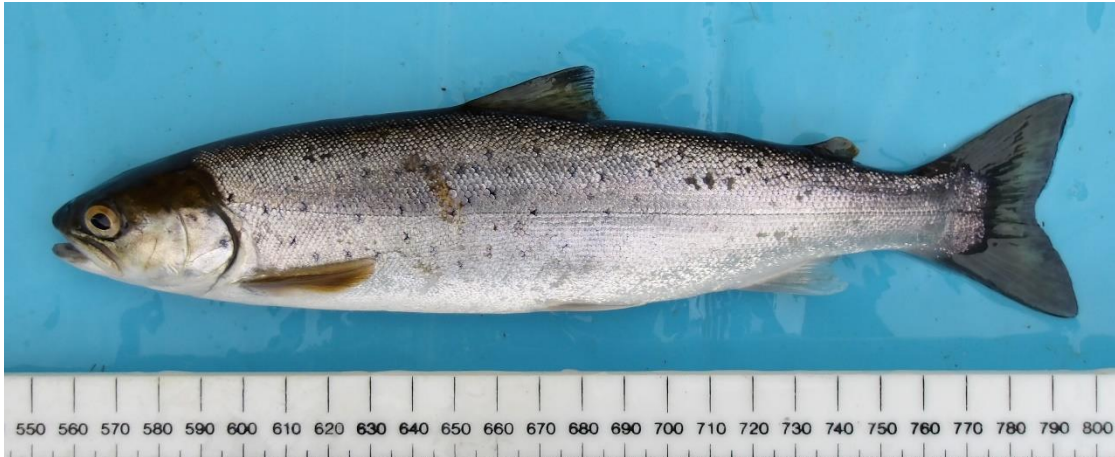
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Sea trout 250mm, Torrison 9th August 2024



Sea trout 190mm with 11 lice, Torrison 9th August 2024

