Sea lice monitoring report for Torridon River estuary, 16th May 2025

Peter Cunningham (WRFT Biologist) 21st May 2025 info@wrft.org.uk

Sea trout data (see page 3 for other fish)

Location:		**Torridon river estuary**																	
Date:		16-May-25		**Time:**	11:00		High tide	09:00											
***Counts:**		Peter Cunningham																	
Team:		6 assistants																	
Weather:		light winds, very bright and dry and sunny warm																	
River		very low																	
Other notes:		4 sweeps of channel after high neap tide, from 11:15 hrs to 14:30																	
		fish caught on sweeps 1 to 3																	
		smallest fish caught on both 1st and 2nd sweep																	
									Caligus	***Lepeophtheirus salmonis***									

No.	Location	Date	Method	Riv/Est/Beach	Fish	length (mm)	weight (g)	condition factor	total	Copepodid & Chalimus (estimate)	Pre-adult & adult	Ov. female	Total L. salmonis sea lice	*estimated lice/g fish weight	Dorsal fin damage	*Cryptocotyle ligua* spots per cm2 of caudal fin	Predator damage	Photo	scale sample?	Comments
1	Torridon	16-May-25	Sweep Net	est	ST	140	29	1.06	0	0	0	0	**0**	0.000	0	0	N	Y	Y	1st sweep
2	Torridon	16-May-25	Sweep Net	est	ST	138	30	1.14	0	0	0	0	**0**	0.000	0	0	N	Y	Y	2nd sweep - same fish caught aga
3	Torridon	16-May-25	Sweep Net	est	ST	284	240	1.05	0	2	0	0	**2**	0.008	2	0	N	Y	Y	3rd sweep; healing dorsal fin
4	Torridon	16-May-25	Sweep Net	est	ST	285	226	0.98	0	1	0	0	**1**	0.004	1	1	N	Y	Y	3rd sweep
5	Torridon	16-May-25	Sweep Net	est	ST	240	120	0.87	0	35	4	0	**39**	0.325	1	5	N	Y	Y	3rd sweep
					Averages	**217.40**	**129.00**	**1.02**	**0.00**	**7.60**	**0.80**	**0.00**	**8.40**	**0.07**	**0.80**	**1.20**				

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Summary

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) Risk assessment of the environmental impact of Norwegian Atlantic salmon farming (researchgate.net)

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%	1	4	25.00	25.00	
2	No	0.000	0.2-0.3	50%	0		0.00	0.00	
3	No	0.008	0.1-0.2	20%	0		0.00	0.00	
4	No	0.004	<0.1	0%	3		75.00	0.00	**25.00**
5	Yes	0.325							

note fish #2 is same fish as fish #1

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 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.

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.

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

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

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Other fish in sample:

No.	Location	Date	Method	Riv/Est/Beach	Fish	length (mm)	weight (g)			
6	Torridon	16-May-25	Sweep Net	est	Flounder	82				
7	Torridon	16-May-25	Sweep Net	est	Flounder	78				
8	Torridon	16-May-25	Sweep Net	est	Flounder	90				
9	Torridon	16-May-25	Sweep Net	est	15 spstbk	109		filamentous algae on tail		

Acknowledgements

Monitoring to inform the Loch Torridon Salmon farms Environment Management Plan supported by MOWI and Bakkafrost

Thank you to Jim Raffell of Marine Directorate and to Nature Scot Beinn Eighe NNR volunteers for helping

For permissions to sweep net for sea trout, thank to proprietors of Torridon River including Ben Damph Estate and the National Trust for Scotland.

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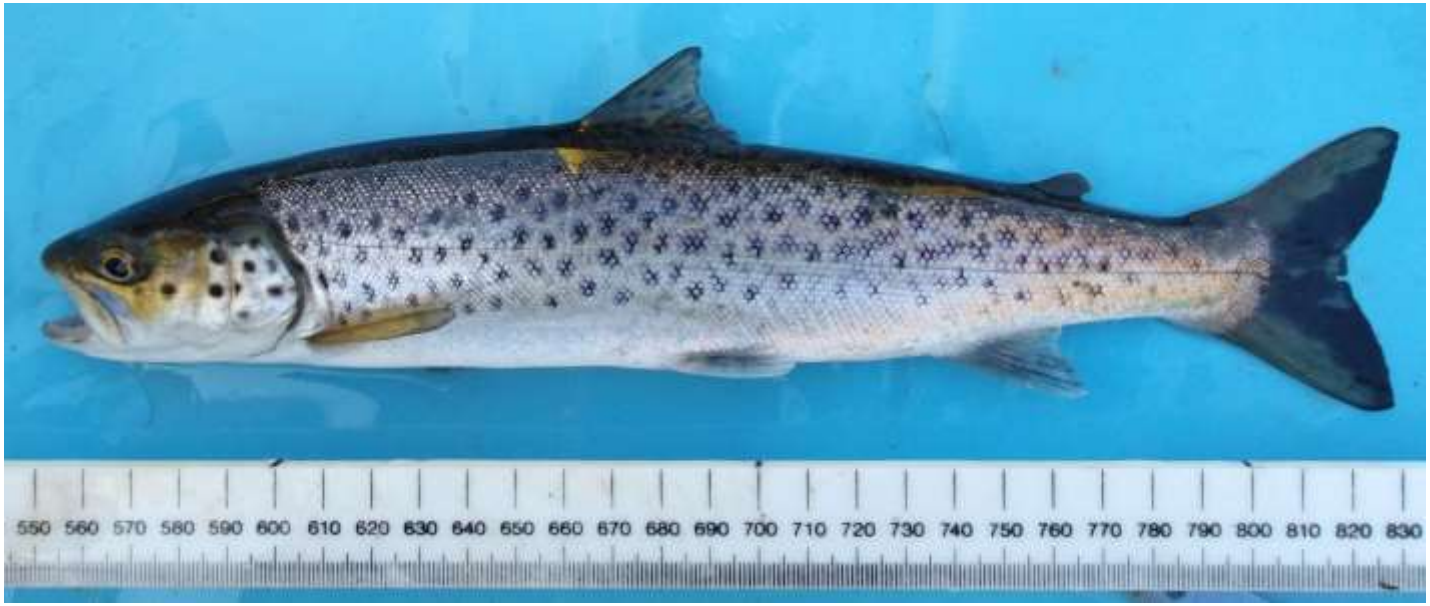
Photos: all ©WRFT unless otherwise indicated. All fish in photos were lightly sedated for inspection then returned to the sea after recovery.

Sea trout 284mm, 240g, Torridon River estuary, 16th May 2025 with 2 copepodid & chalimus lice; no other lice seen on this fish. Dorsal fin damage score 2 healed.



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Sea trout 240mm, 120g, Torridon River estuary, 16th May 2025 with 35 copepodid & chalimus lice, 4 adult and preadult lice.