Sea lice monitoring report for Torridon River estuary sampling, 13 June 2024.

Peter Cunningham, Biologist, WRFT. 14 June 2024 info@wrft.org,uk

## Sea trout data

Location:		Torridon riv	ver estuary																			
Date:		13-Jun-24		Time:	1200-16-3	0	High tide	13.09 3.8m	(Ullapool	)												
Counts:		Peter Cunningham 7 assistants																				
Team:																						
Weather:		light winds	, overcast																			
River		medium, slightly coloured																				
Other not	es:	2 sweeps of sea pool on main channel, sweep of sea pool on south channel (wee flounder), sweep on main channel mid tide (one small sea tr																				
		new net 47m x 3m used, carried by 4 - 6 people arould estuary.																				
		exploratory session, started at high neap tide. Sea pool may have too many shelves and boulders to sweep easily; success in mid-tide pool																				
		·	, ,				, , , , , , , , , , , , , , , , , , ,							•								
									Caligus	L	peophthei	rus salmon	nis									
No.	Location	Date	Method	Riv/Est/B each	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	≥13 lice/fish?	Lice/g fish weight
1	Torridon	13-Jun-24	Sweep Net	est	Sea trout	141	28	1.00	0	0	0	0	0	0.000	0	0	N	Υ	У	estuarine colouring	No	0.000
					Averages	141.00	28.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
											total lice		0									
											number o	fish	1									
											number in	fested	0									
											prevalence total lice abundance		0%									
													0									
													0.00									
											intensity		#DIV/0!									
											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)		
2	Torridon	13-Jun-24	Sweep Net	est	3 sp stkbk	75		

Small c. 50mm flounder also caught – not measured.

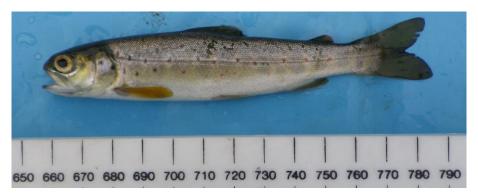
Sea lice monitoring report for Torridon River estuary sampling, 13 June 2024.

Peter Cunningham, Biologist, WRFT. 14 June 2024 info@wrft.org,uk

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)

For the one sea trout caught:

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 %	
0.000	>0.3	100%	0	1	0.00	0.00		
	0.2-0.3	50%	0		0.00	0.00		
	0.1-0.2	20%	0		0.00	0.00		
	<0.1	0%	1		100.00	0.00	0.00	



Notes:																						
based on	ased 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 weigh	nt, 20% for li	ice infectio	ns betwee	n 0.05 and	0.01 lice pe	er g fish we	eight, and t	inally 0% i	f the salmo	on lice infe	ction is <0.0	01 lice g fish	weight.							
													colour cod	de								
Taranger,	G. L., Karlse	n, Ø., Banr	nister, R. J.,	Glover, K.	A., Husa,V.	, Karlsbakl	, E., Kvamı	ne, B. O., I	Boxaspen,	K. K., Bjørn	, P. A., Fin	stad, B.,		100% sea lic	e related r	mortality or	early retur	n to fresh	vater			
Madhun,	A. S., Morto	n, H. C., an	nd Sva°sand,	, T. (2014) F	Risk assessr	ment of the	e environm	ental imp	act of Norv	egian Atla	ntic salmo	n farming.		>50% to 99% sea lice related mortality or early return to freshwater								
– ICES Jou	ırnal of Mari	ne Science	e, doi: 10.10	93/icesjms	/fsu132.									>20% to 50% sea lice related mortality or early return to freshwater								
														<20% sea lice related mortality or early return to freshwater								
https://w	ttps://www.researchgate.net/publication/266672998 Risk assessment of the environmental impact of Norwegian Atlantic salmon fa											farming										

## Acknowledgements

Sampling carried out as part of the Loch Torridon EMP Wild Fish Monitoring Programme supported by MOWI and Bakkafrost.

Thank you to Connie Fairbairn (MOWI), Rory Shannon (NTS Torridon) and Jim Raffell (Marine Directorate) for assistance. Thank you to NTS Torridon for access to the river. Thank you to Beinn Damph estate and Glenmore estate for permissions.