



## **Why new weekly sea lice reporting by salmon farms will do little (if anything) to improve protection of wild fish**

**The integrity of Environmental Management Plans and adaptive management, as mechanisms to protect wild salmon and sea trout from lethal infestation by sea lice from salmon farms, is entirely dependent on farms recording accurate sea lice numbers. However, there are increasing concerns and evidence that sea lice numbers published by farms are either inaccurate and/or under-recorded. The system is subject to abuse and manipulation and counts are not standardised. The situation is exacerbated by the fact that there is no regular independent verification. Without confidence in the veracity of on-farm lice counts, the viability of current EMPs and any future adaptive management (as envisaged by the Salmon Interactions Working Group) lies in tatters.**

On 29 March 2021, The Fish Farming Businesses (Reporting) (Scotland) Order 2020, SSI 2020/447 came into force, requiring the weekly reporting and publication of average adult female sea lice numbers by fish farms.

The Scottish Government intends to use the data generated to enforce a subordinate policy ["The Regulation of Sea Lice in Scotland."](#)

However, Salmon & Trout Conservation Scotland (S&TCS) believes that the Order will not deliver data –

- that is robust enough to be utilised in order to enforce statutory powers
- that will stand up to scientific peer review
- that will be suitable for incorporation into existing regulation and practices.

### **The process for counting lice is not properly defined**

The new statutory instrument does not define how weekly average sea lice counts are to be calculated. Rather, each farm is able to determine exactly how and when lice are counted and which data to include and exclude when arriving at weekly averages. Farms are free to vary any, or all, of these parameters. The lack of consistency means that comparisons between farms are impossible.

The process by which fish farms should count sea lice to determine average weekly sea lice numbers is delegated to a voluntary set of industry authored standards, outlined in [The Code of Good Practice](#). The guidance on counting sea lice is covered in Annex 6, ["NATIONAL STRATEGY FOR SEA LICE CONTROL"](#)

Loose guidelines are set out over a single page titled *"Agreeing the monitoring protocol and the frequency of monitoring."* This concludes with the caveat that operators may ultimately use any method they wish to count sea lice.

Delegating decisions to individual fish farm managers, about when and how fish should be captured for the counting of sea lice, will inevitably lead to such variation between farms that comparisons

will be essentially worthless. For example, hydrolicers are now in regular use and their efficacy can be 90% - thus a fish carrying ten lice may emerge from the treatment vessel carrying just one. However, neither the legislation nor the guidelines indicate whether the count for the day in question should be ten or one.

Variables such as time of day, depth of capture and method of capture can influence the likelihood of finding sea lice.

Crucially the Order and associated legislation do not require the farm manager to report accurate numbers of sea lice, just to report accurately what is actually counted.

Without standardised methodologies the Scottish Government cannot effectively or fairly enforce any policy concerning the prevalence of sea lice parasites on fish farms. Furthermore, any policy formation or research that relies on weekly average sea lice data will also be severely compromised by the lack of standardisation.

### **Differences in scale between salmon farms are not taken into account**

Salmon farms vary very considerably in size from 100,000 fish in eight small cages to 1,200,000 fish in 24 large cages.

Under the Code of Good Practice, “five fish should be sampled from each of five pens to give a total of 25 fish”. There is no mechanism to ensure genuine randomness in cage selection, raising the temptation for operators to naturally gravitate to those less afflicted by sea lice and therefore avoid costly treatments. Accordingly, a small farm is subject to a much greater level of scrutiny than a large farm. On the latter it is also probable that there will be greater variation in sea lice numbers in different areas of the farm. This raises the possibility that the large farm is able to record a weekly average sea lice number that is lower than that of the small farm even though infestation levels in parts of the large farm exceed the treatment threshold level and the total lice load dwarfs that of the small farm.

The use of “site” to define the cohort of fish being sampled in each location is arbitrary, unfair and does not consistently manage the risks associated with sea lice prevalence in different locations and settings. This discrepancy could be addressed by a sampling regime that includes all cages on all farms and which specifies sample sizes per a set number of fish, rather than cages.

Theoretically there is nothing to stop a large farm manager taking five relatively lice-free fish (from a badly infested pen) and placing them in another pen where a low lice count is recorded.

### **Operators may self-exclude**

The Order excuses operators from reporting a weekly average sea lice number where the operator has a “reasonable excuse.” The latter is not defined.

Salmon farmers often cite “harvesting” as a reasonable excuse for not reporting, even while exceeding thresholds for intervention. Prior to and during harvesting, sea lice numbers can increase dramatically as they have little or no impact on the commercial value of mature fish. Sea lice treatments by any method represent very significant costs to the operator at this stage and consequently there are strong financial incentives to maintain the reported weekly sea lice average below thresholds requiring intervention, either through gaming the counting of sea lice (as outlined above) or by failing to report any data at all. Harvesting should not constitute a reasonable excuse.

### **No meaningful independent verification of lice count data**

Scottish Government has both the powers and resources to verify sea lice counts on fish farms, but they are electing not to do so. There are no records of Fish Health Inspectorate (FHI) inspectors having counted sea lice on any fish farm in 2020, despite the fact that FHI has ten senior fish health inspectors who undertake surveillance of fish farms; these individuals have the statutory right to conduct their own sea lice counts. In 2020 the FHI published 327 case reports which included ZERO “enhanced sea lice inspections”.

Without regular external and official verification and policing, there is limited incentive for salmon farm managers to ensure that accurate counts are recorded.

### **Conclusion**

The integrity of Environmental Management Plans and adaptive management, as mechanisms to protect wild salmon and sea trout from lethal infestation by sea lice from salmon farms, is entirely dependent on farms recording accurate sea lice numbers. However, there are increasing concerns and evidence that sea lice numbers published by farms are either inaccurate and/or under-recorded. The system is subject to abuse and manipulation and counts are not standardised. The situation is exacerbated by the fact that there is no regular independent verification. Without confidence in the veracity of on-farm lice counts, the viability of current EMPs and any future adaptive management (as envisaged by the Salmon Interactions Working Group) lies in tatters.