

Prevalence of Salmon Lice in Different Fjords Along the Norwegian Coast



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Introduction

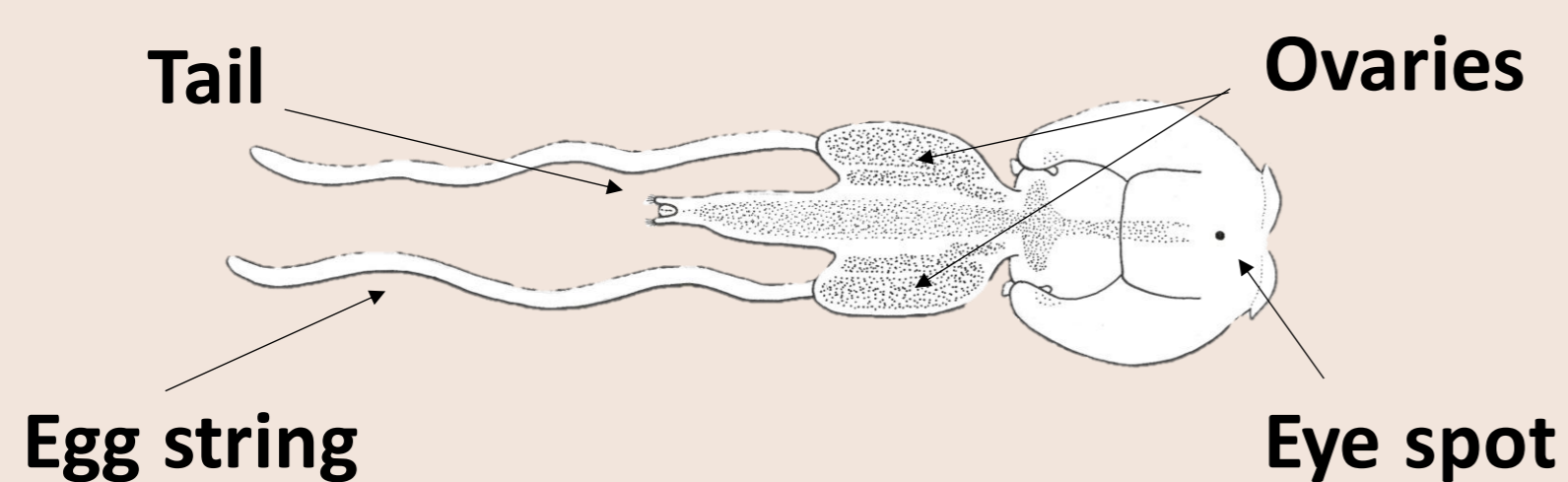
The largest challenge in salmon farming today is facing salmon lice (*Lepeophtheirus salmonis*), which are naturally occurring parasites of salmonids (1).

In recent decades the incidence of *L. salmonis* has greatly increased which has led to concern for wild salmon populations.

Because salmon farming is distributed along the whole Norwegian coast line, we investigated the effect of latitude on the number of *L. salmonis* infesting Atlantic salmon smolts after approximately 2 weeks at sea.

Hypothesis: Latitude does not influence the prevalence of salmon lice

Anatomy of *L. salmonis*

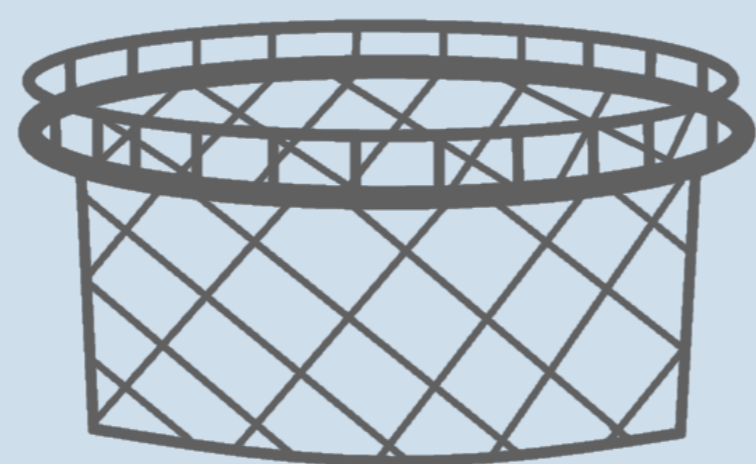


Materials and Methods

We used data collected by the Institute of Marine Research (IMR). The data were collected in 2017.

Data were counts of salmon lice on Atlantic salmon smolts after 14 ± 2 days in sea cages along the Norwegian coast (Figure 1).

Lice counts were taken from seven different fjord systems. A statistical analysis of the covariance was performed to see the effects of fjord and latitude.



Results



Sognefjorden had the highest mean lice count of the fjords investigated. No trend with latitude was found.

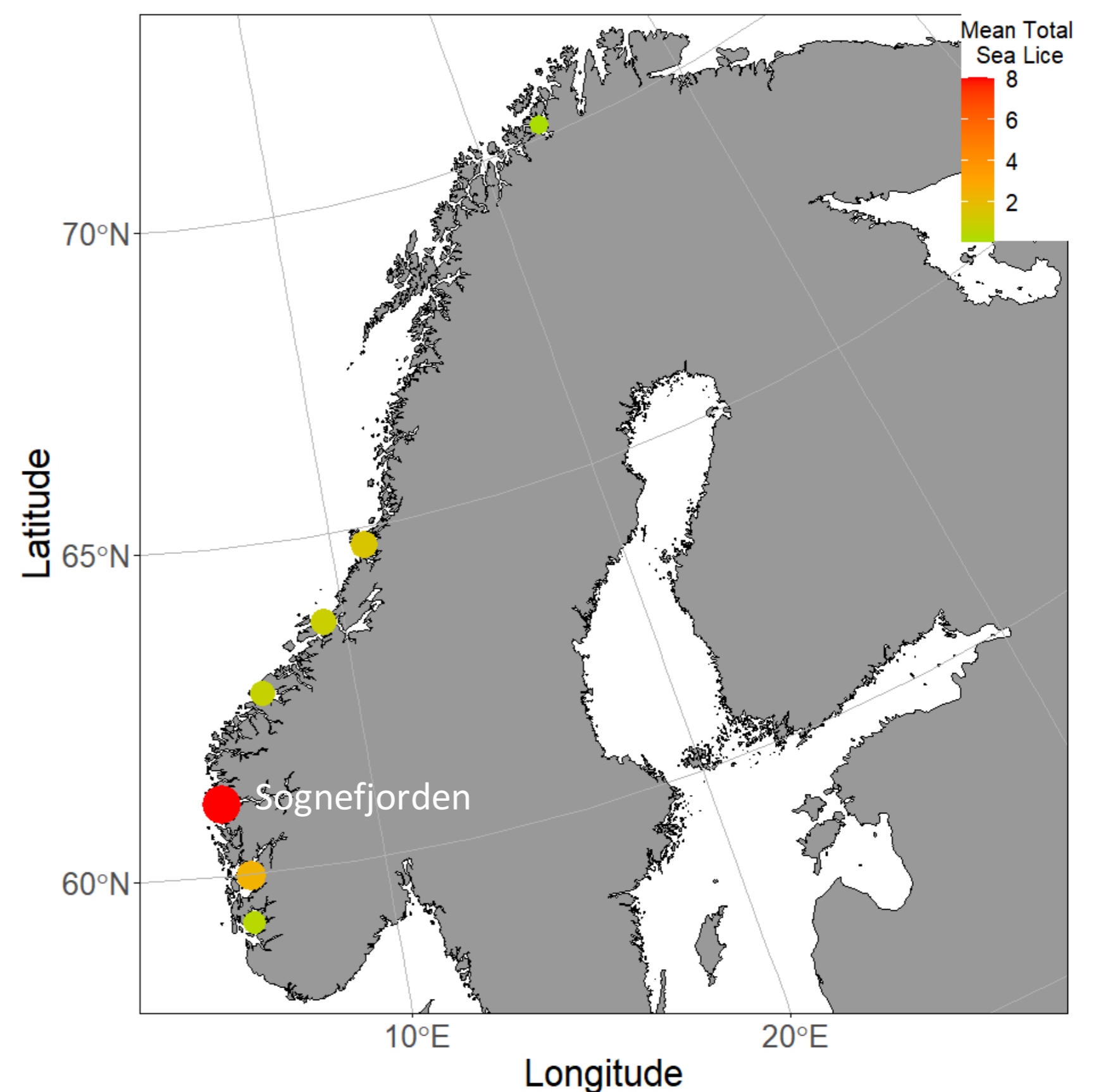


Figure 1. Map displaying mean total salmon lice in each fjord system. Data from 2017.

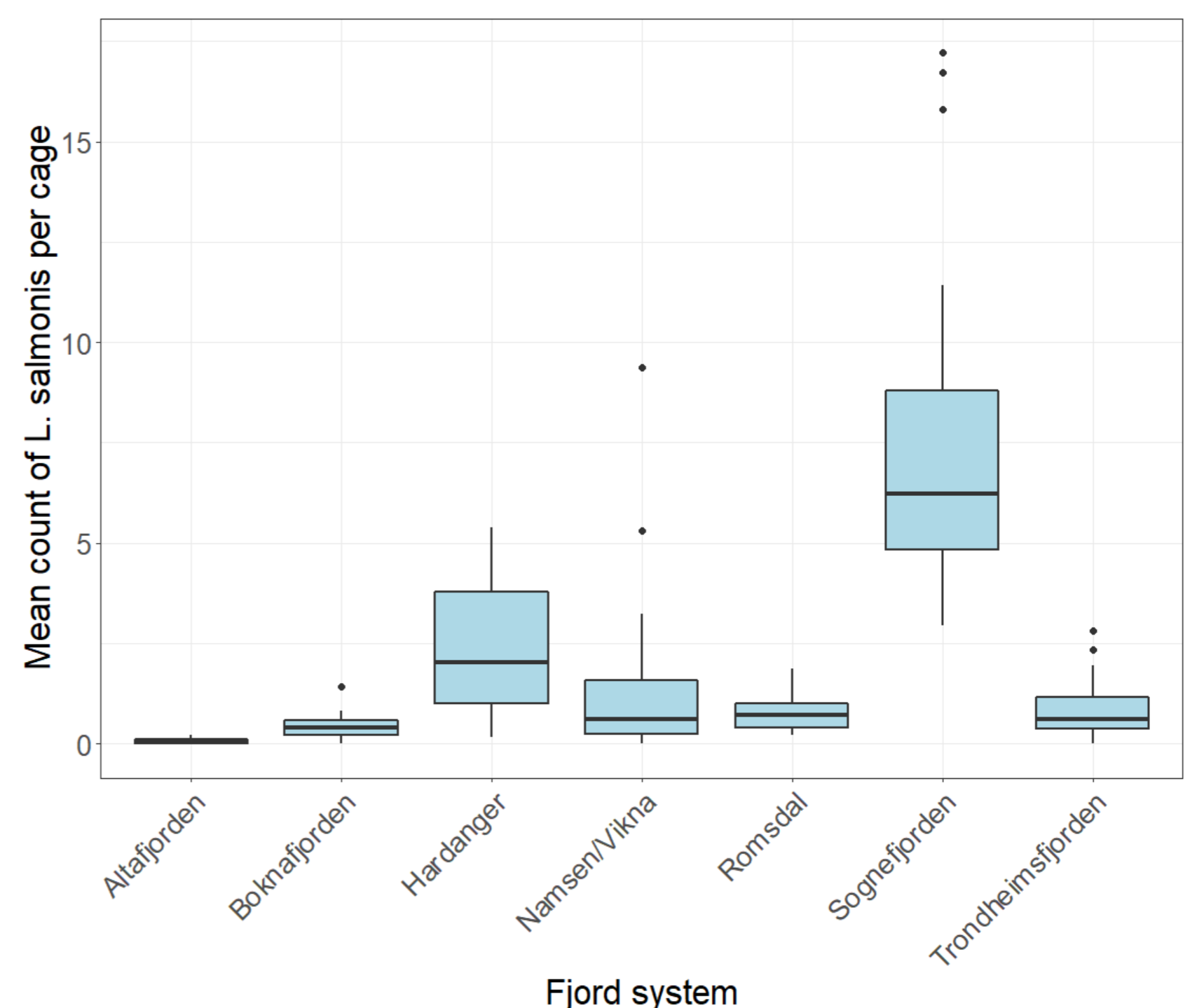


Figure 2. Boxplot displaying data distribution. The boxes include approx. 50% of the data where the black line display the mean. The dots outside of the plot represent the outliers.

Conclusion: We found that Sognefjorden had the highest prevalence of salmon lice, it is possible that lice numbers are more closely related to the density of aquaculture sites, as suggested by Bjørn *et al.* (2011).

References:

- Costello, 2006. Trends in Parasitology 22, 475–483. <https://doi.org/10.1016/j.pt.2006.08.006>
- Bjørn *et al.*, 2011. Aquaculture Environment Interactions 1, 233–244. <https://doi.org/10.3354/aei00023>

