# Salmon lice (*Lepeophtheirus salmonis*) population development follow the sea temperatures

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# Background

- Salmon lice is a big welfare issue in salmon farming, and a major threat to the wild salmonides
- Strict regulations control the allowed maximum amount of mature female lice per fish
- Lice population growth is temperature dependent. Studies show that the frequency of hatching is 4.2 times faster at a temperature of 18°C compared to a temperature of 6 °C
- Hypothesis: Population growth follow



Figure 2: Adult, female sea louse (Lepeophtheirus salmonis) Photo credit: Aquaculture North America

### periods of higher temperatures

# **Methods**

- Lice countings from different localities throughout the year
- Data gathered from Barentswatch, week 1 to 52 in 2020



### Results

- Throughout 2020 there's slight differences in the temperatures between the localitites, but they all follow the same pattern following the seasons
- None of the measurements in neither localities went over 20 °C, but the southern and western localitites had higher mean temperatures. The northern locality had the lowest temperatures throughout the year.
- The northern locality had the least delousings, with only four being performed. In comparison, the middle and western localities performed eight delousings, and the southern one performed twelve.



Figure 1: Map of the chosen localitites for the study

Figure 3: Overview of temperatures in the sea throughout 2020 at the localities Småvær (north), Ilsøya (middle), Ospøy Ø (west) and Buksevika (south), following the lice countings at the same localities. The blue points mark where the localities had performed delousing.

### Conclusion

There is a correlation between salmon lice population growth and periods of higher temperatures



### **References:**

Aquaculture North America (2016) *Canadian study to explore probiotics potential in battling sea lice.* Available from: https://www.aquaculturenorthamerica.com/canadian-study-to-explore-probiotics-potential-in-battling-1183/ (Retrieved 10.11.22) Barentswatch (2022) *Nedlasting av fiskehelsedata.* Available from: https://www.barentswatch.no/nedlasting/fishhealth/lice (Retrieved 06.11.22)



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