Impact of Salmon Lice and Sea Temperature on Mortality in Norwegian Aquaculture (2019-2023)

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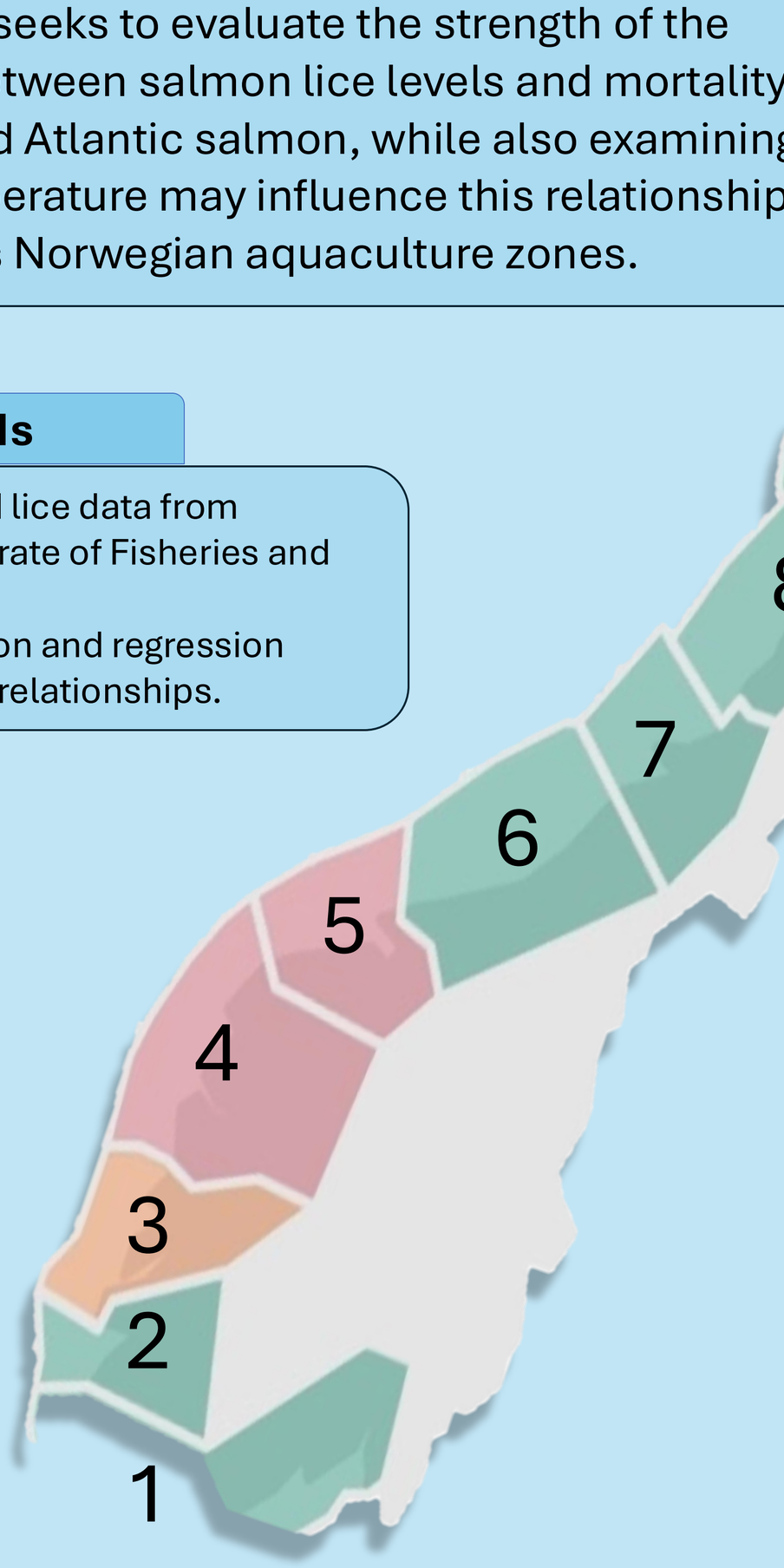
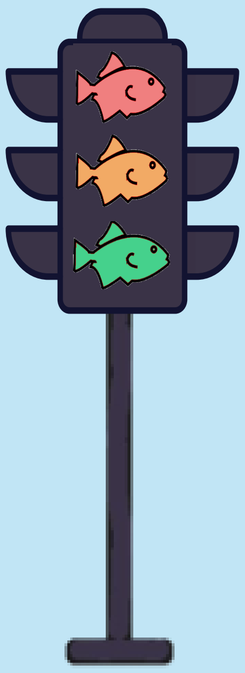
This study seeks to evaluate the strength of the correlation between salmon lice levels and mortality rates in farmed Atlantic salmon, while also examining how sea temperature may influence this relationship across Norwegian aquaculture zones.

Methods

- Data: Mortality and lice data from Norwegian Directorate of Fisheries and BarentsWatch.
- Analysis: Correlation and regression analysis to assess relationships.





Results

The figure shows the average amount of adult female salmon lice per production zone from 2019 to 2023.

Variables	Pearson Correlation	Pearson p-value	Spearman Correlation	Spearman p-value
Lice & Mortality	0.31	0.0271	0.41	0.0183
Temp. & Mortality	0.57	<0.001	0.59	<0.001
Temp & Lice	0.59	<0.001	0.64	<0.001

Discussion

- **Temperature Influence**: Sea temperature strongly correlates with lice and mortality, suggesting that warmer waters increase risk.
- **Lice Levels and Mortality**: A positive correlation exists, but other factors likely influence mortality.
- **Regional Variability**: Differences across zones indicate the importance of localized environmental and management factors.