



Evaluating the Influence of Wrasse on Salmon Mortality Rates: A Study on Changing Practices in Norwegian Salmon Aquaculture

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Introduction

Salmon lice (*Lepeophtheirus salmonis*) pose a significant challenge to the Norwegian aquaculture industry.

An alternative approach to reduce lice infestations involves using pharmaceuticals that inhibit enzyme function in salmon lice, causing paralysis and death.

Another method of biologically controlling lice infestations is the utilization of ballan wrasse (*Labrus bergylta*) as cleaner fish.

Materials and methods

In this project, we analyzed data from BarentsWatch to study the effects of pharmaceuticals and cleaner fish (ballan wrasse) on Atlantic salmon mortality rates.

Using three datasets; "Biomassestatistikk etter fylke", "Rensefisk", and "Salg av legemidler", mortality rates, total biomass of salmon sold, and total amount of cleaner fish used were calculated.

The relative mortality rate was calculated by dividing the number of dead salmon registered by the total amount of salmon sold.

The impact of cleaner fish was evaluated by comparing mortality rates before and after their introduction into the pens.



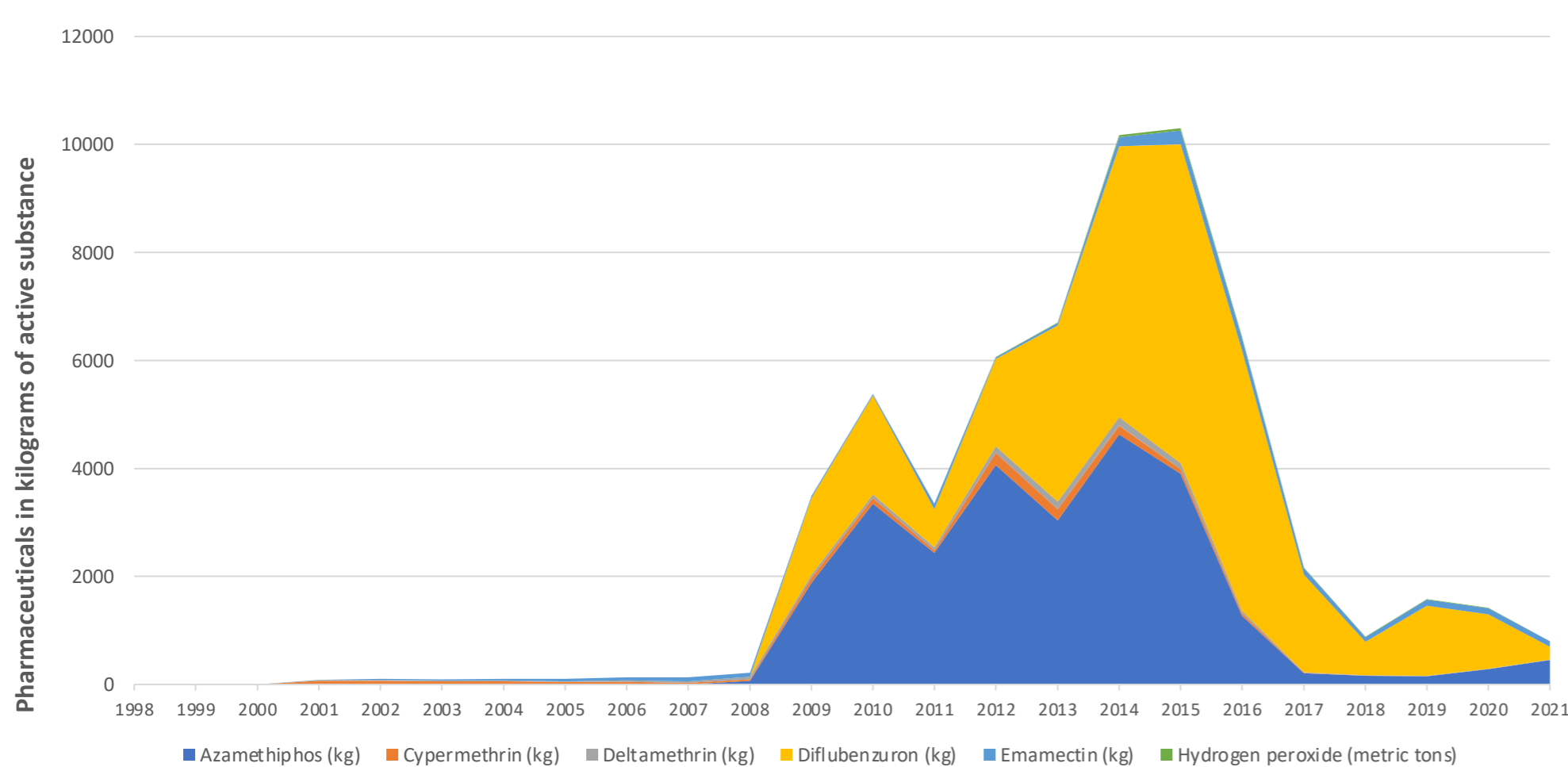
Kilde: Mowi

Results

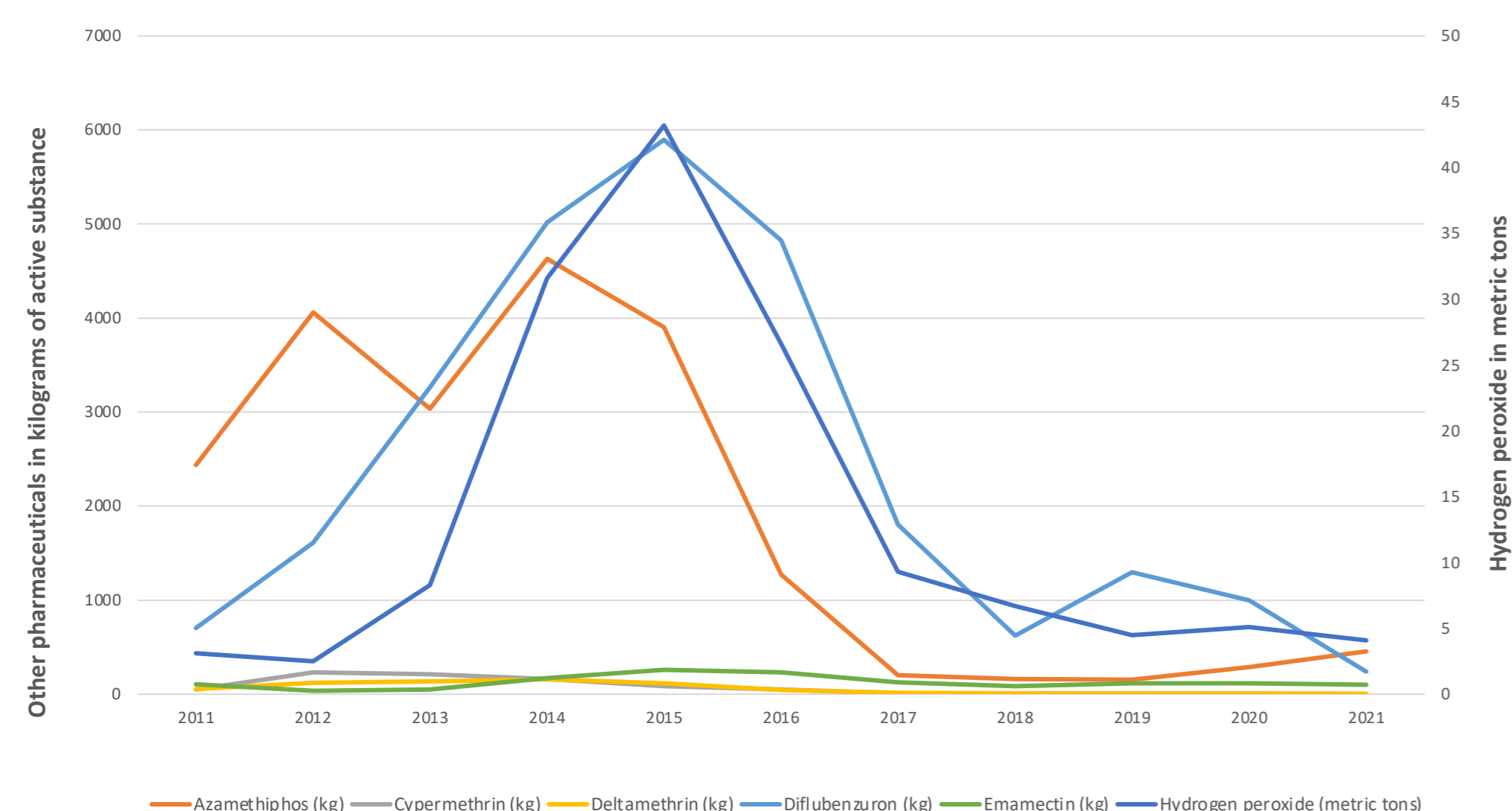
There is a significant increase in the use of wrasse as a method of delousing on farmed salmon.

There is a slight decrease in relative mortality of farmed salmon together with the increase in the use of wrasse.

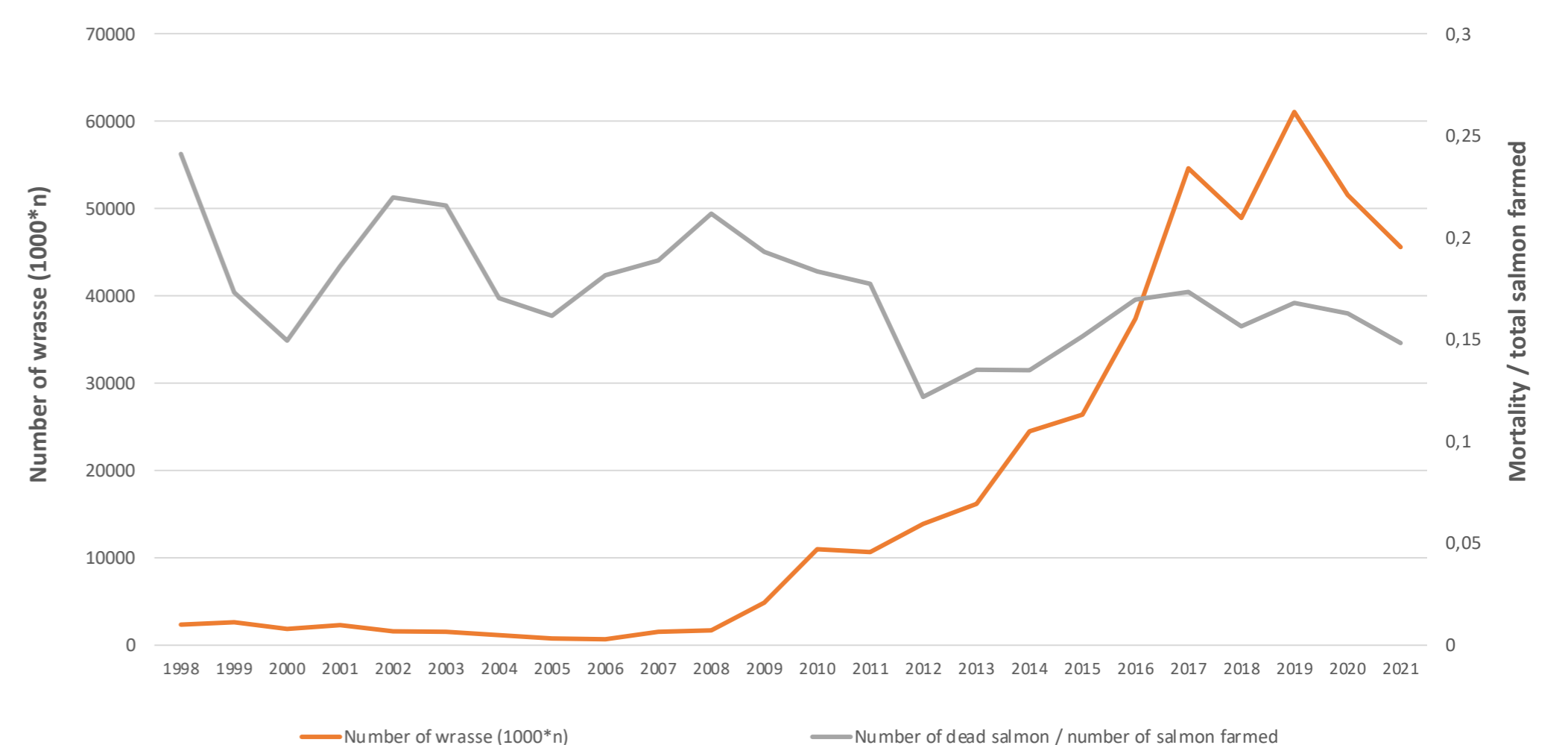
The use of chemical delousing have been reduced drastically the past years, seen in comparison to extensive use previous years.



Use of pharmaceuticals in Norwegian aquaculture (1998-2021)



Use of pharmaceuticals in Norwegian aquaculture (2011-2021)



Cleaner fish used and mortality rates of salmon per year in Norwegian aquaculture

Conclusion

The graphs evaluated in this study presents a correlation between utilization of cleaner fish and mortality rates among farmed salmon, along with the variation in use of pharmaceuticals in Norwegian aquaculture. To analyze the total effect of wrasse, more information about other delousing methods is necessary.

Sources

BarentsWatch.no & Mowi.no

Sommerset I, Wiik-Nielsen J, Oliveira VHS, Moldal T, Bornø G, Haukaas A og Brun E. Fiskehelse rapporten 2022, Veterinærinstituttets rapportserie nr. 5a/2023, published by Veterinærinstituttet 2023.

