Aqkva, Stord, 10 September 2020

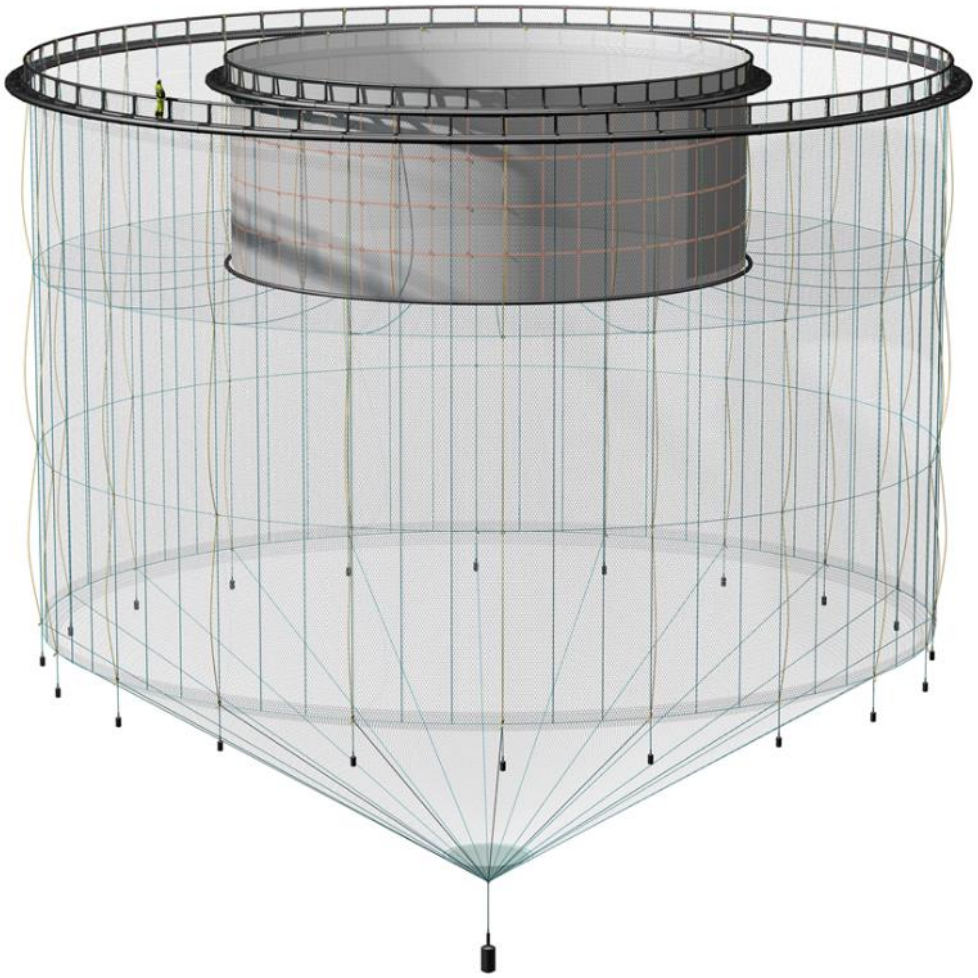
"Snorkelmerd sammen med rensefisk eller laser – rognkjeks og berggylt sin dybdepreferanse"

Lena Geitung, Daniel Wright, Frode Oppedal, Lars Helge Stien, Egil Karlsbakk,
Samantha Bui, Angelico Madaro, Luke Barrett…..

Virker laser og rensefisk i snorkelmerder?

- Snorkelmerd reduserer lusepåslag
  - Men er ikke 100% effektiv
- Hva kan brukes i kombinasjon for å fjerne lusene?
  - Laser?
  - Rensefisk?

Snorkelmerd



ELSEVIER

Aquaculture

Volume 458, 1 May 2016, Pages 29-37

‘Snorkel’ sea lice barrier technology reduces sea lice loads on harvest-sized Atlantic salmon with minimal welfare impacts

Lars Helge Stien [a], Tim Dempster [b], Samantha Bui [b], Alexis Glaropoulos [c], Jan Erik Fosseidengen [a], Daniel W. Wright [b], Frode Oppedal [a]

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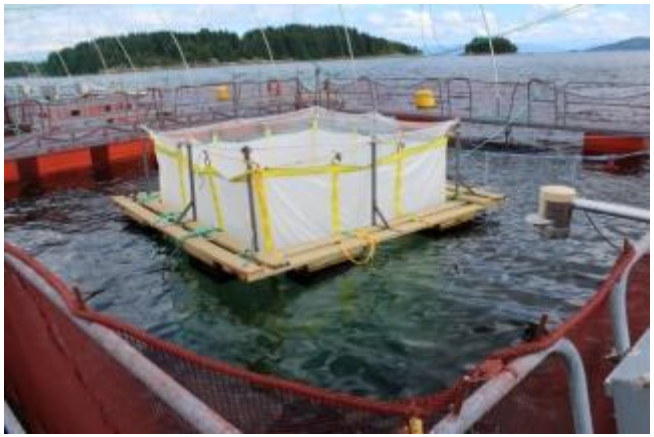
https://doi.org/10.1016/j.aquaculture.2016.02.014



Vol. 11: 445–457, 2019
https://doi.org/10.3354/aei00321

AQUACULTURE ENVIRONMENT INTERACTIONS
Aquacult Environ Interact

Published September 5

Snorkel technology to reduce sea lice infestations: efficacy depends on salinity at the farm site, but snorkels have minimal effects on salmon production and welfare

Frode Oppedal[1], Samantha Bui[1], Lars H. Stien[1], Kathy Overton[2], Tim Dempster[2,*]

[1]Institute of Marine Research, 5984 Matredal, Norway
[2]Sustainable Aquaculture Laboratory – Temperate and Tropical (SALTT), School of Biosciences, University of Melbourne, 3010 Victoria, Australia

Pest Management Science

SCI

Research Article

Sea lice infestation levels decrease with deeper ‘snorkel’ barriers in Atlantic salmon sea-cages

Frode Oppedal, Francisca Samsing, Tim Dempster, Daniel W Wright, Samantha Bui, Lars H Stien

First published: 1 March 2017 | https://doi.org/10.1002/ps.4560 | Cited by:3

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ELSEVIER

Preventive Veterinary Medicine

Volume 140, 1 May 2017, Pages 97-105

‘Snorkel’ lice barrier technology reduced two co- occurring parasites, the salmon louse (*Lepeophtheirus salmonis*) and the amoebic gill disease causing agent (*Neoparamoeba perurans*), in commercial salmon sea-cages

D.W. Wright [a, 1], L.H. Stien [b], T. Dempster [a], T. Vågseth [b], V. Nola [b], J.-E. Fosseidengen [b], F. Oppedal [b]

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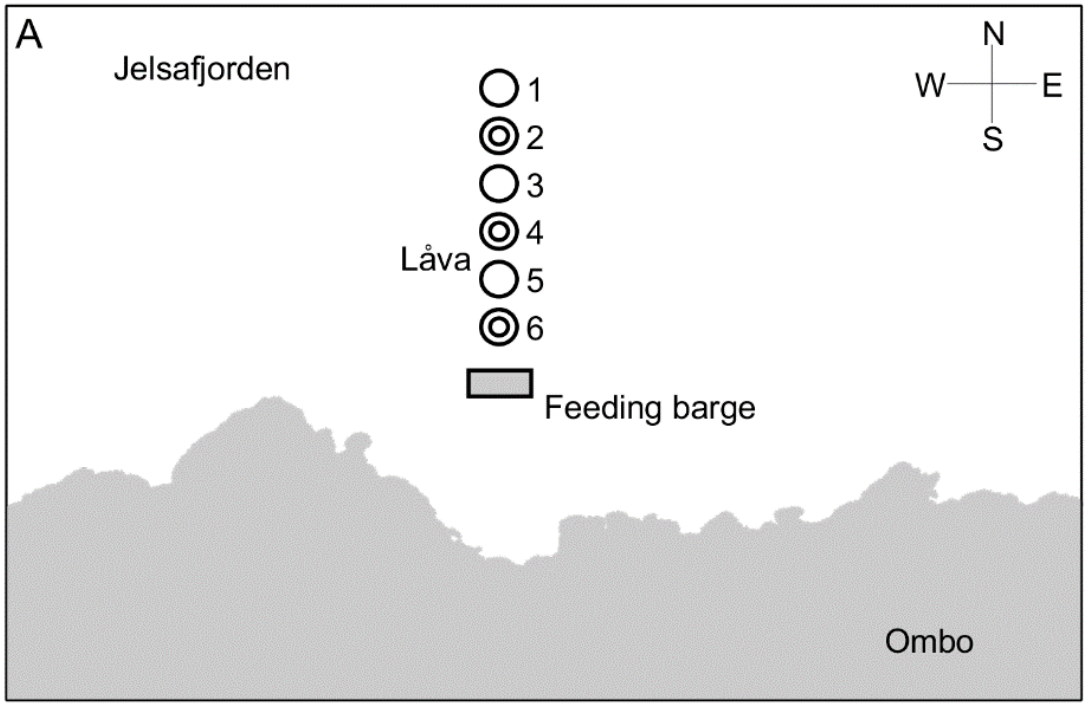
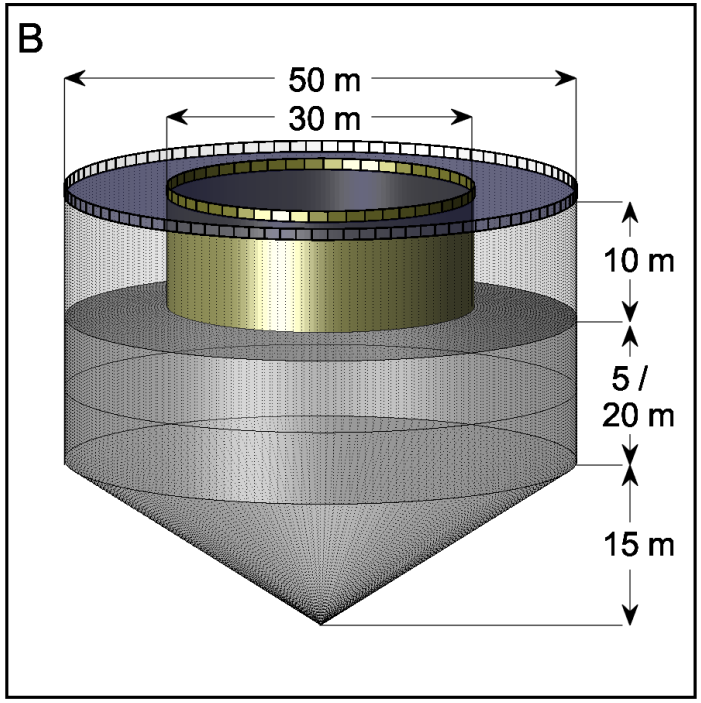
https://doi.org/10.1016/j.prevetmed.2017.03.002

Snorkelmerd forsøk i kommersiell skala gjennom en produksjonssyklus



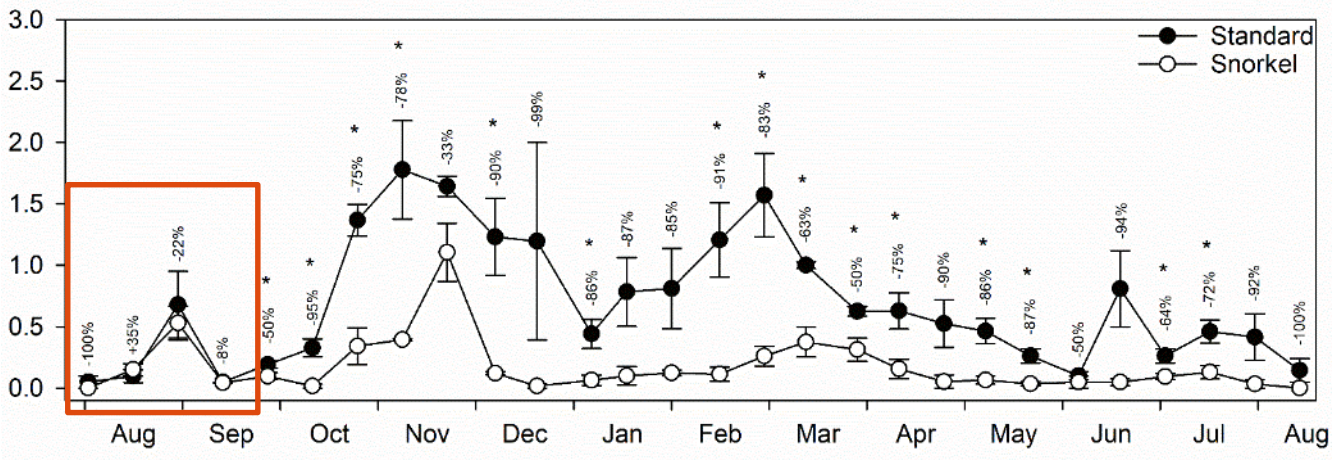


Geitung et al. 2019

Lusetelling utført hver andre uke på 20 fisk fra hver merd

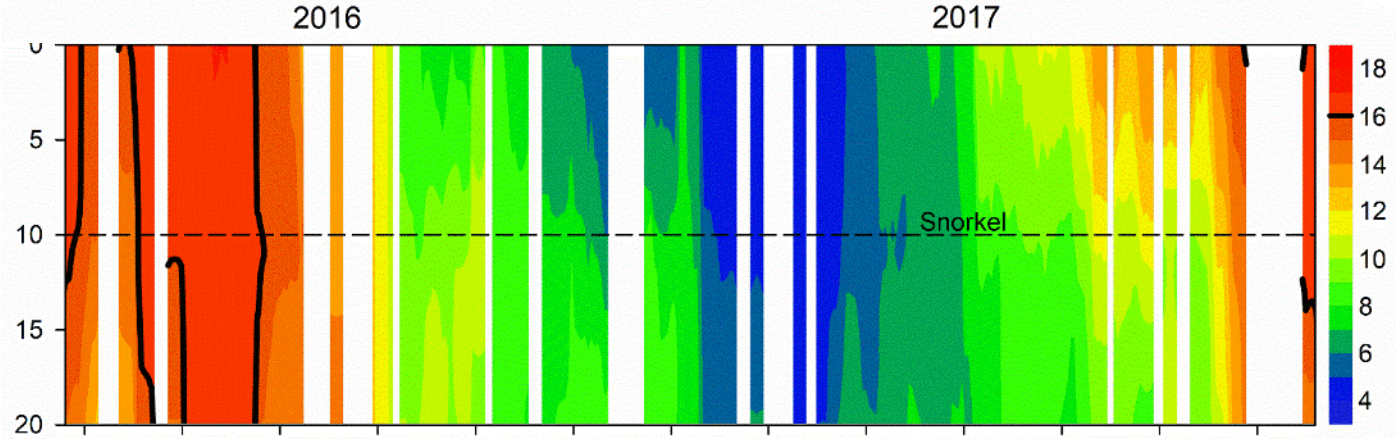
Lusepåslag
(fastsittende lus)

75% reduksjon



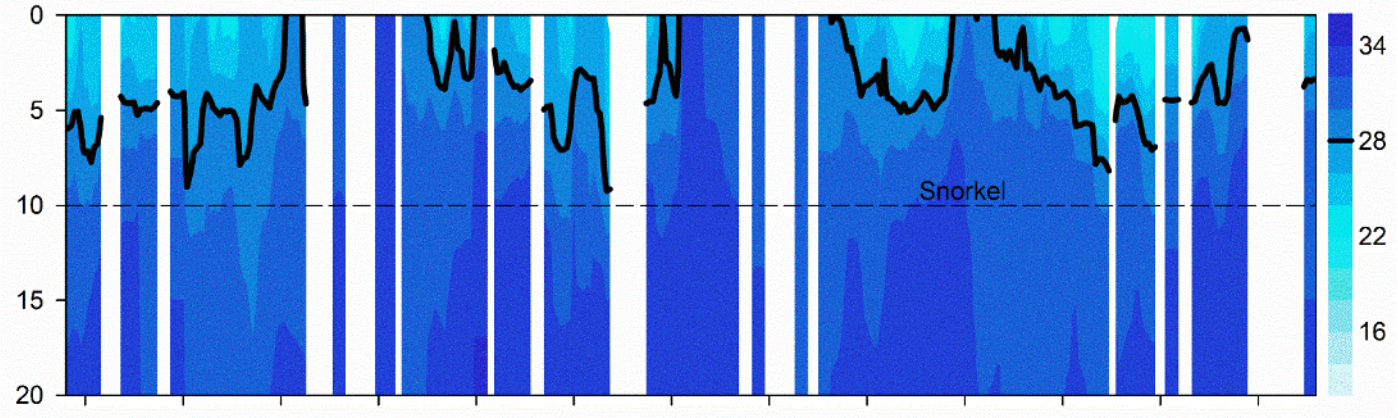
Temperatur

— = > 16°C



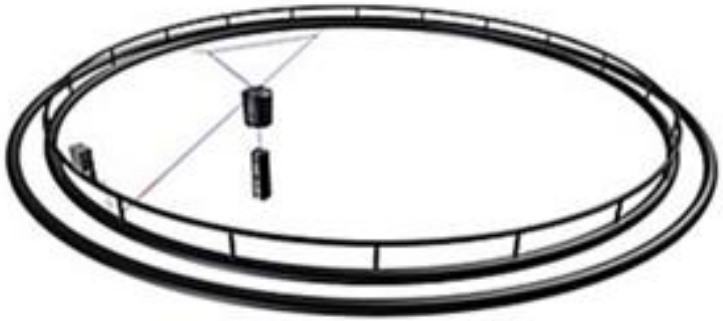
Saltholdighet

— = < 28 ppt

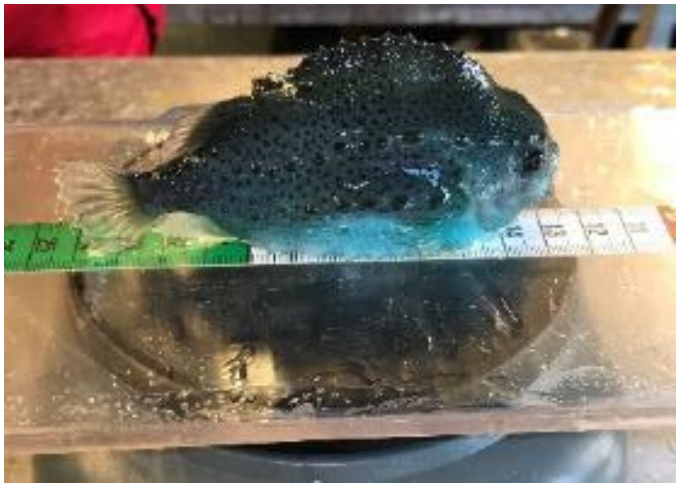


Geitung et al. 2019

Hvordan skal vi fjerne lusen uten å måtte behandle og fjerne snorkelen?



Stingray.no

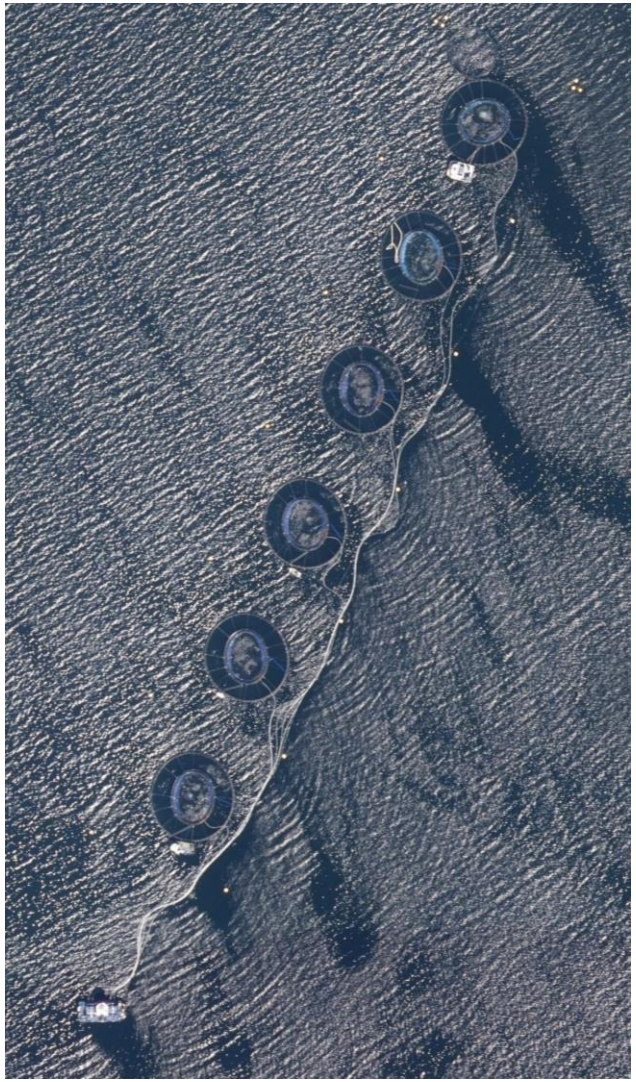


hi.no

Laser og rensefisk

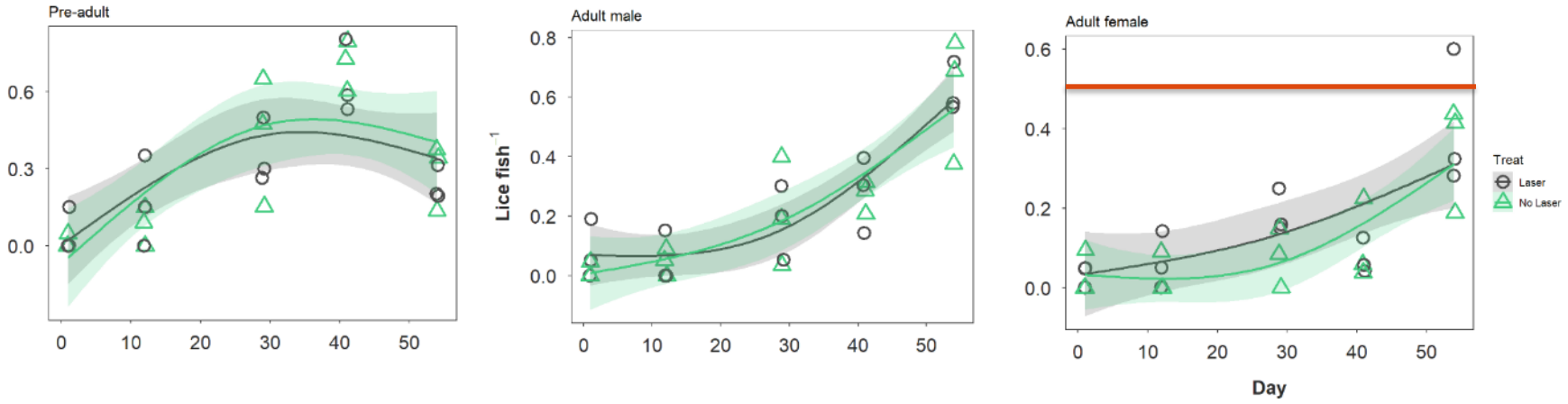
- Laser vs. kontroll
  - 54 dager (Des – Feb)
  - Alle merder utstyrt med 16m dyp snorkel
    - 3 merder med 2 stk laser i hver
    - 3 merder som fungerer som kontroll
    - Lusetelling hver andre uke på 20-50 fisk i hver merd
    - *Bui et al. 2020 Prev. Vet. Med.*

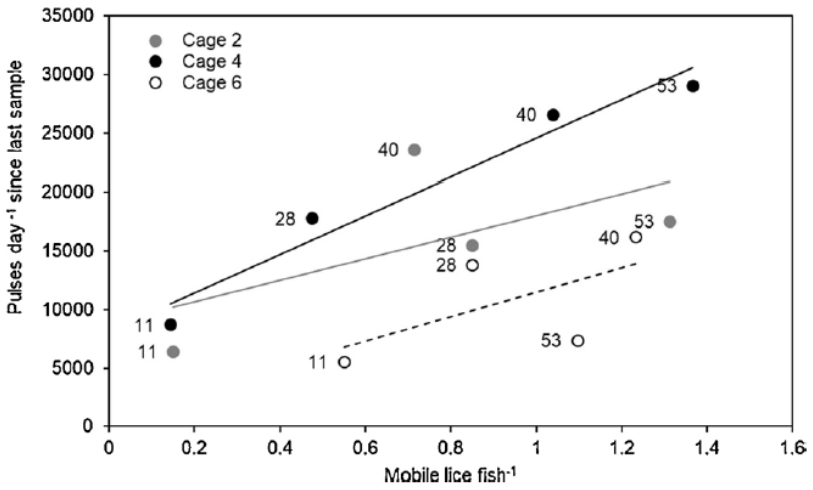
- Laser vs. rensefisk
  - Alle merder utstyrt med 16m dyp snorkel
    - 3 merder med laser
    - 3 merder med rensefisk
      - Rognkjeks og villfanget leppefisk
    - *Preliminære data*

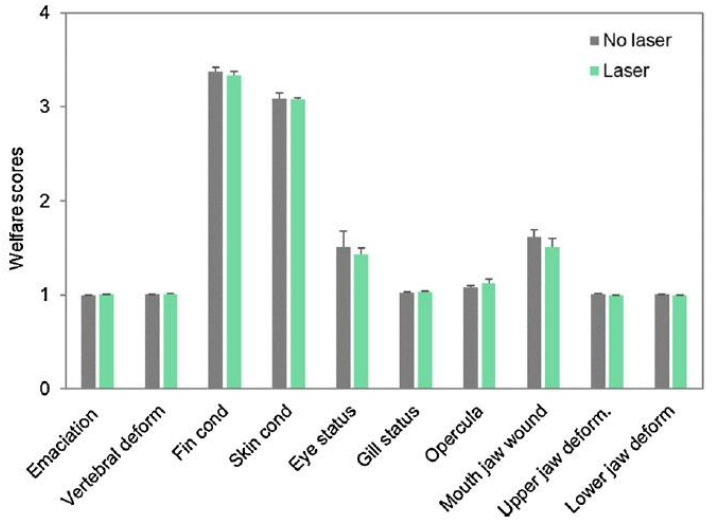


NorgeIBilder

Fiskegruppene som ble behandlet med laser hadde samme lusenivå som fisk i kontrollmerder

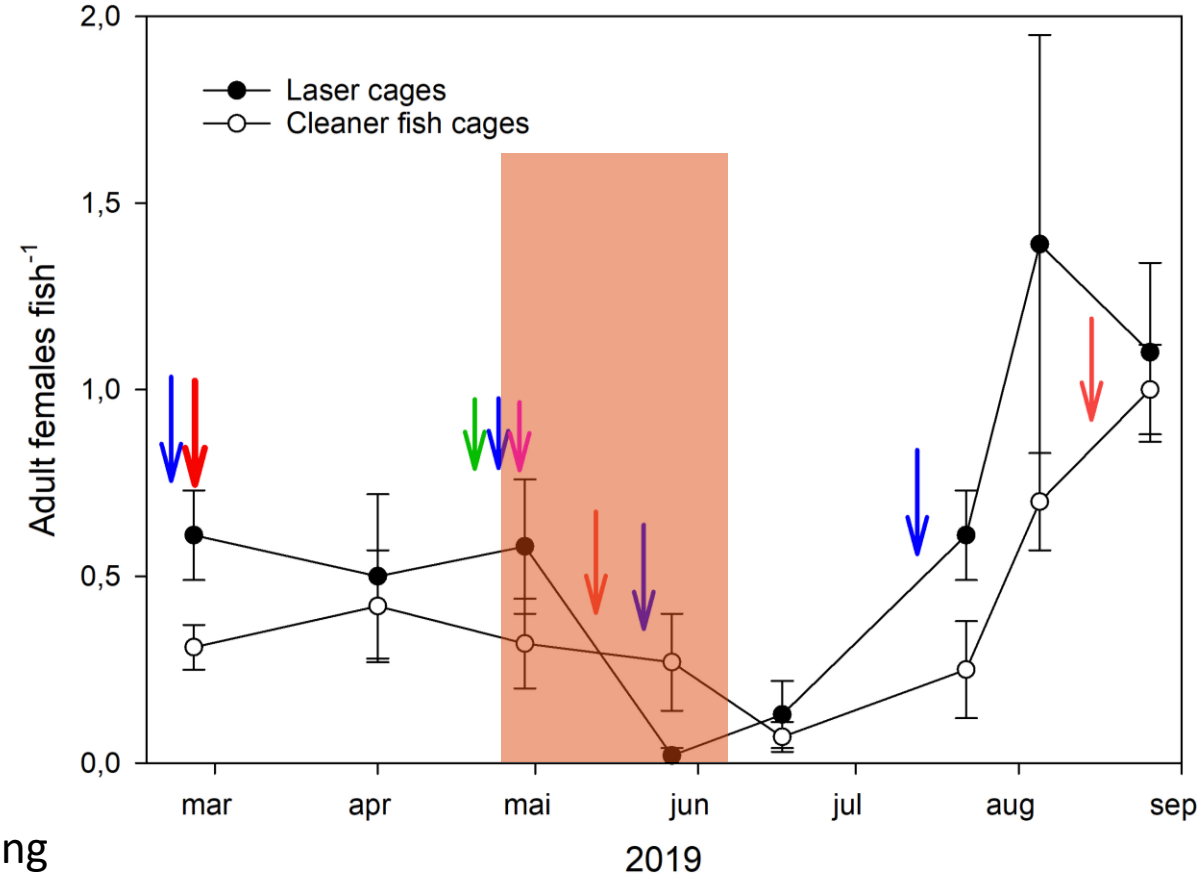






Bui et al. 2020

Bedre effekt med rensefisk enn laser?



Behandling

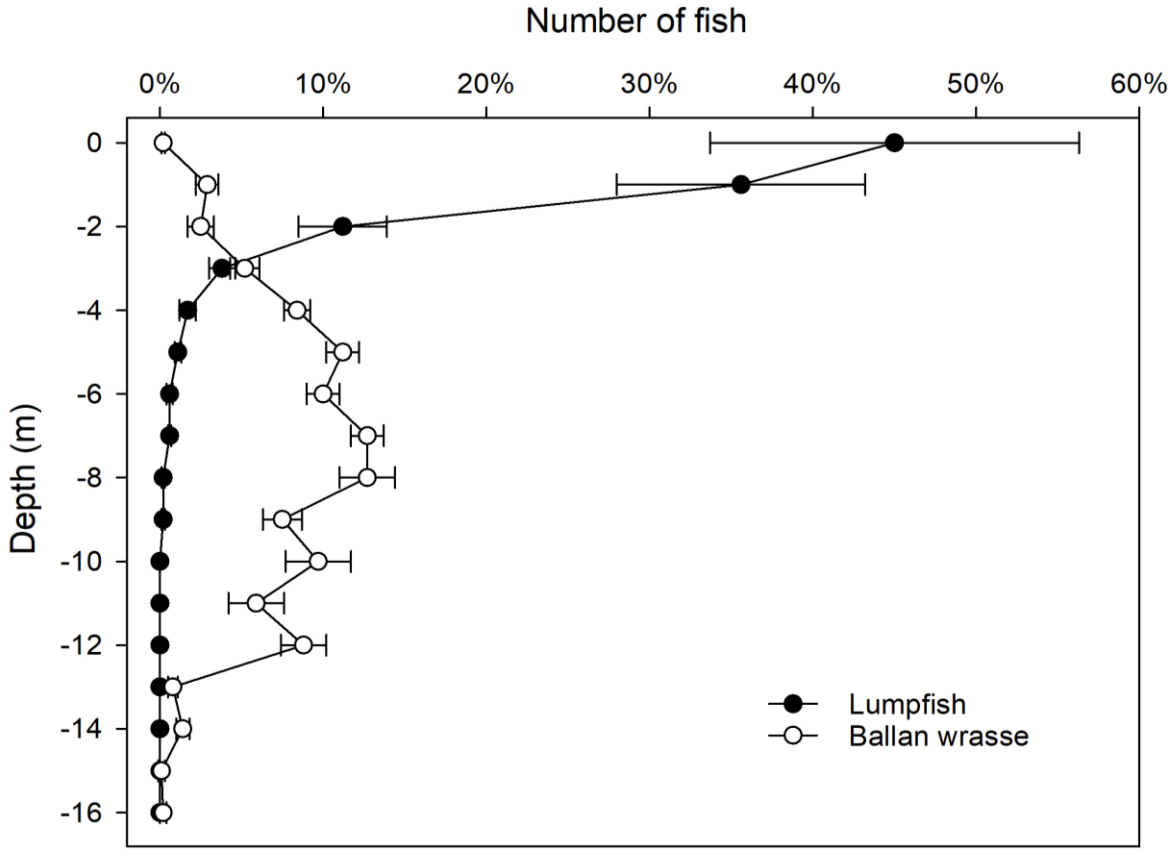
Rensefisk tilsatt

Brann i merd

Merder byttet

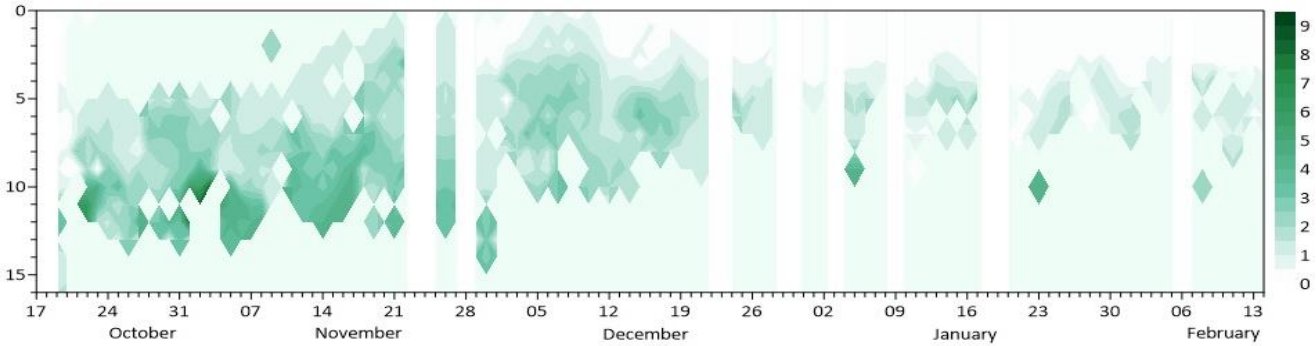
Preliminære data

Dybdepreferanse rensefisk?

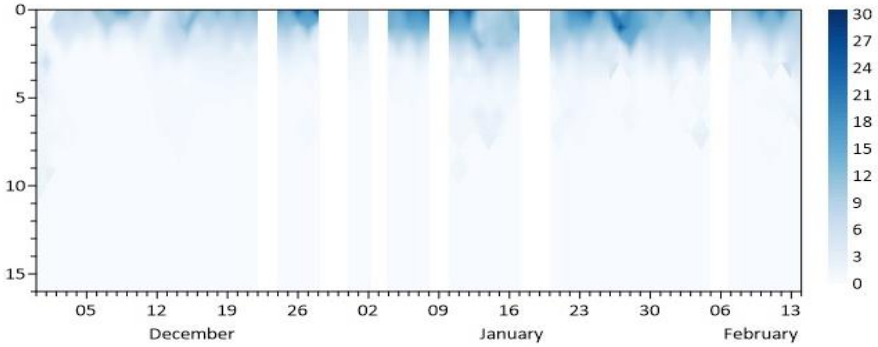


Preliminære data

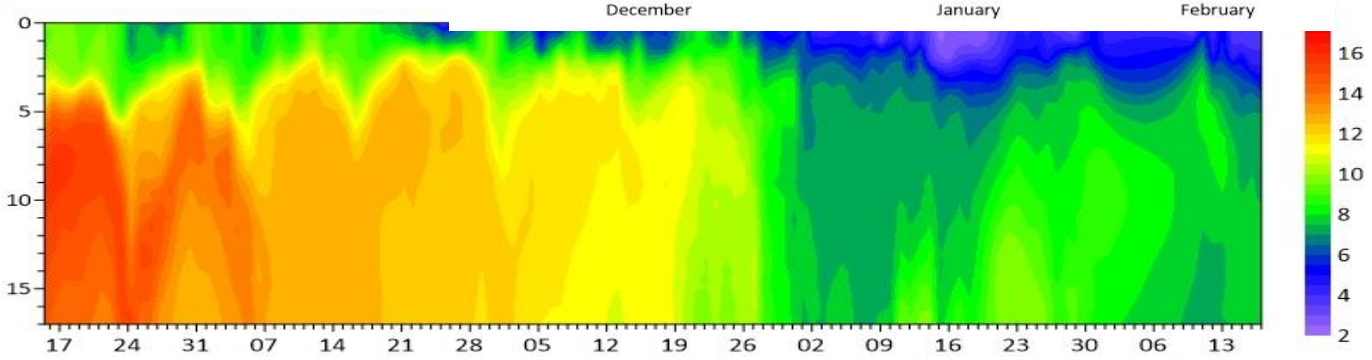
Berggylt



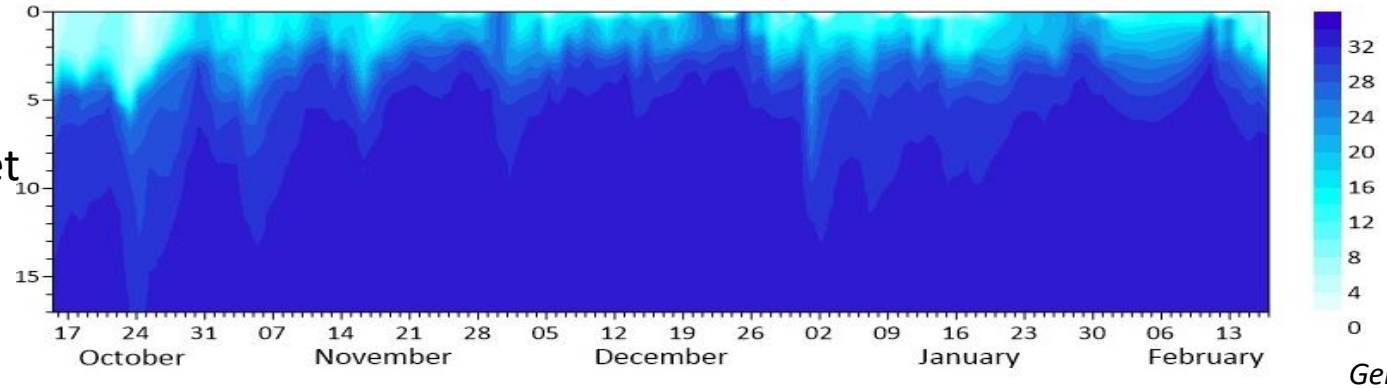
Rognkjeks



Temperatur



Saltholdighet



Geitung et al. 2020

Oppsummering

- Snorkelmerd reduserer lusepåslag
  - Effekt varierer med temperatur og saltholdighet
- Laser hadde liten effekt mot lakselus i snorkelmerd
  - Over en 8 ukers periode høst/vinter
- Rensefisk potensielt litt bedre effekt enn laser i snorkelmerd
  - Varierende dybdesamsvar mellom laks og rensefisk

BREMNES SEASHORE

Takk for oppmerksomheten ☺