

Er rammebetingelsene optimale for en god forebyggende lusestrategi på Færøylene?

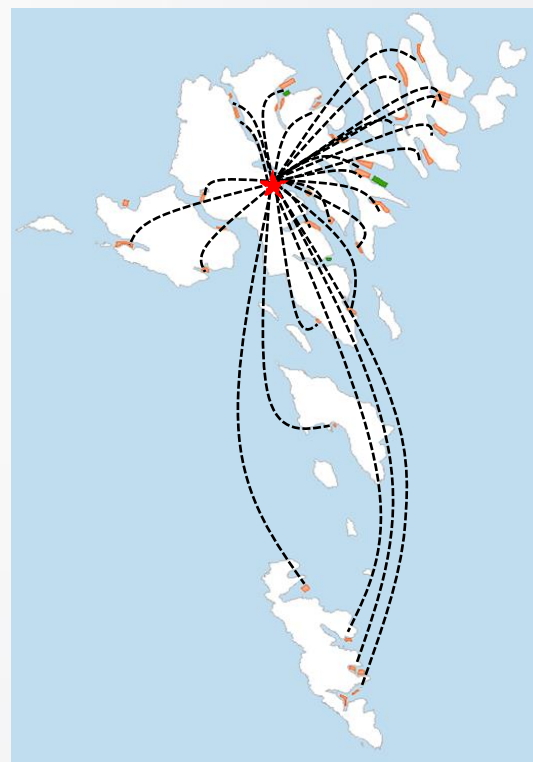
Kirstin Eliassen og Tróndur J. Kragesteen

Lusekonferansen, Trondheim 6.-7. april 2022

Lidt om rammerne på Færøerne

20 fisk fra hver merd tælles mindst 14. hver dag

P/F Fiskaaling skal udføre tællingerne (Third party)



Kunngerð um yvirkvøku og tálming av lúsum á alifiski (Lúsakunngerðin)

Við heimild í § 9, § 46, stk. 1 og § 48, stk. 2 í lögtingslóg nr. 16 frá 23. februar 2001 um djórasjúkur, sum broytt við lögtingslóg nr. 18 frá 8. mai 2008, verður ásett:

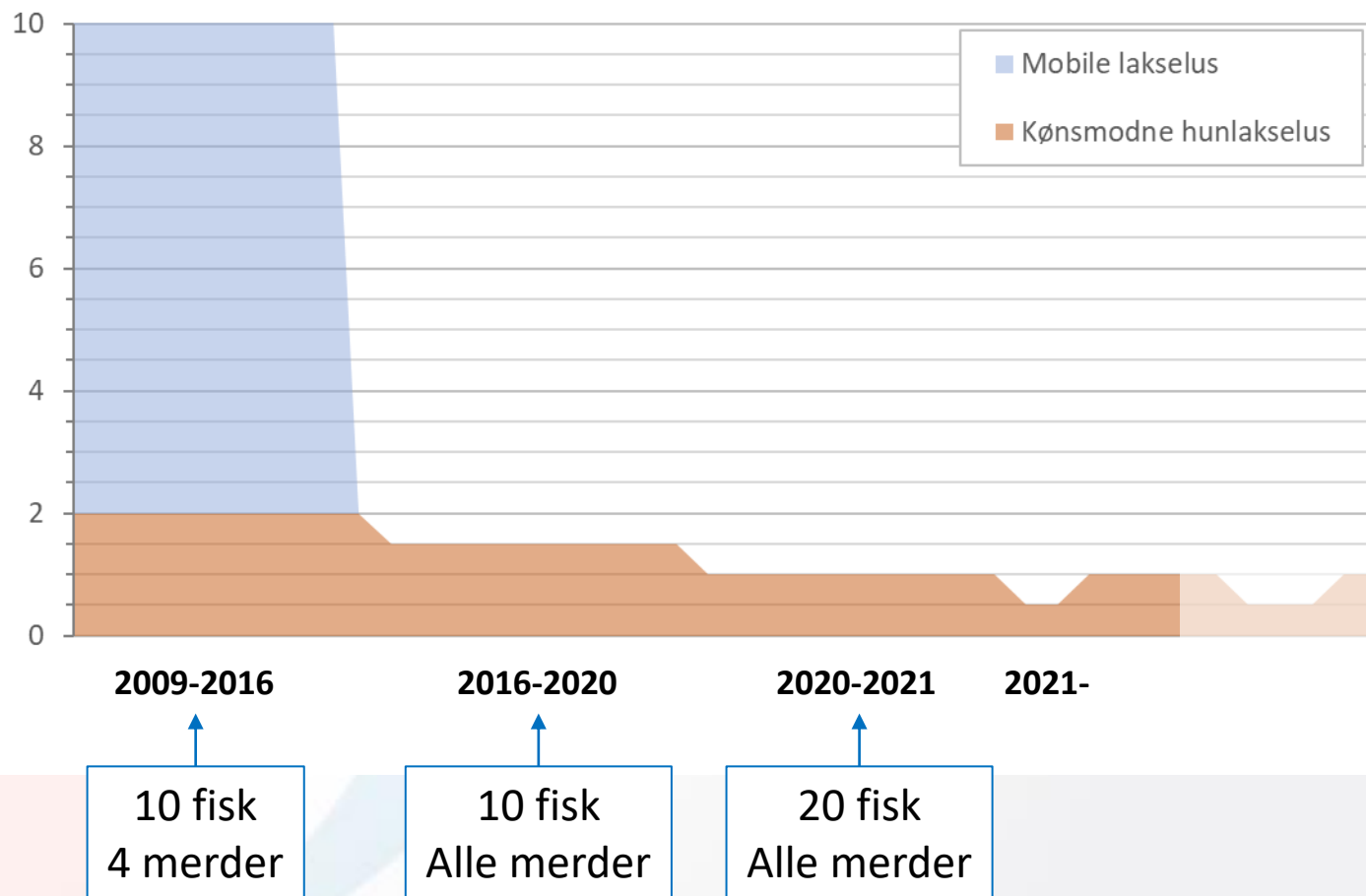
§ 1. Endamálið við kunngerðini er at minka um útbreiðsluna av laksalú soleiðis, at skaðarínið á fisk í aliútbúnaði og á villan fisk verður sum minst, umframt at minka um og at niðurberja mótstøðufærið hjá laksalú.

- 11) Alistøð: Alistøð á landi ella sjónum, har matfiskur verður aldur.
- 12) Alistøð á landi: Alistøð, har aling av matfiski fer fram í innpumpaðum sjógvi í kari, tanga el. til. á landi.
- 13) Alistøð á sjónum: Alistøð, har aling av matfiski fer fram á flótandi alianleggi á sjónum á einum ella fleiri aliokjum við tilhoyrandi landstøð.
- 14) Fiskaeind: Fiskur í einum aliringi, alibúri, tanga, kari o.til.

Formål: At begrænse udbredelsen af lakselus således at skaden på opdrættet og vild fisk bliver som mindst, foruden at begrænse og nedbryde resistens hos lakselus

Lidt om rammerne på Færøerne

Grænseverdier



Kunngerð um yvirvøku og tálming av lúsum á alifiski (Lúsakunngerðin)

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Umiddelbar konsekvens

2009: Hvis over grænsen, skal alle merder afluses inden 14 dage



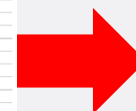
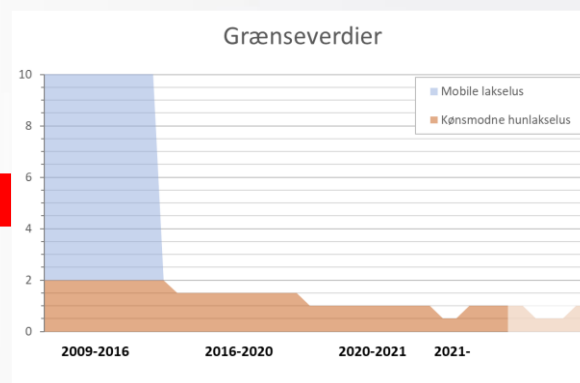
2016: Slaktes inden 2 måneder hvis over grænsen **3 følgende tællinger**



2019: Slaktes inden 2 måneder hvis over grænsen **3 følgende tællinger eller 6 tællinger tilsammen**



2021: Slaktes inden 11 uger hvis over grænsen **3 følgende tællinger eller 4 tællinger tilsammen**



Efterfølgende konsekvens

2009: Evaluering



2016: Straffepoint indføres, hvor 1 x over grænseværdien = 1 point, 2 x over grænseværdien = 2 point, o.s.v. Kemiske aflusninger = 2 point

<10 point = mere smolt

10-19 point = samme antal smolt

>19 point = færre smolt



2019:

<8 point = mere smolt

8-15 point = samme antal smolt

>15 point = færre smolt

Færøernes hydrodynamik

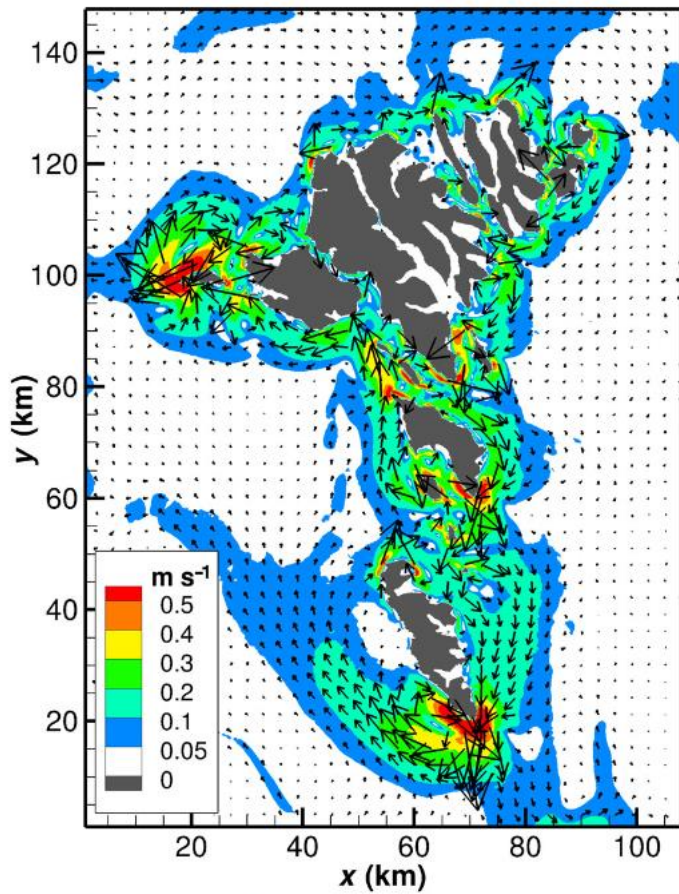


Fig. 2. Residual tidal current velocity around the Faroe Islands. The vectors indicate the direction, and the colors indicate the speed (Simonsen & Niclasen 2011)

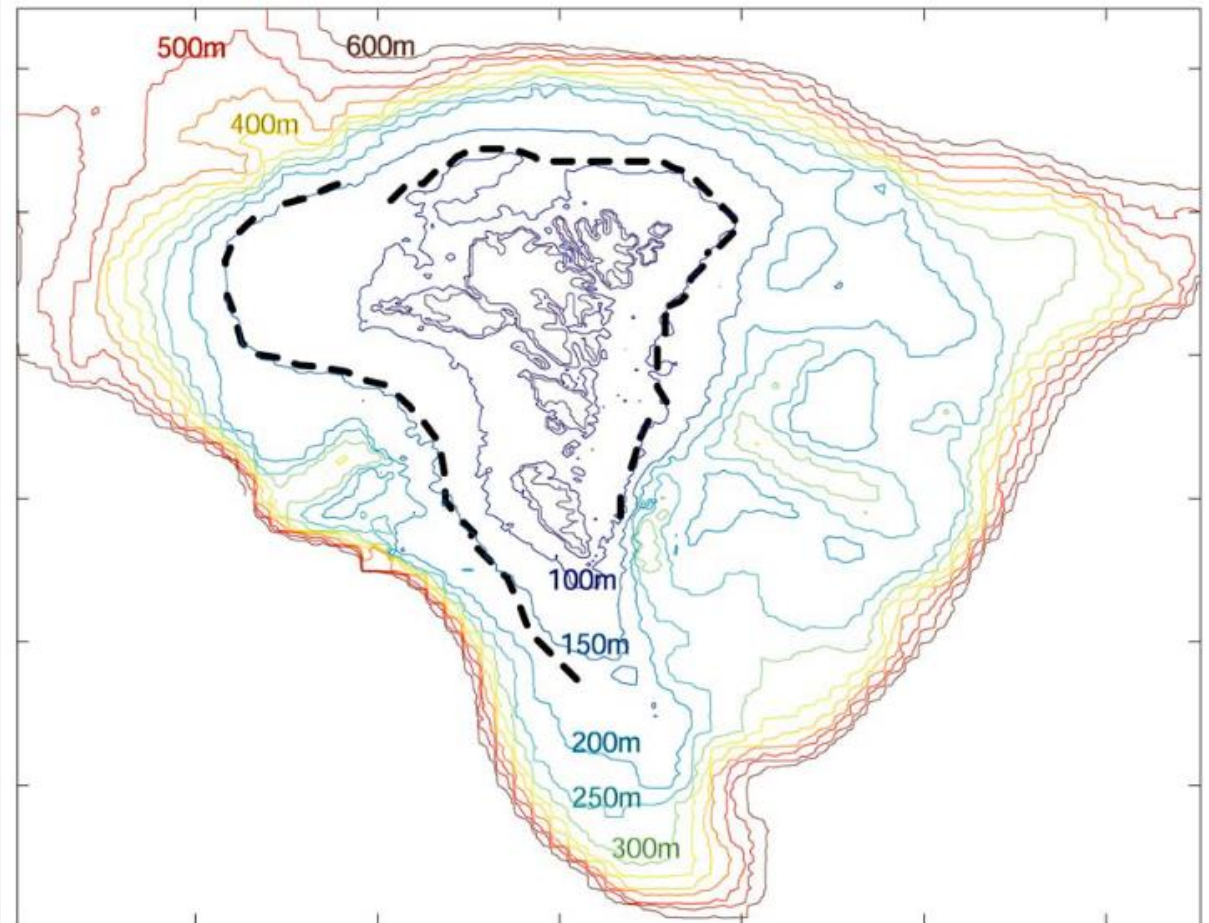


Figure 7.4. Depth contours from 0 to 600 m with 50 m interval of the Faroe Plateau based on depth matrix from the tidal simulation (Appendix B). Observed mean location of the front (Table 5.1) is indicated by dashed black lines.

Identifying salmon lice transmission characteristics between Faroese salmon farms

Tróndur J. Kragestein^{1,2,*}, Knud Simonsen¹, André W. Visser², Ken H. Andersen²

¹Fiskaaling - Aquaculture Research Station of the Faroes, v10 Áir 11, FO430 Hvalvík, Faroe Islands
²VKRC Centre for Ocean Life, National Institute of Aquatic Resources, Technical University of Denmark, Building 202, 2800 Kgs. Lyngby, Denmark

Færøernes lusedynamik

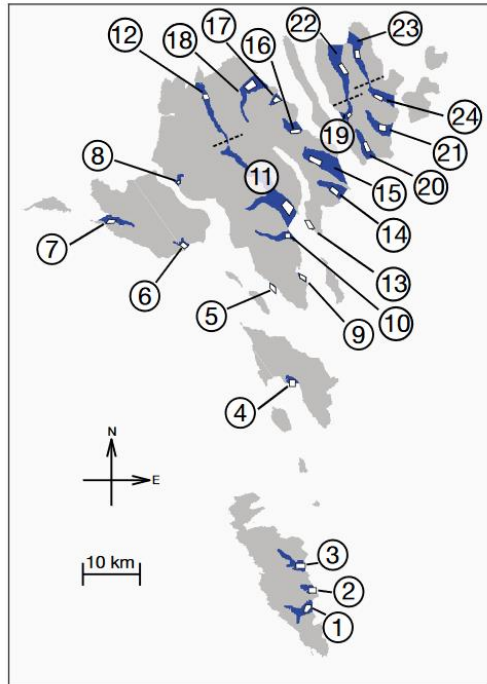


Fig. 3. Farm areas (blue) and lice release sites (white polygons). Dashed lines distinguish 2 farm areas from each other. There is water connection between Farm areas 11 and 12, but not between 19 and 22, and 23 and 24

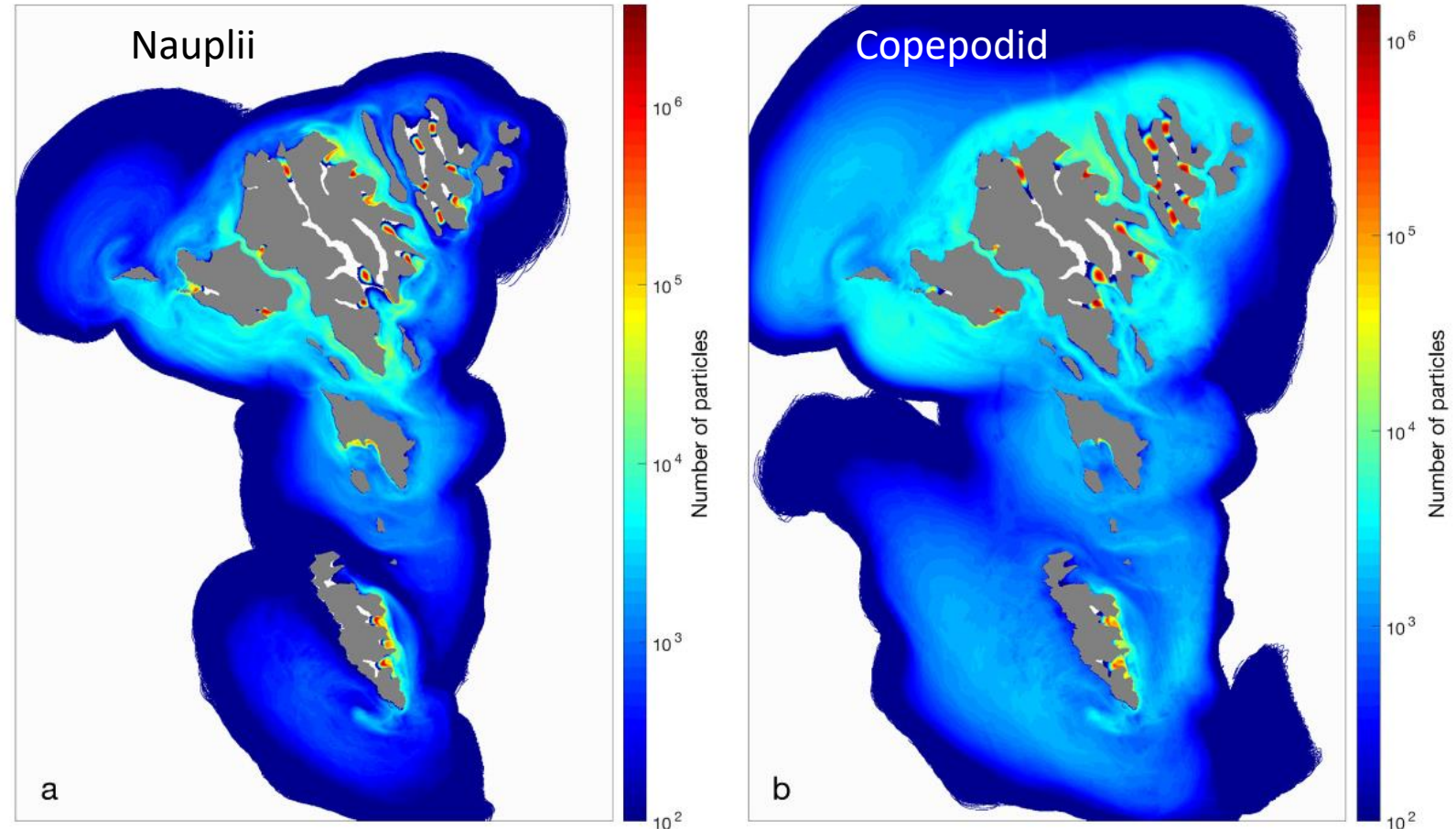
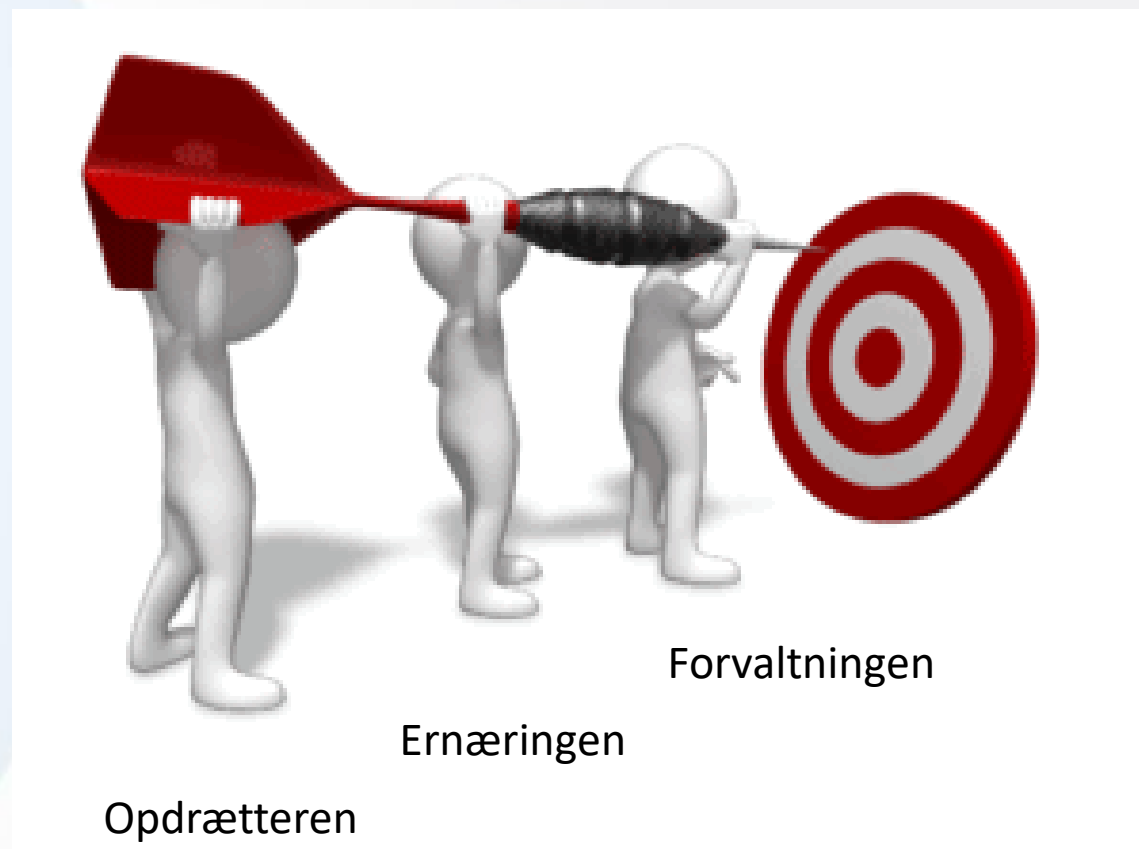


Fig. 6. Relative density distribution attained by particles released from all 24 farm sites, by recording the number of particles in each 100×100 m grid cell every time step, including mortality, over the whole 2000 h simulation. (a) Nauplii and (b) copepodid particles. The color bar indicates number of particles on a logarithmic scale; white: no particles registered

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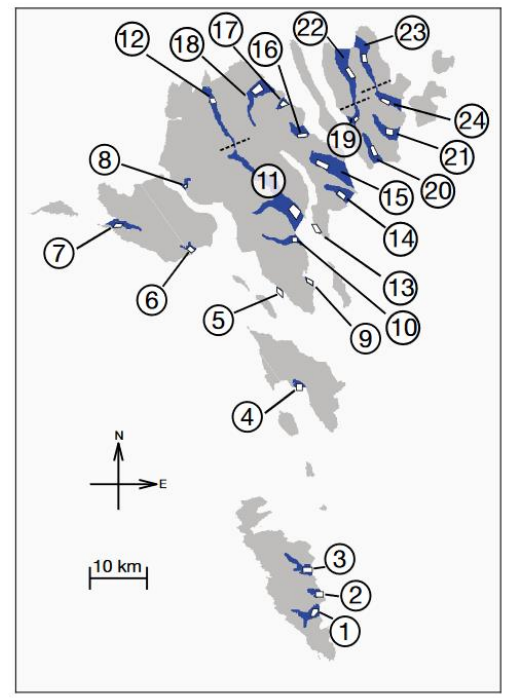


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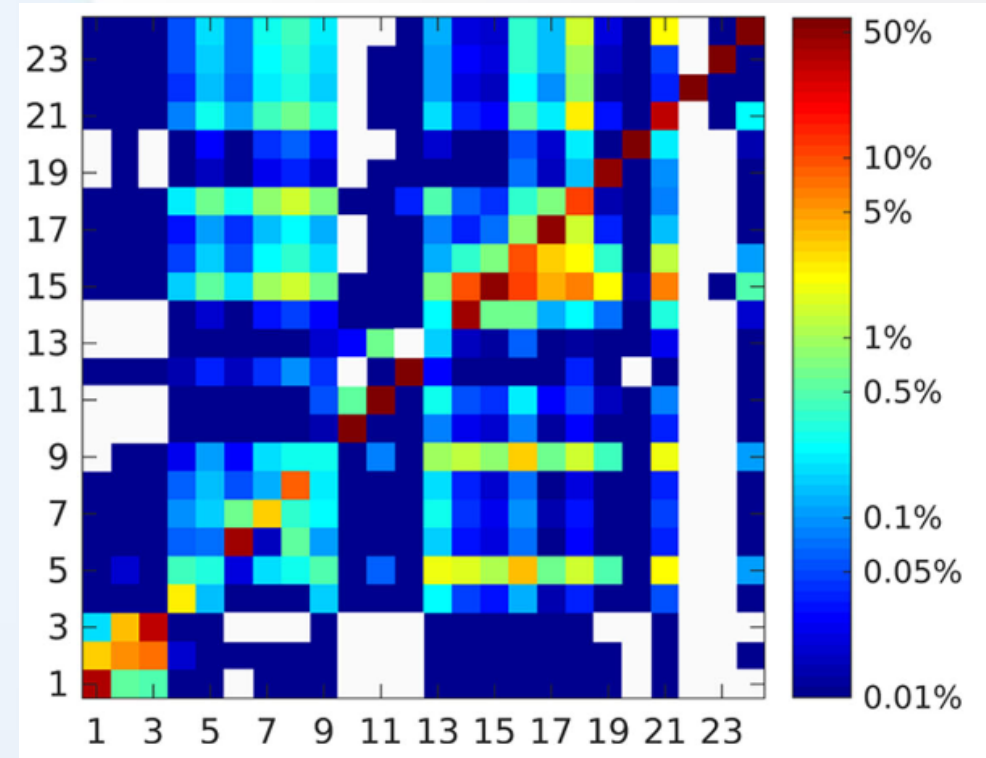


Fig. 7. (a) Percentage of unique infectious larvae released from one farm site entering any other farm site or its initial release site. (b) Mean age of the connections. (c) Connectivity including mortality. Emitting farms are on the x-axis and receiving farms on the y-axis. The color bar indicates the percentage in (a) and (c), scale is logarithmic. The color bar in (b) indicates the mean age in days. White indicates no signal

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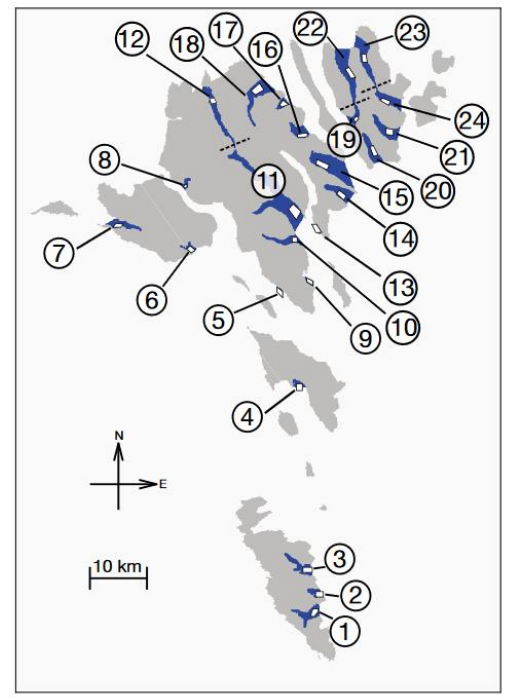


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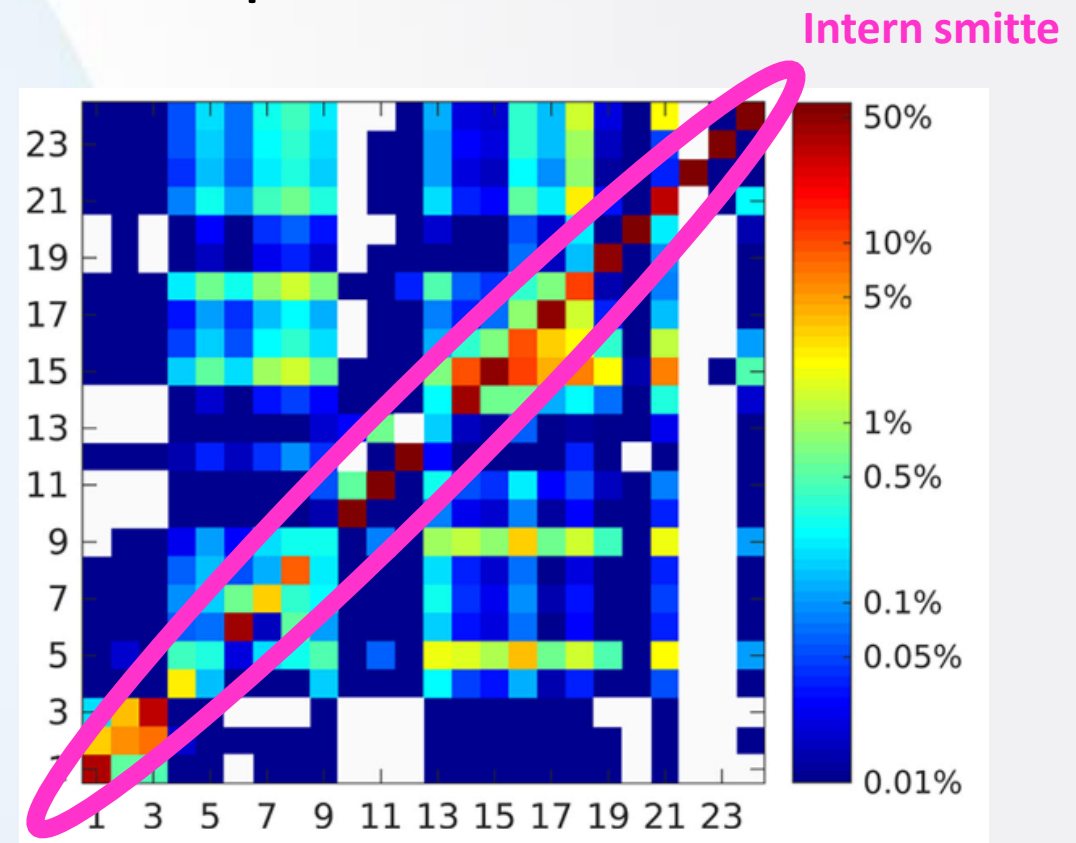


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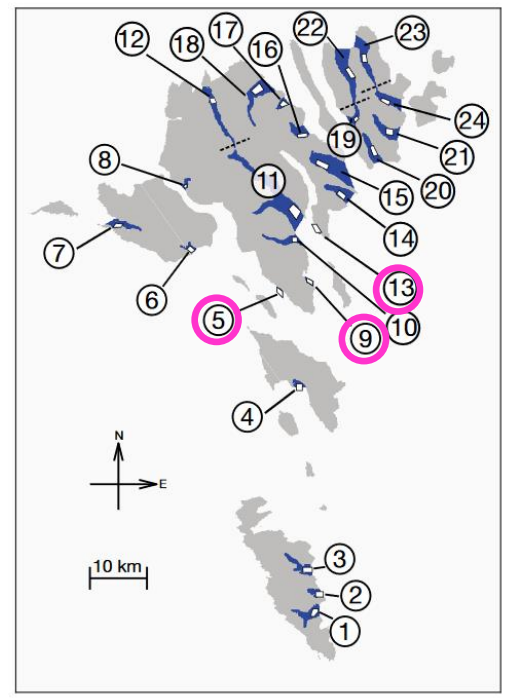


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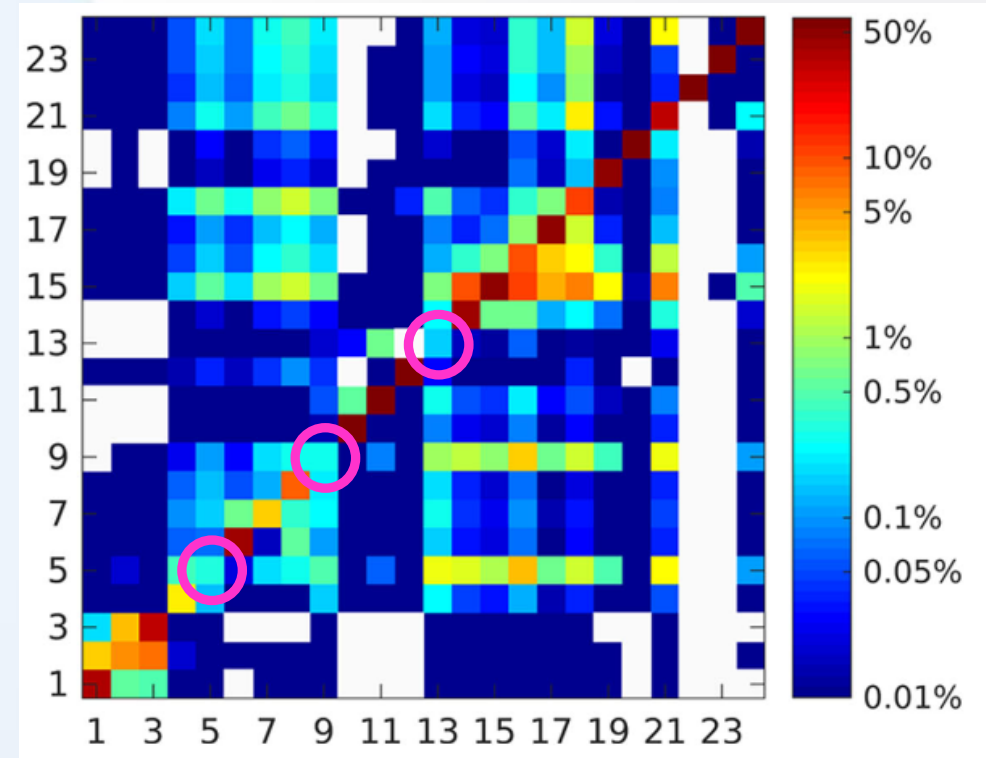


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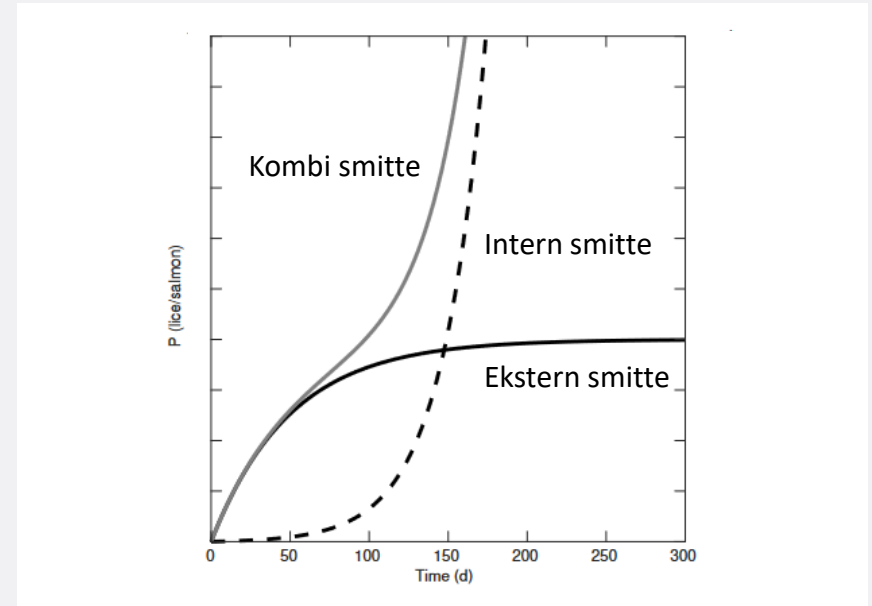


Figure 3.2: Salmon lice population growth as function of time.

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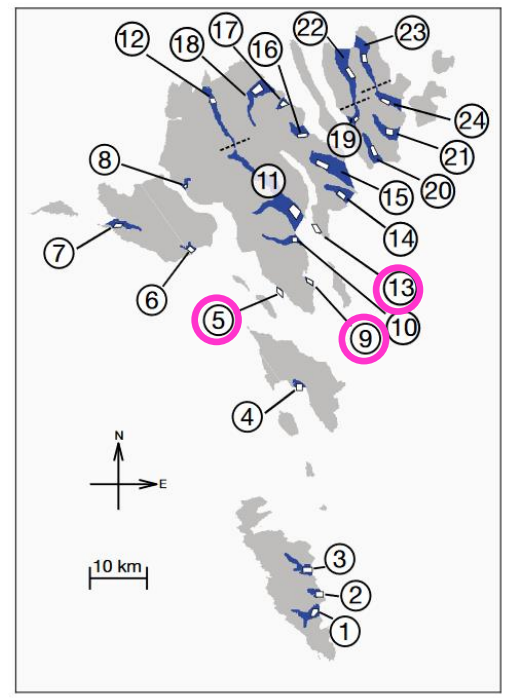


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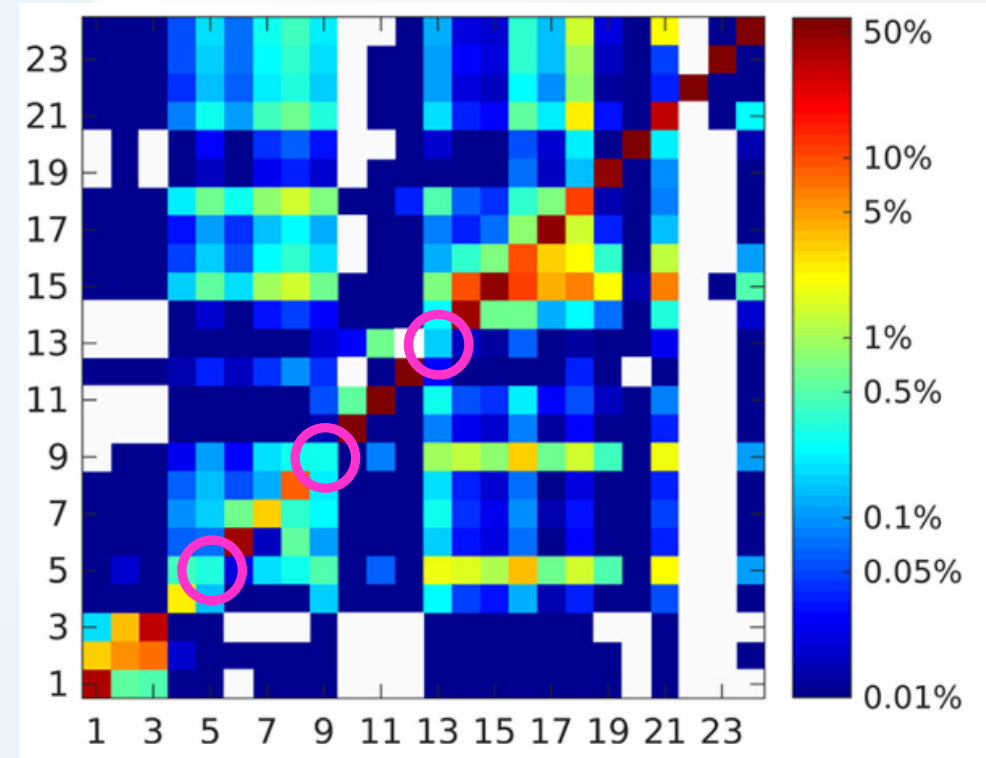


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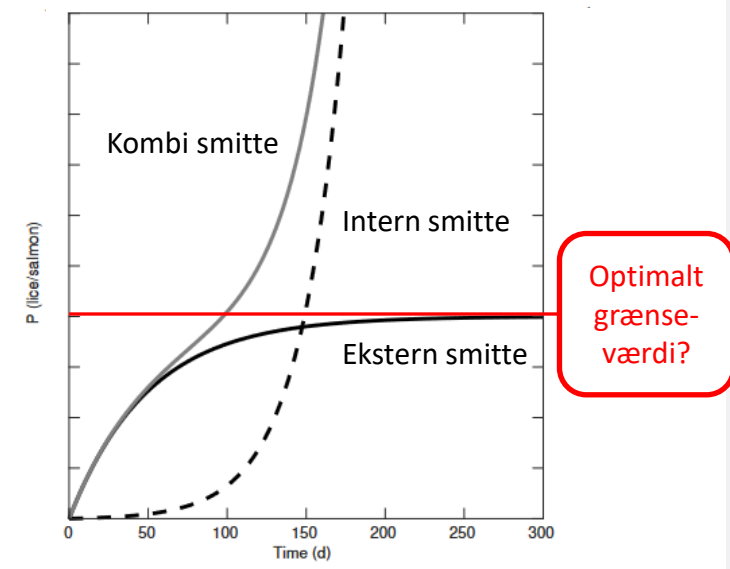


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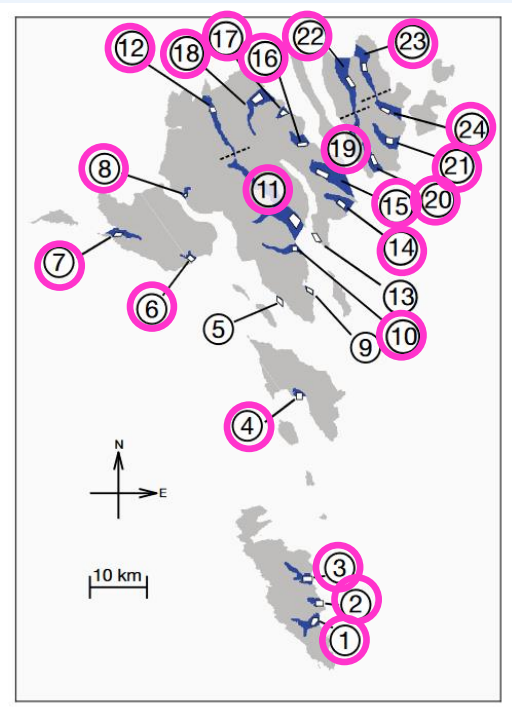


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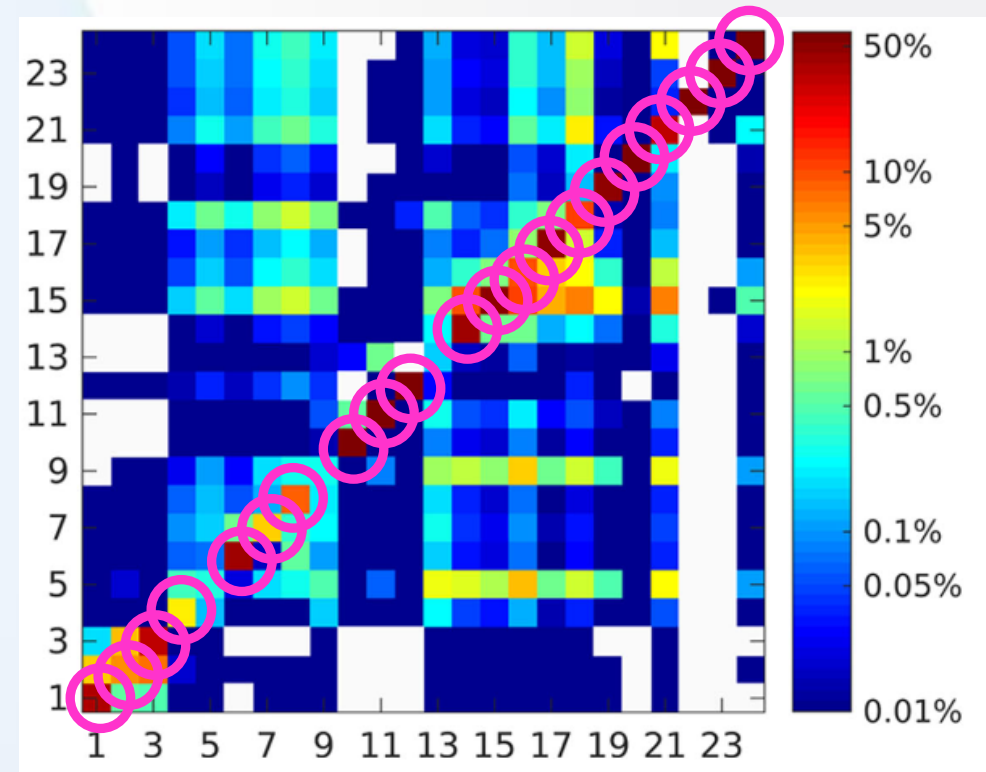


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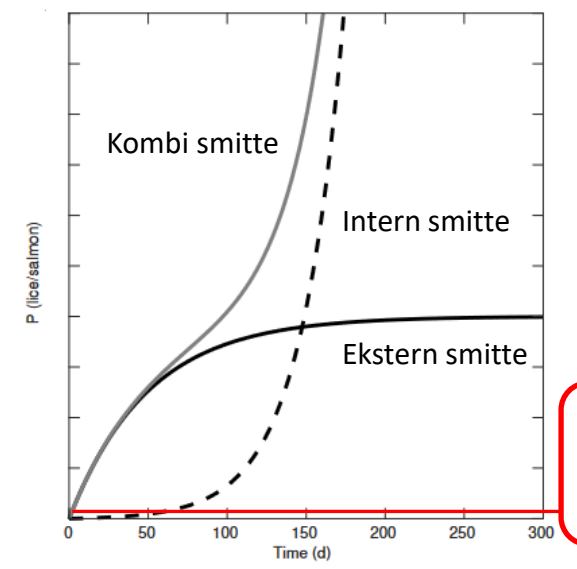


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Optimalt grænseværdi?

Estimation of external infection pressure and salmon-lice population growth rate in Faroese salmon farms

Tróndur J. Kragestein^{1,2,*}, Knud Simonsen^{1,3}, André W. Visser², Ken H. Andersen²

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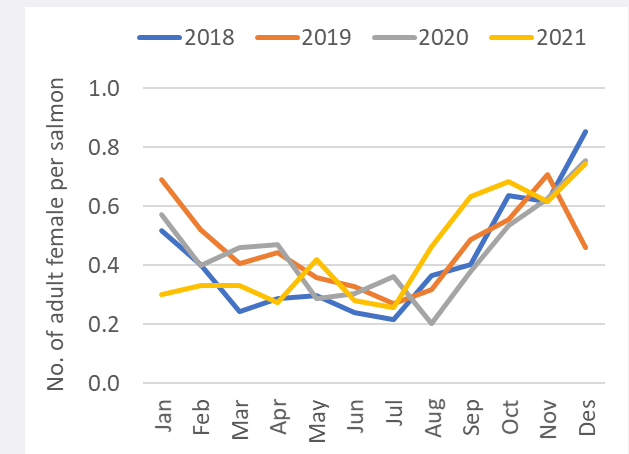
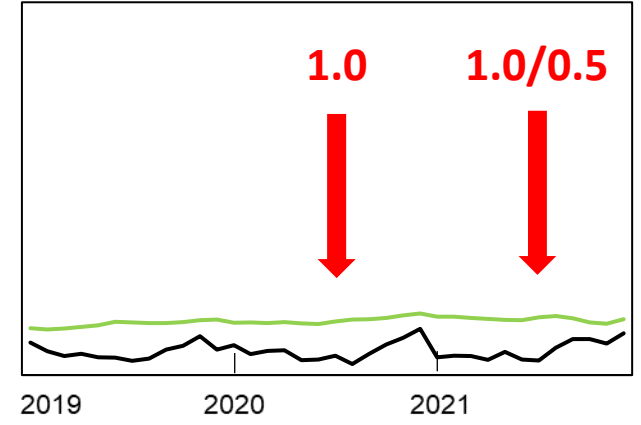
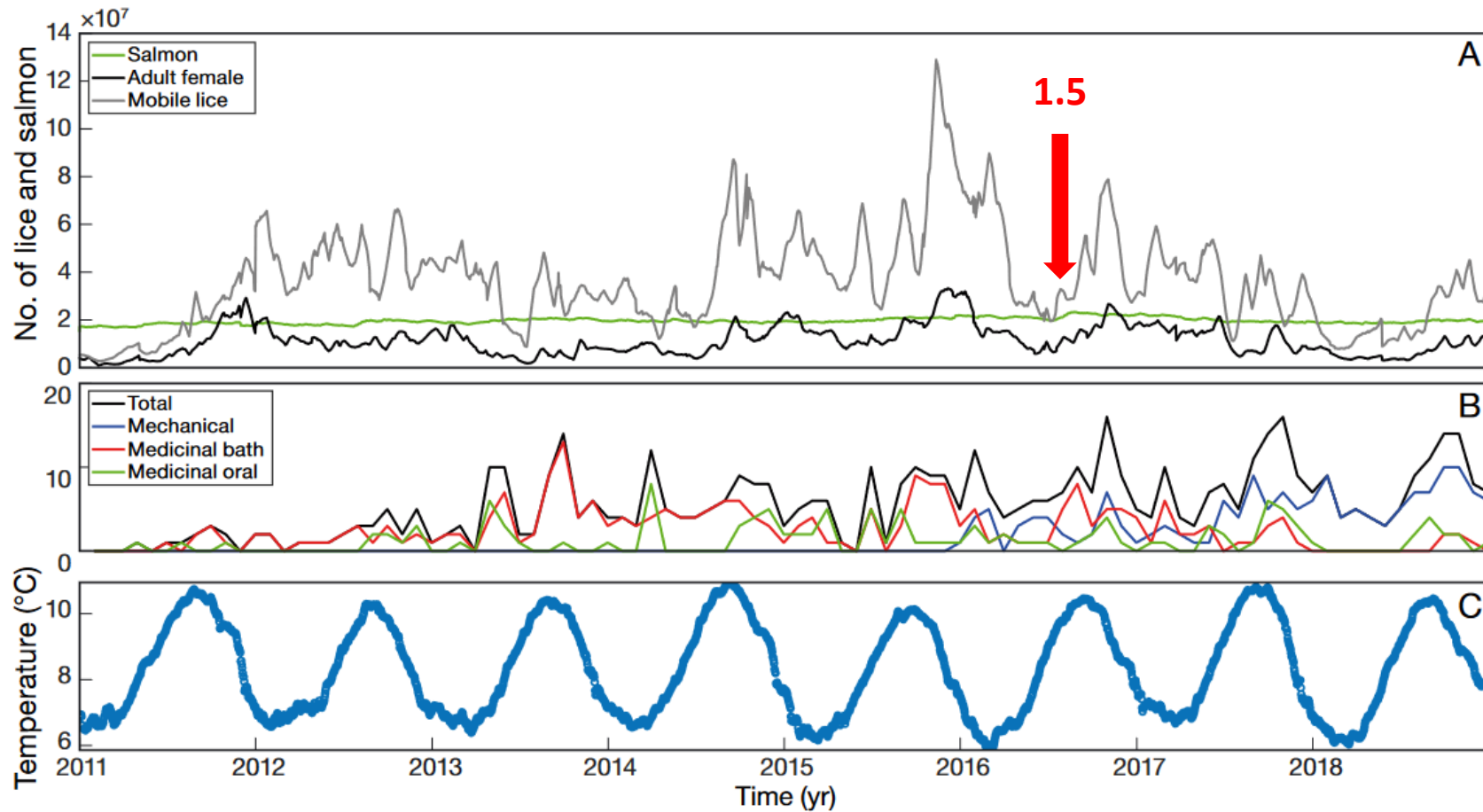


Fig. 2. (A) Total number of gravid lice, other mobile lice and salmon in the Faroe Islands. (B) Number of treatments in the Faroe Islands per month shown as total, mechanical, medicinal bath and medicinal oral treatments. (C) Faroese shelf temperature. Data are shown for the period from 2011 to 2018

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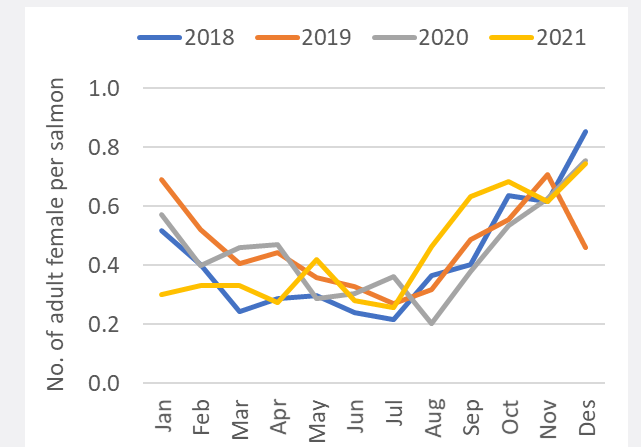
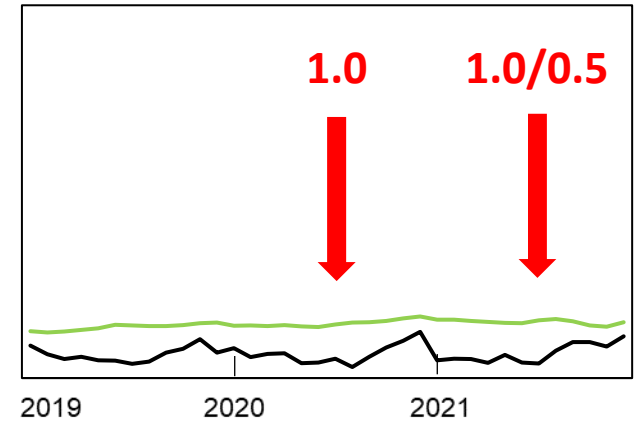
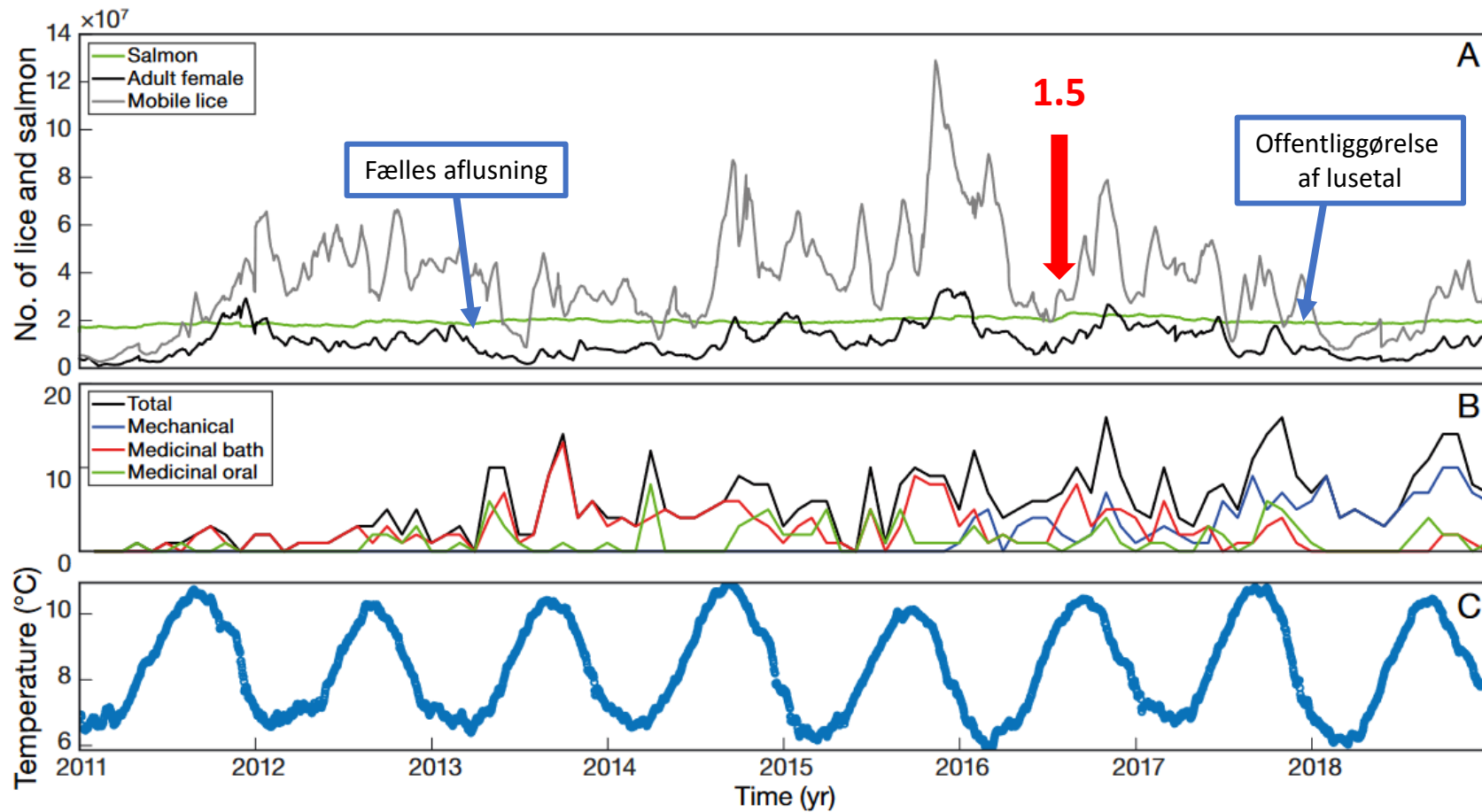


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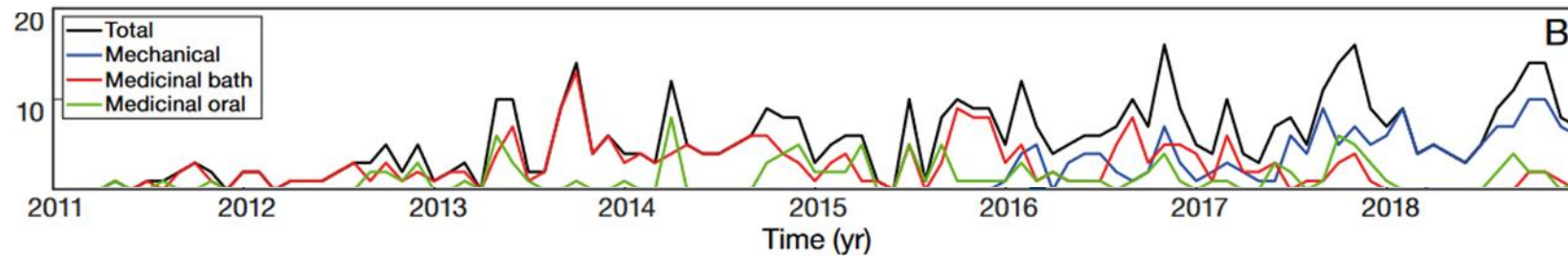


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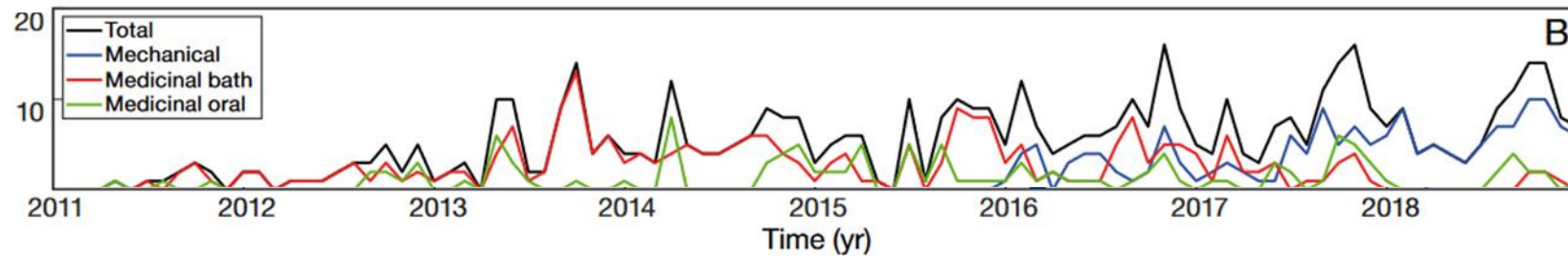
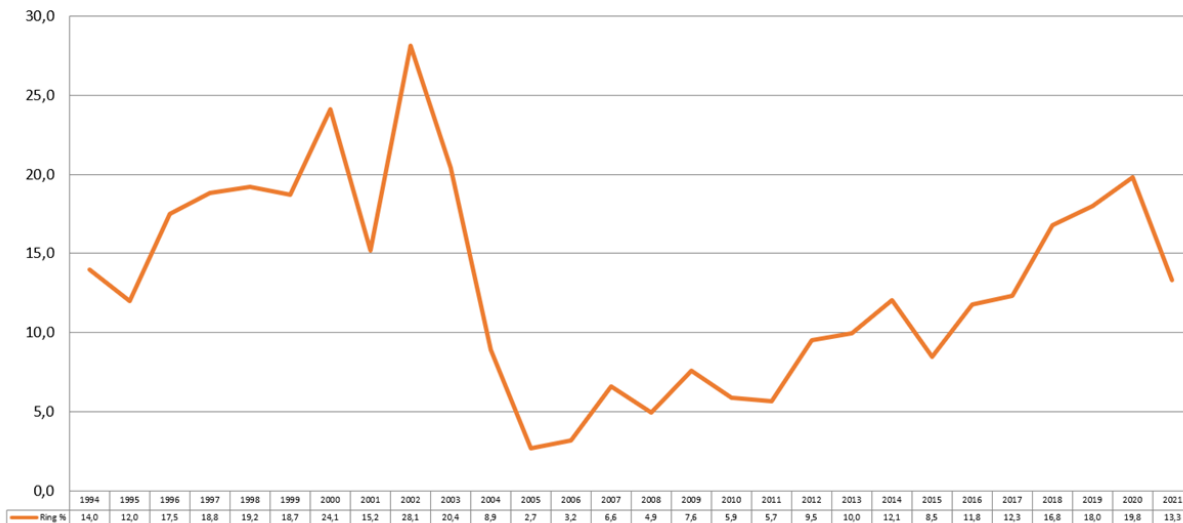


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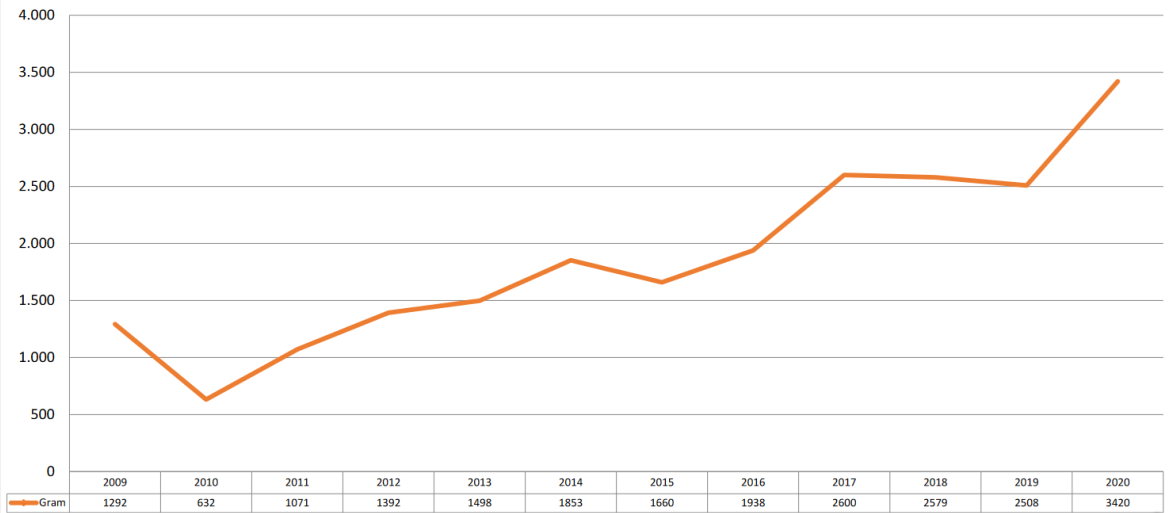
Mortalitet

% av innsettum tali – eftir ár ringurin er tikin.

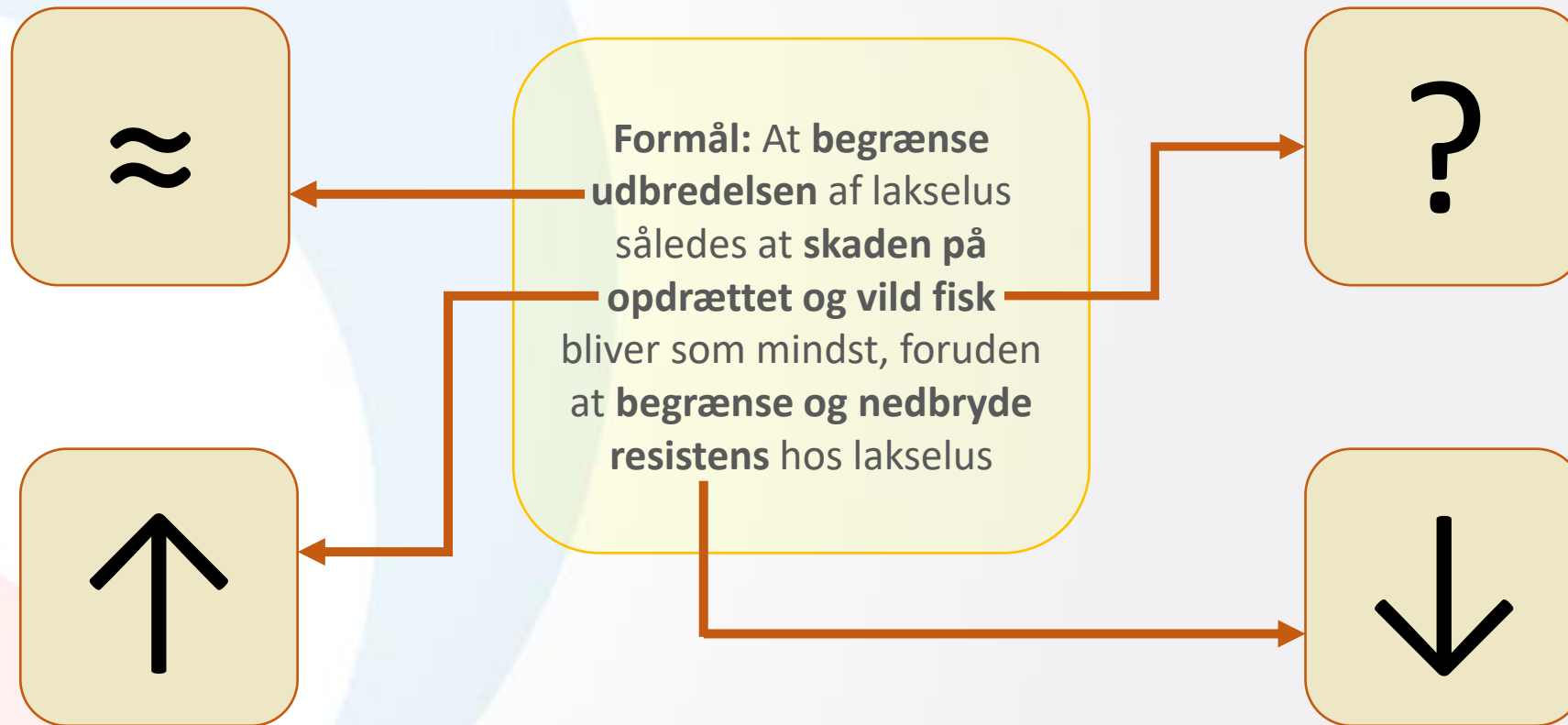


Vægt på dødfisk

Eftir ár ringurin er tikin



Sammendrag



Sammendrag

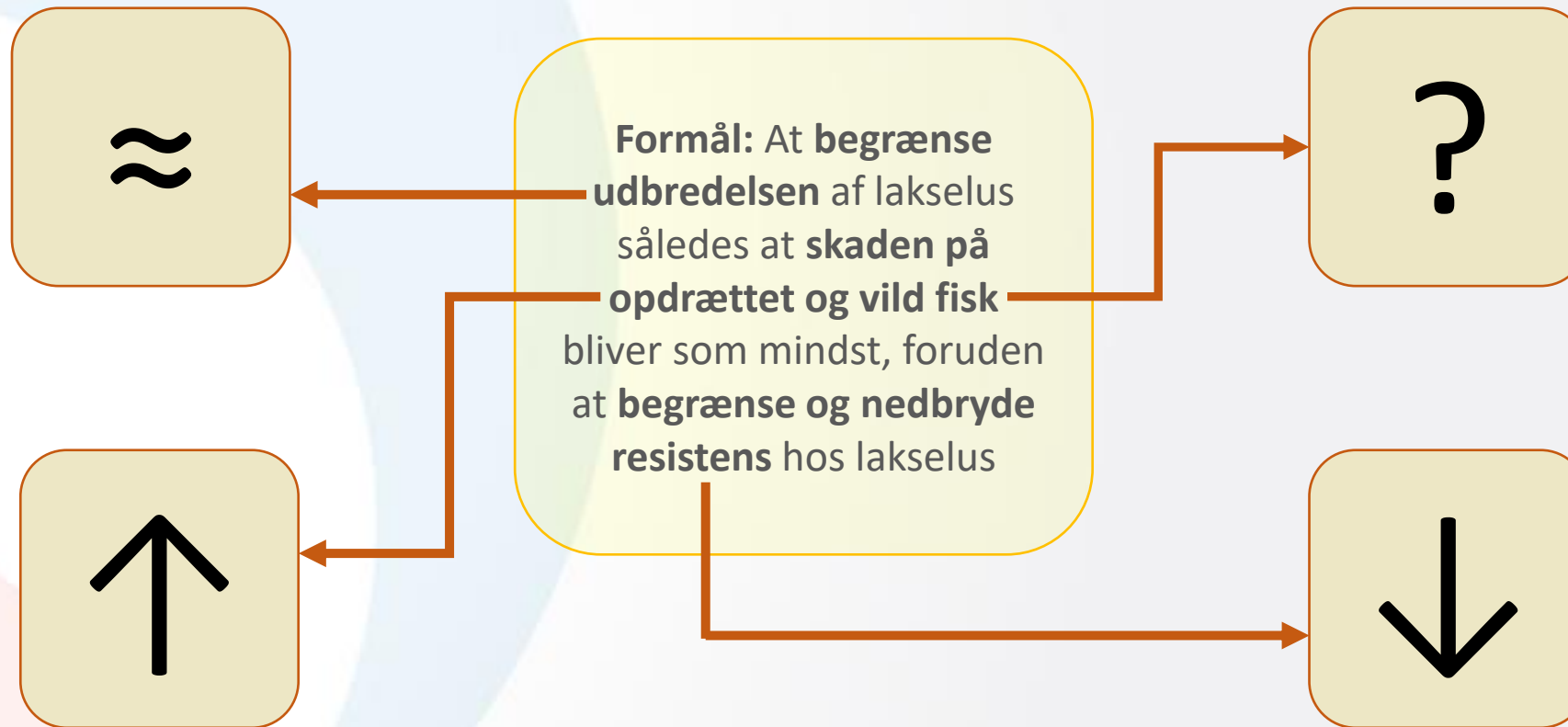
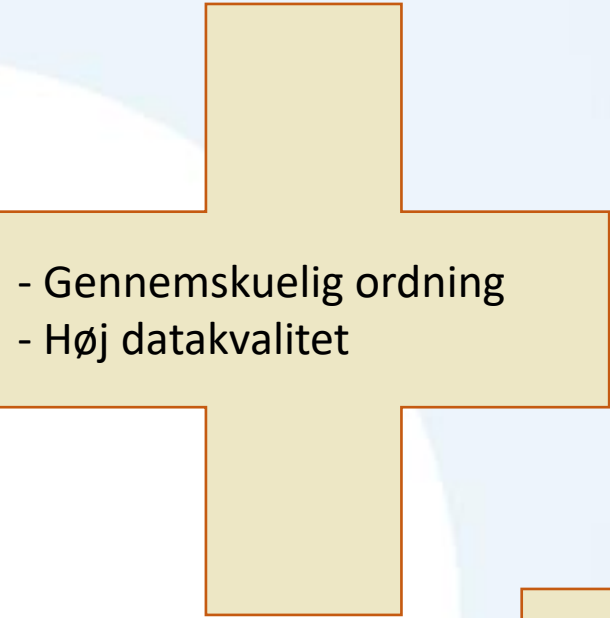


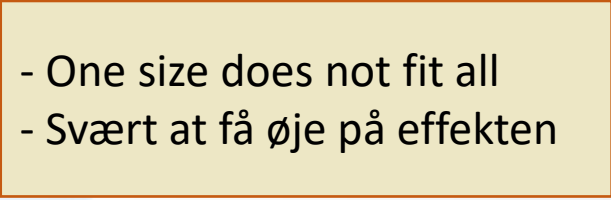


Figure 10. Proportion of sea trout (>150 g) with salmon lice loads estimated to result in 0%, 20%, 50%, 75% and 100% expected mortalities.

Sammendrag

- 
- Gennemskuelig ordning
 - Høj datakvalitet

- 
- 
- 
- One size does not fit all
 - Svært at få øje på effekten

Sammendrag

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Bedre modeller til at belyse lusedynamikken på anlæg og mellem anlæg..

Og er tiden måske kommet til at tage mere hensyn til de vilde bestande?



Tak for jeres opmærksomhed