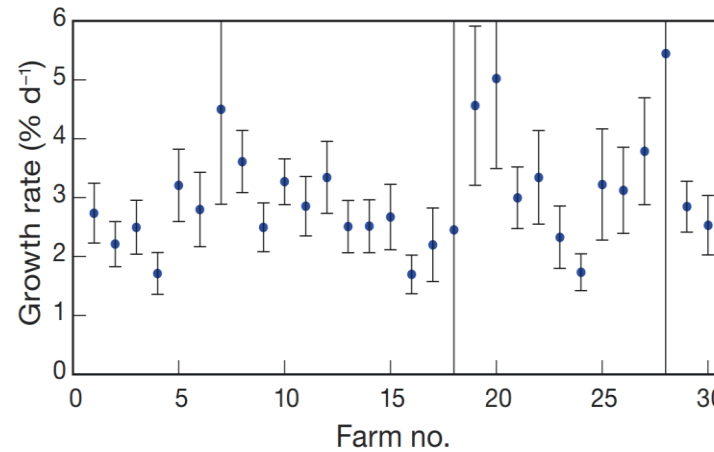
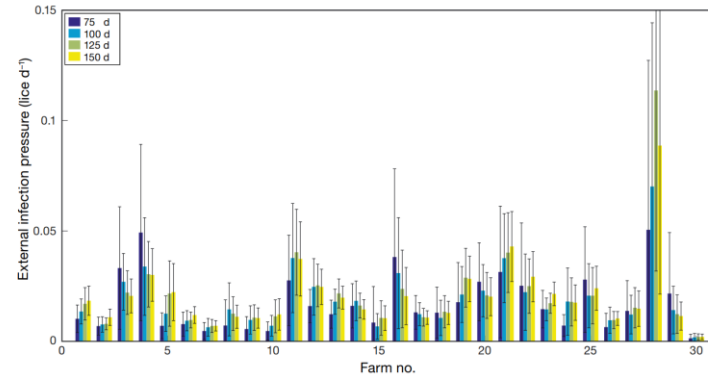
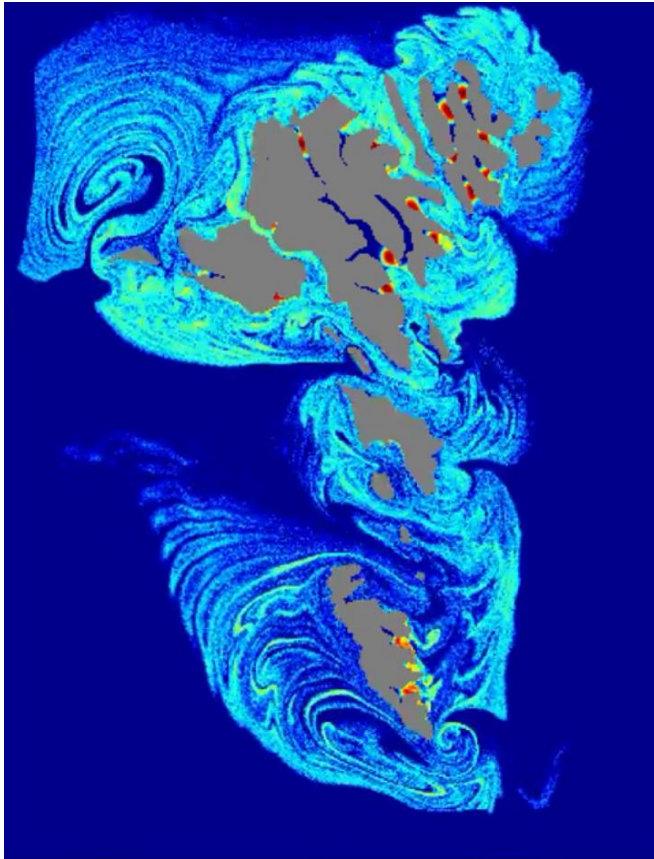


Laksalús: Smittutrýst og forsagnir

Tróndur J. Kragestein, Knud Simonsen, Andre Visser og Ken Haste Andersen



Endamálið:

At basa lúsatrupulleikanum innan aling

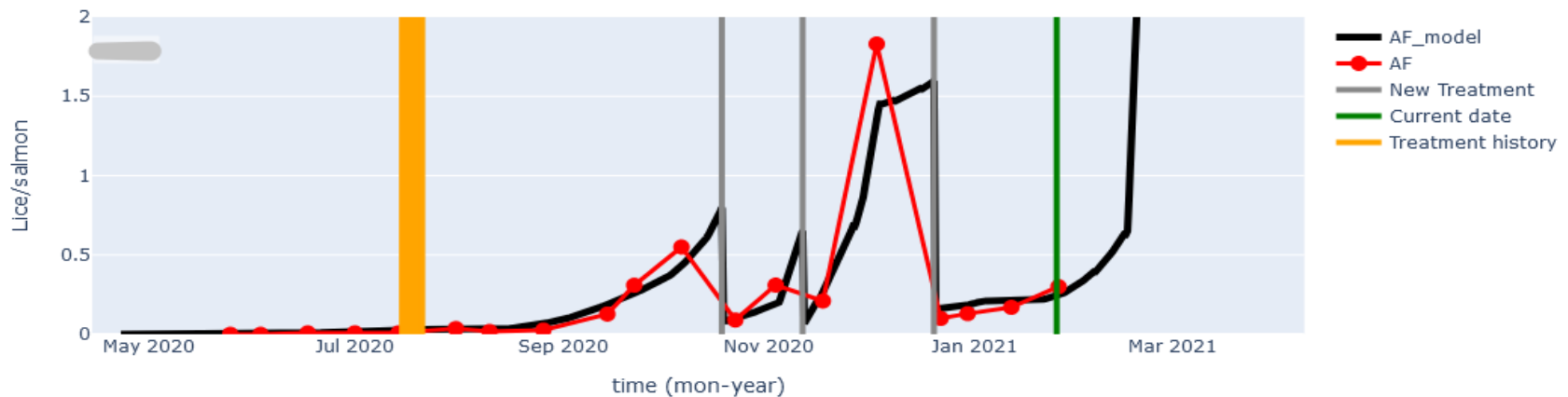
Hvussu kann hetta gerast?

Modellið kann so nýtast til:

- Finna skynsamasta mátan at tilrættisleggja aling í einum øki vv. lús

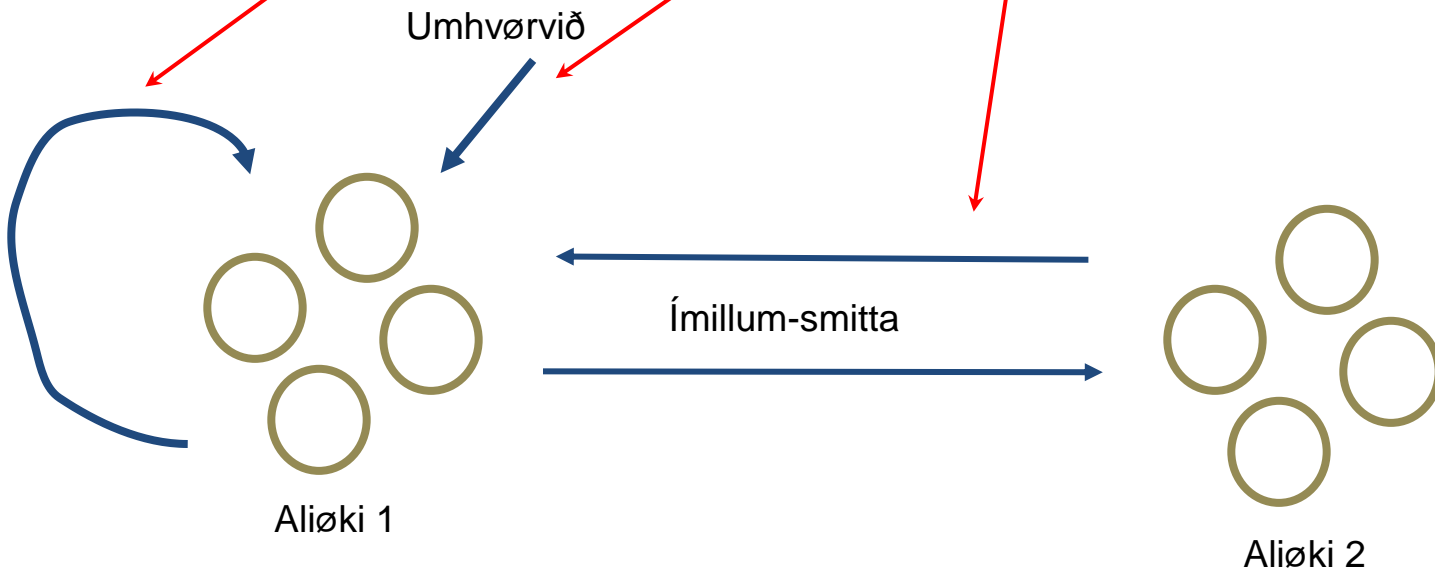
t.d. nær skal man:

- seta fisk út / taka fisk
- viðgera
- seta rognkelsi út



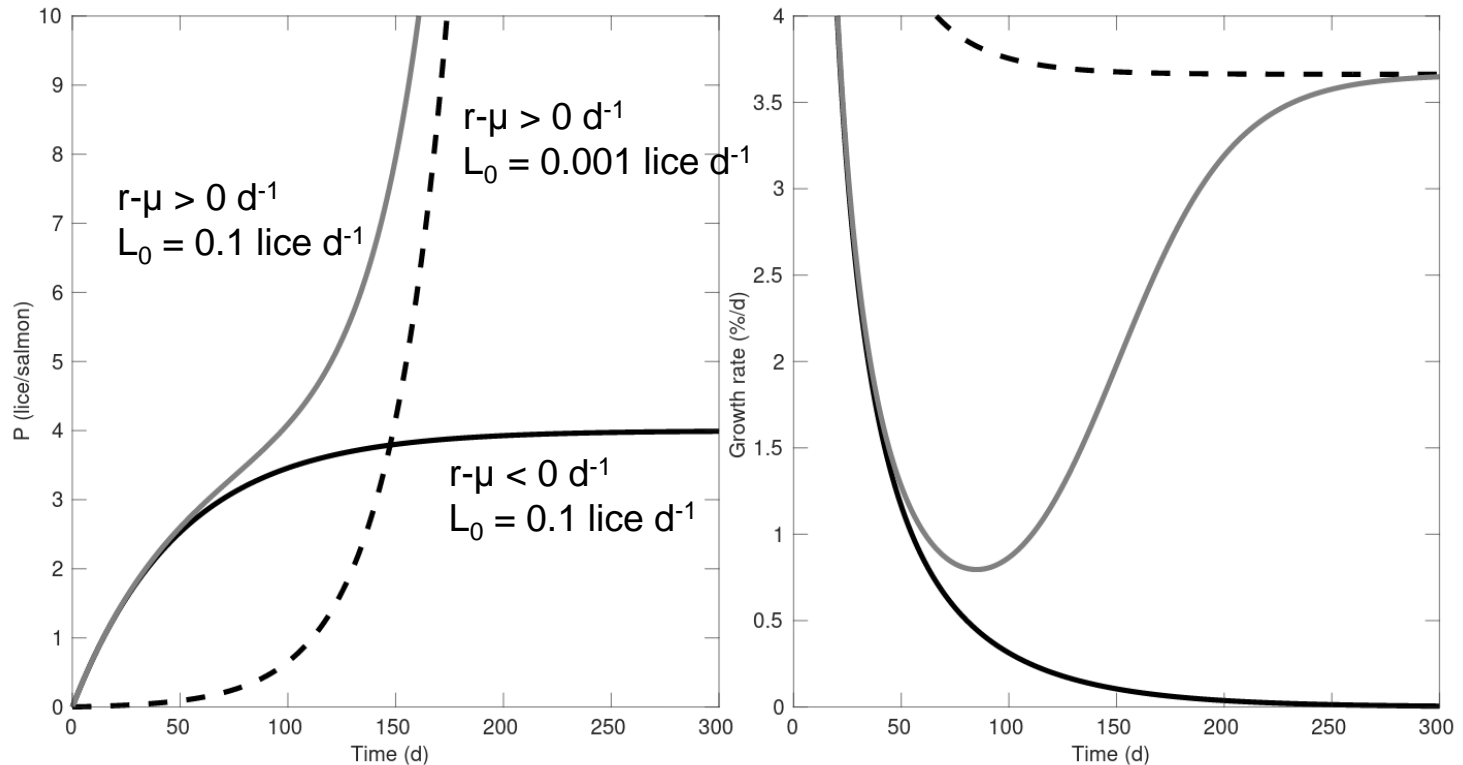
Lúsamodellið:

$$\frac{dP}{dt} = \overset{\text{Intern-smitta}}{rP} + \overset{\text{Ekstern-smitta}}{L_0} - \overset{\text{Deyðiligheit}}{\mu P}$$



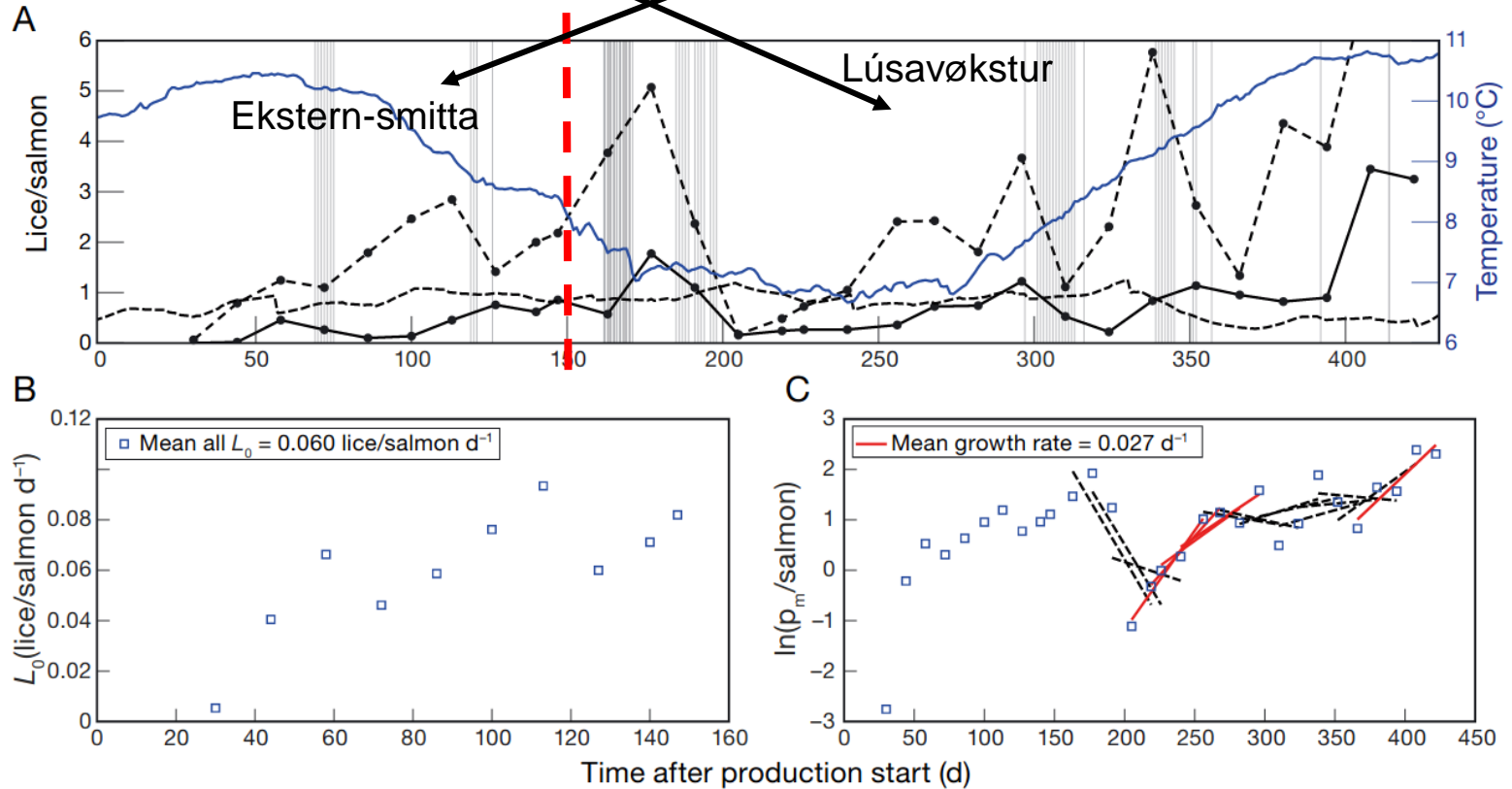
Lúsamodellið:

$$\frac{dP}{dt} = rP + L_0 - \mu P$$



Ekstern-smitta og lúsapopulátiósvækstur

$$\frac{dP}{dt} = rP + L_0 - \mu P$$



Úrslit: ekstern-smitta

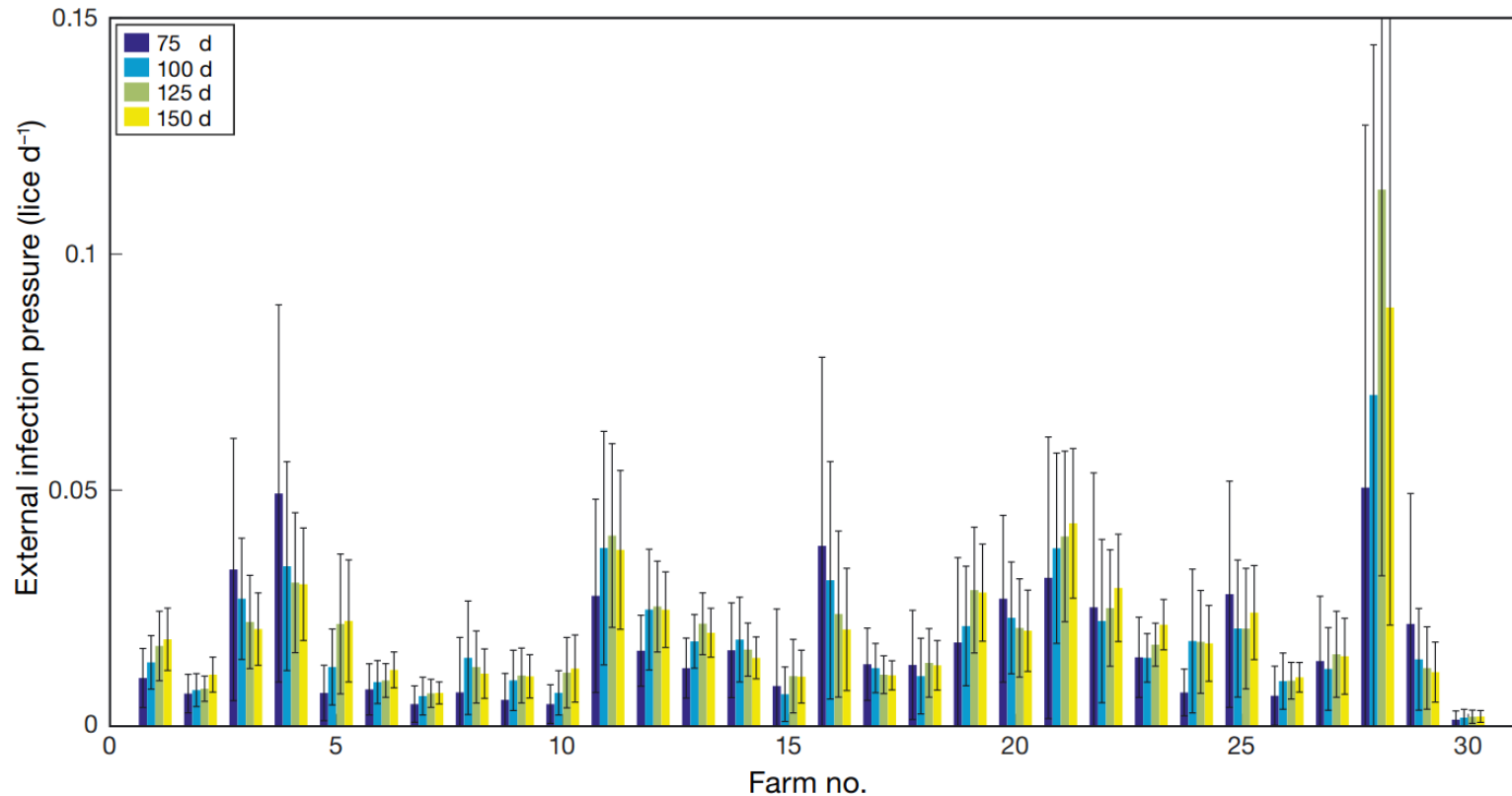


Fig. 3. Average external infection pressure including the first 75, 100, 125 and 150 d, with 95 % CI error bars for each farm site in the Faroe Islands (n = 30)

Tvs. eitt typiskt alistað í FO, við 1 millión fiskar, fær frá 2000 og uppí 100.000 lúsalarvur á seg per dag.

Tað er ein signifikantur samanhangur ímillum eksterna-smittu og tal av kynsbúna lús í FO.

Úrslit: lúsapopulátiómsvækstur

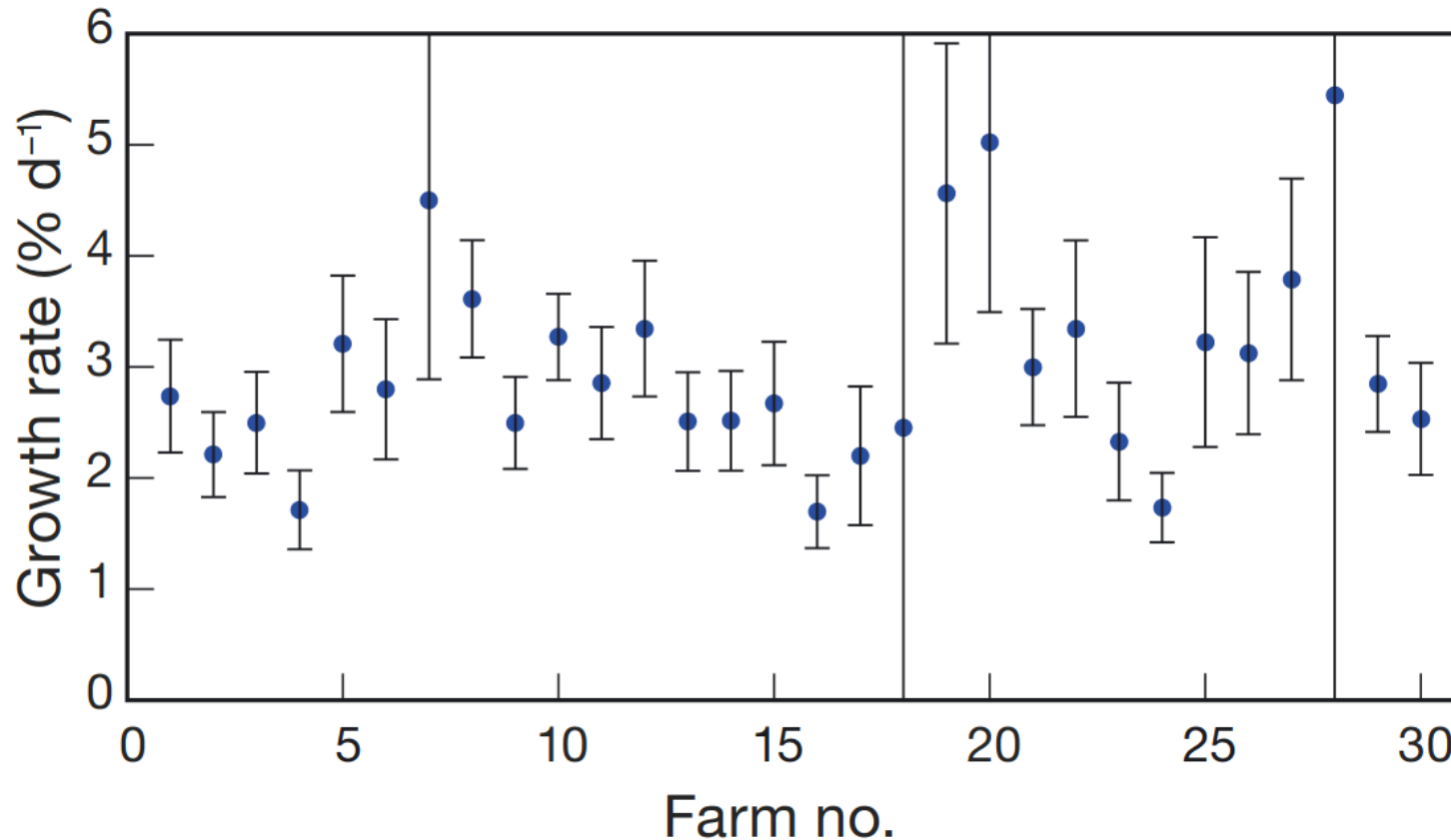


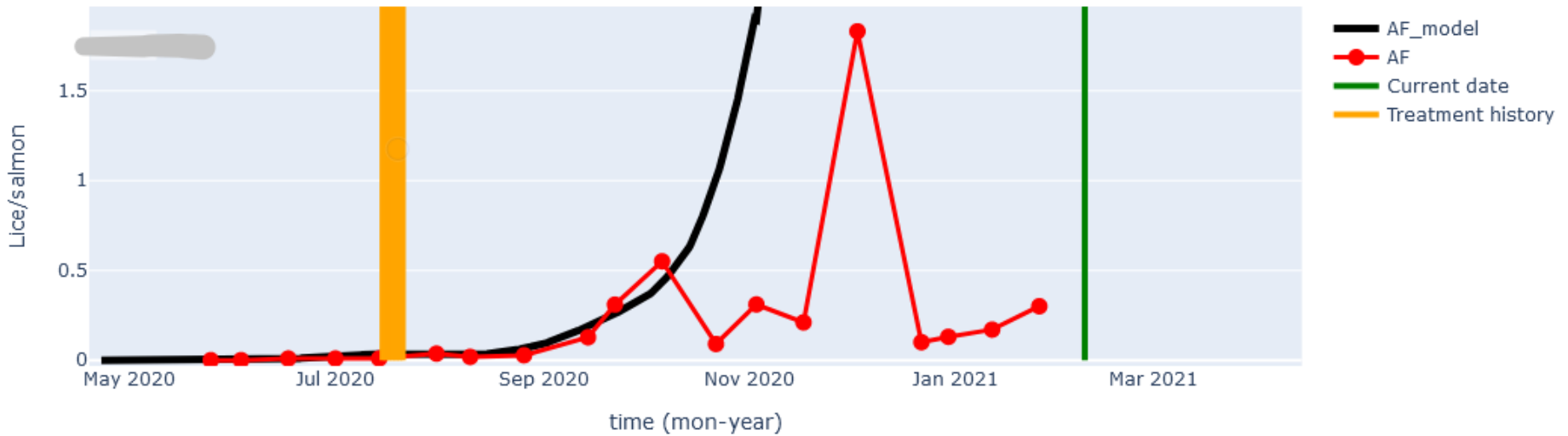
Fig. 5. Average salmon-lice population growth rate for each farm site in the Faroe Islands with 95 % CI

Eitt alistað við 0,1 kynsbúna lús per laks fer uppá 3 mánaðar uppá:

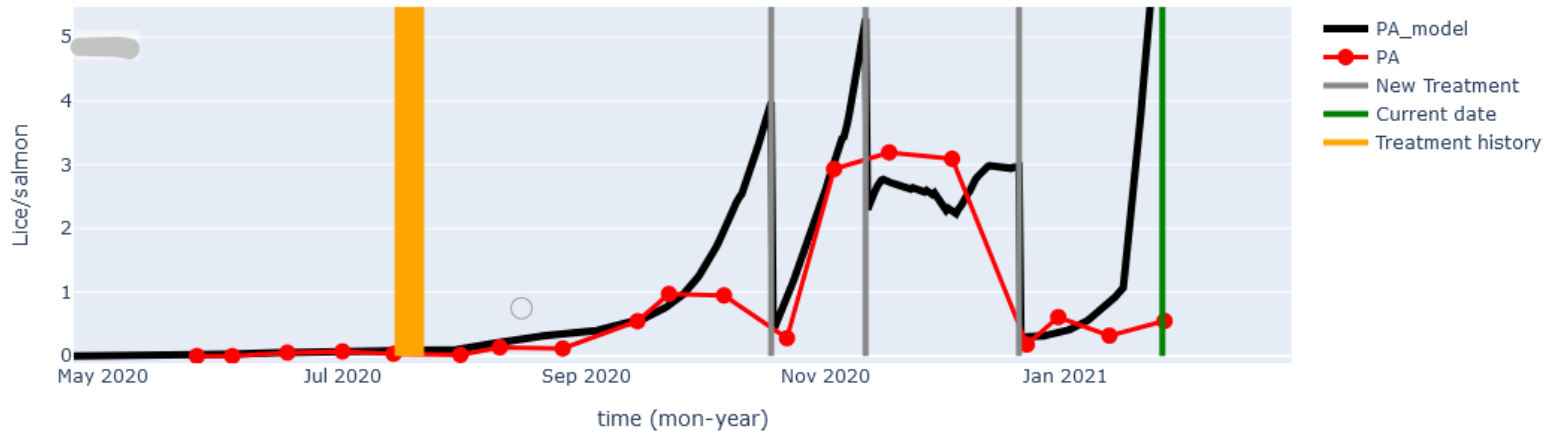
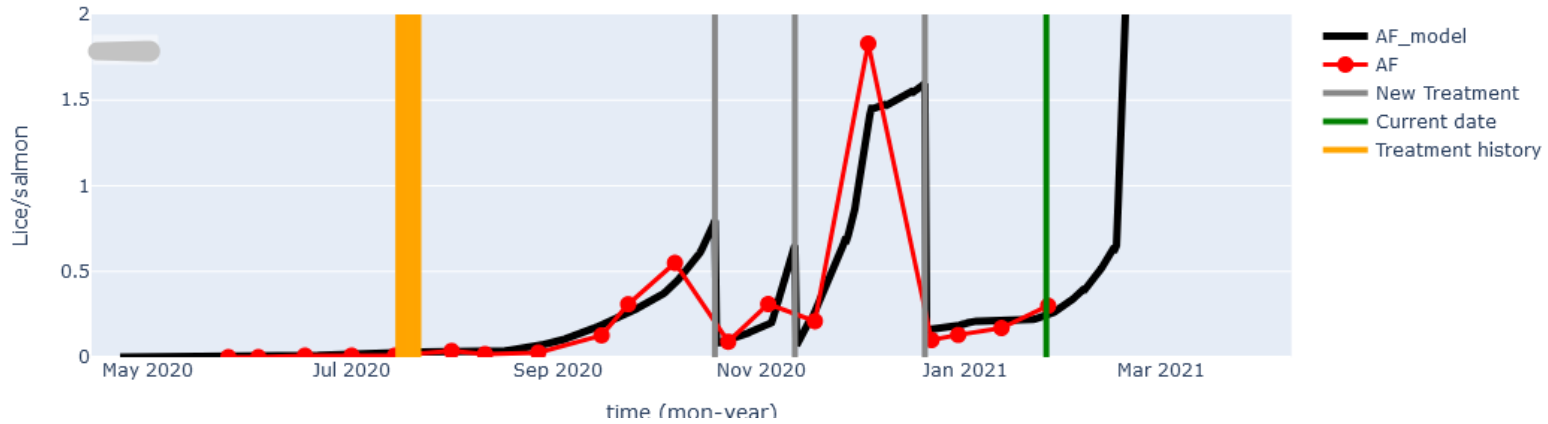
- 0,4 kynsbúnar lús per laks við 1,7 %/d lúsavækstur
- 12,9 kynsbúnar lús per laks við 5,4 %/d lúsavækstur

Hvat kunnu parametrarnir so brúkast til?

Dømi úr Føroyum



Hvat kunnu parametrarnir so brúkast til? Dømi úr Føroyum



* teljingar av føstum og modell passa ikki væl saman

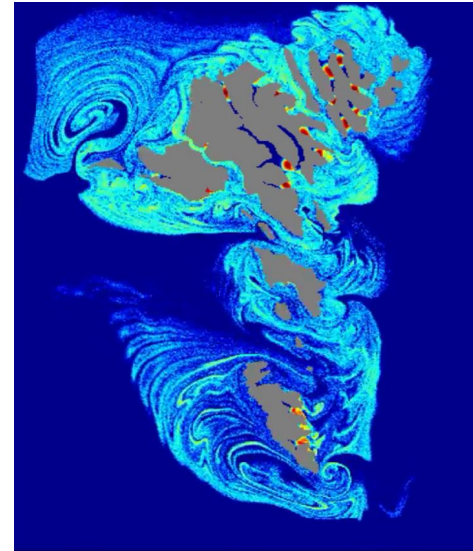
Framtíðarætlan (Post-Doc)

Menna eitt lúsaforsagnarforrit spesifikt fyri Føroyar.

Lúsaforsagnarforrit skal byggja uppá:

- agentbaserað lúsamodell, ið verður stýrt av einum hydrodynamiskum modeli

$$\begin{aligned}\frac{d\rho_{1.i}(t)}{dt} &= \beta_i(t) - \beta_i(t-t_1)e^{-\mu_1 t_1} - \mu_1 \rho_{1.i}(t) \\ \frac{d\rho_{2.i}(t)}{dt} &= \eta \beta_i(t-t_1)e^{-\mu_1 t_1} - \eta \beta_i(t-t_1-t_2)e^{-\mu_1 t_1 - \mu_2 t_2} - \mu_2 \rho_{2.i}(t) \\ \frac{d\rho_{3.i}(t)}{dt} &= \eta \beta_i(t-t_1-t_2)e^{-\mu_1 t_1 - \mu_2 t_2} \\ &\quad - \eta \beta_i(t-t_1-t_2-t_3)e^{-\mu_1 t_1 - \mu_2 t_2 - \mu_3 t_3} - \mu_3 \rho_{3.i}(t) \\ \frac{d\rho_{4.i}(t)}{dt} &= \eta \beta_i(t-t_1-t_2-t_3)e^{-\mu_1 t_1 - \mu_2 t_2 - \mu_3 t_3} - \mu_4 \rho_{4.i}(t). \\ \beta_i(t) &= \frac{1}{N_i(t)} \sum_{j=1}^n C_{ij} F_{ij}(t) + L_0\end{aligned}$$



Ein platformer, har alarar og landsins myndugleikar kunnu síggja, hvørja ávirkan eitt ávíst lúsaátak kann hava, ella hvat ein lógarbroyting hevur at siga.