Performance of model selection and diagnosis by cross-validation: evaluation by simulation

Operation Model

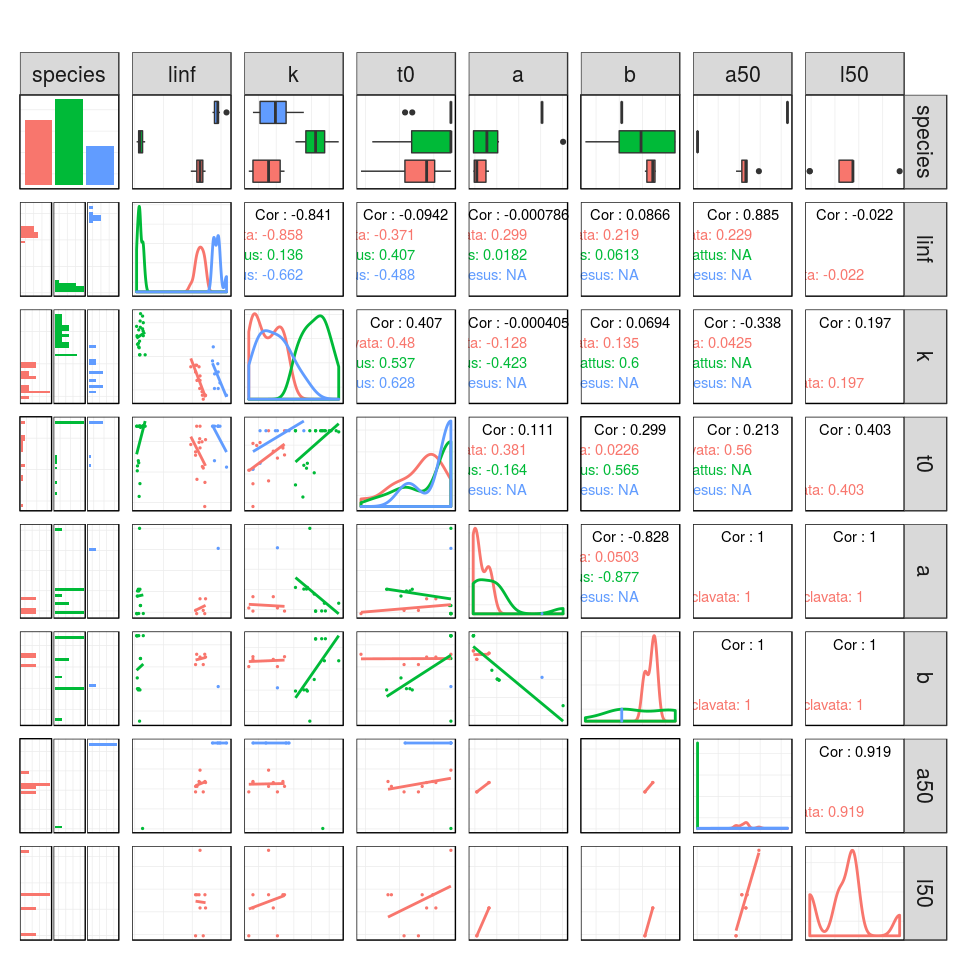
L Kell

06 febrero, 2018

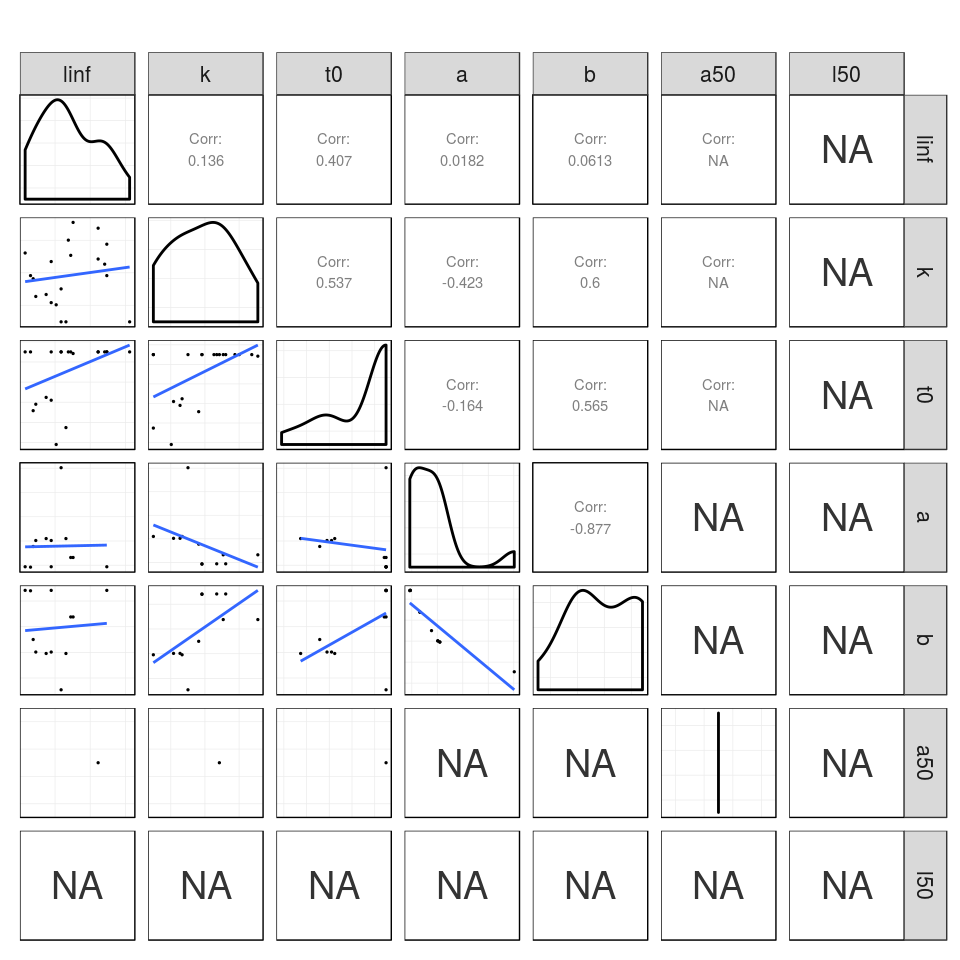
# Operating model to simulate 3 contrasting stocks

* Atlantic bigeye tuna
* North East Atlantic Skate
* Irish Sea sprat

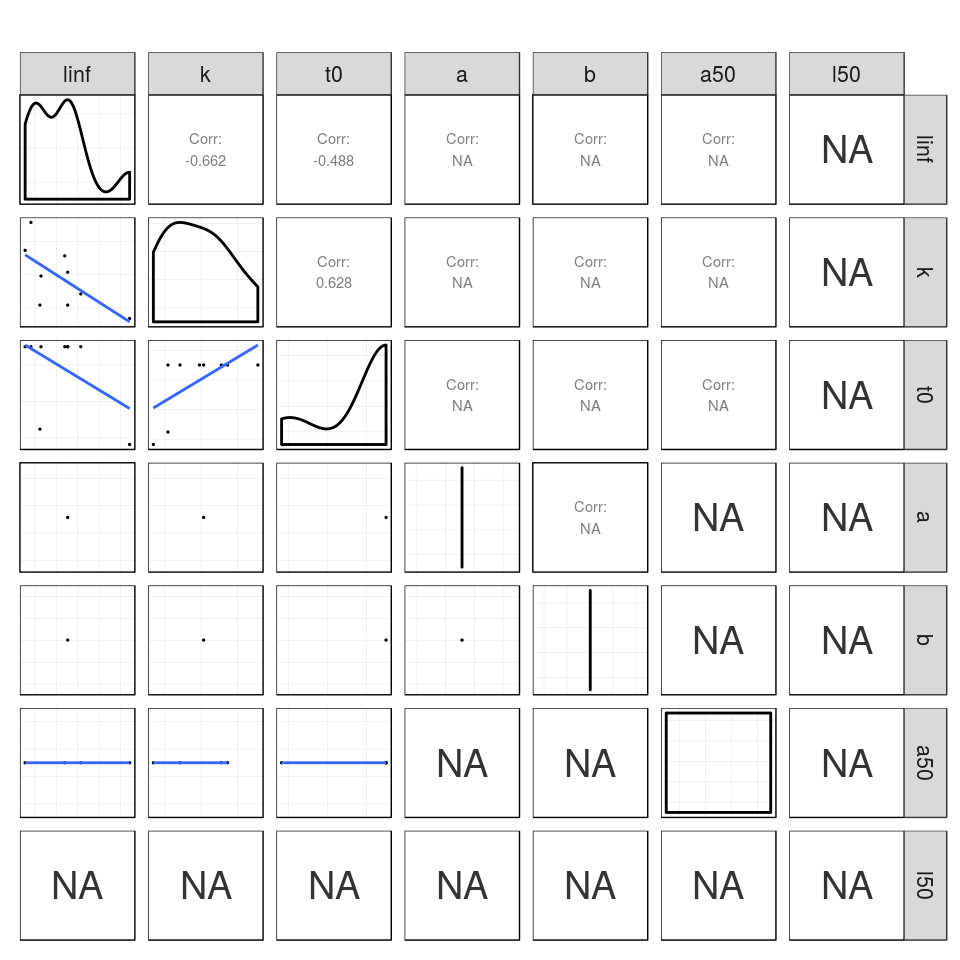
## Life history parameters



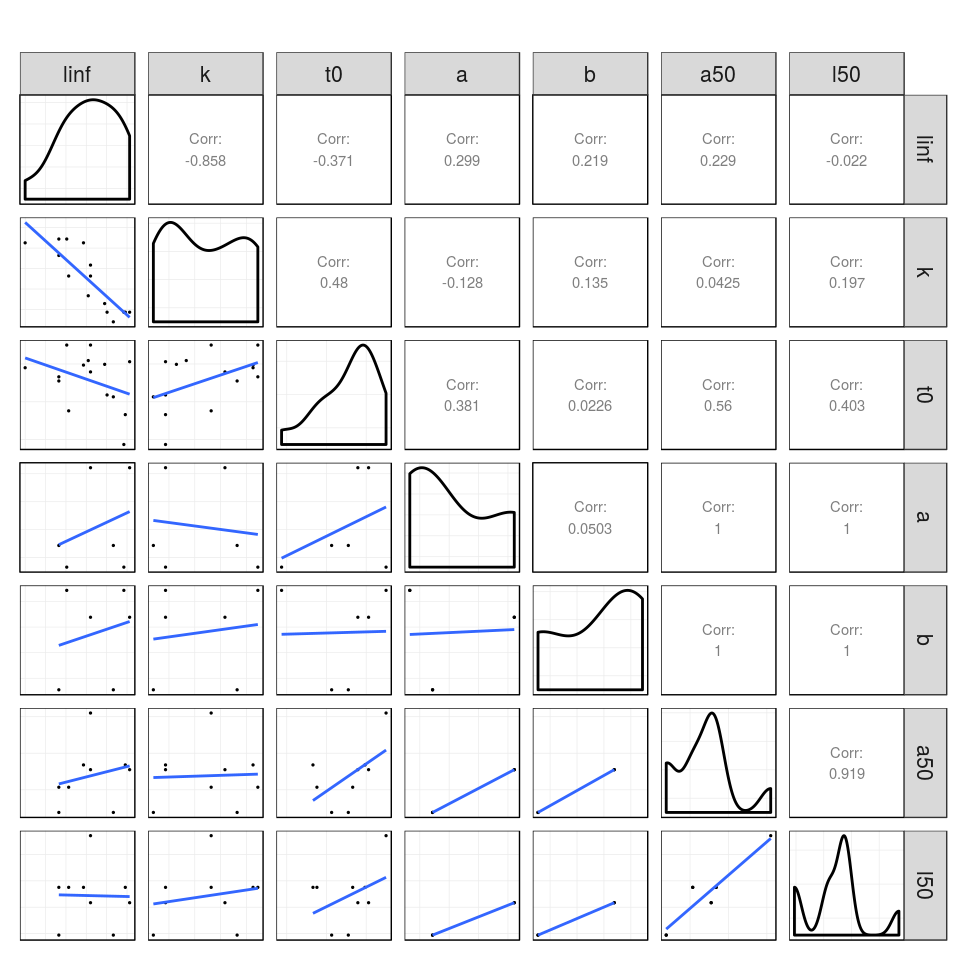
**Figure 1** Pairwise scatter plots of life history parameters.



**Figure 2** Pairwise scatter plots of sprat life history parameters.



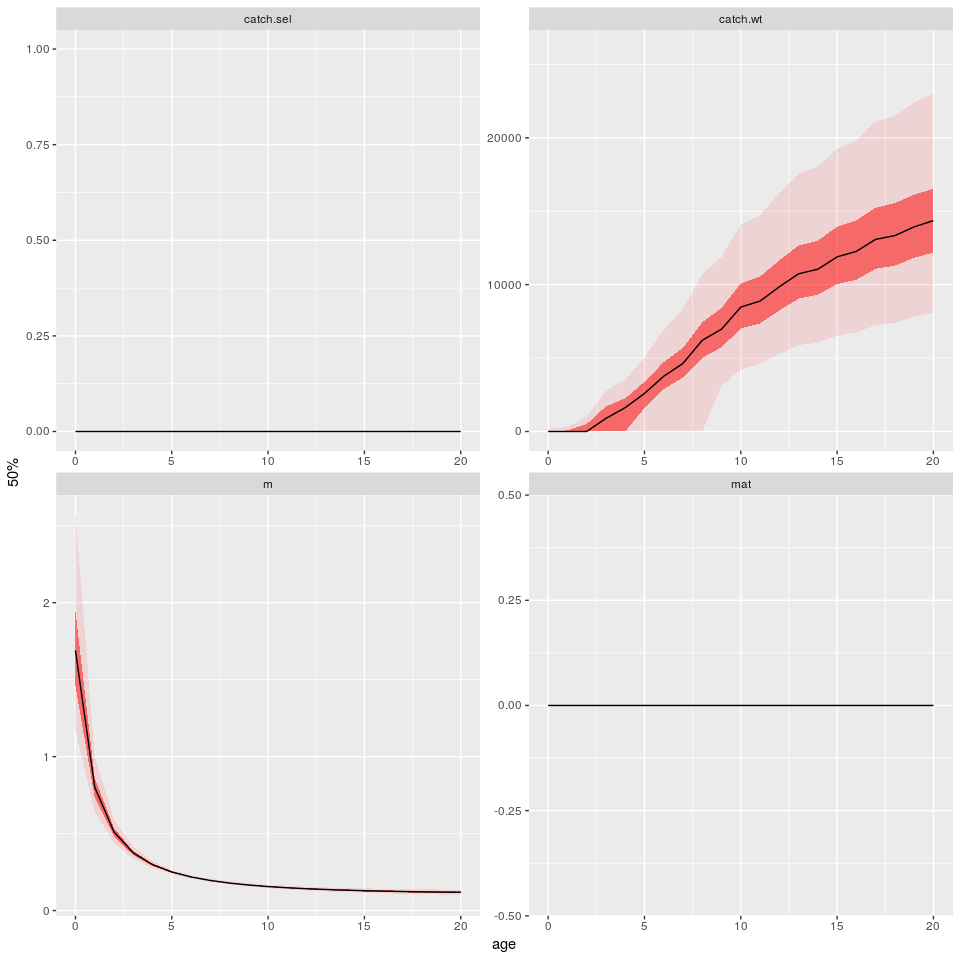
**Figure 3** Pairwise scatter plots of bigeye life history parameters.



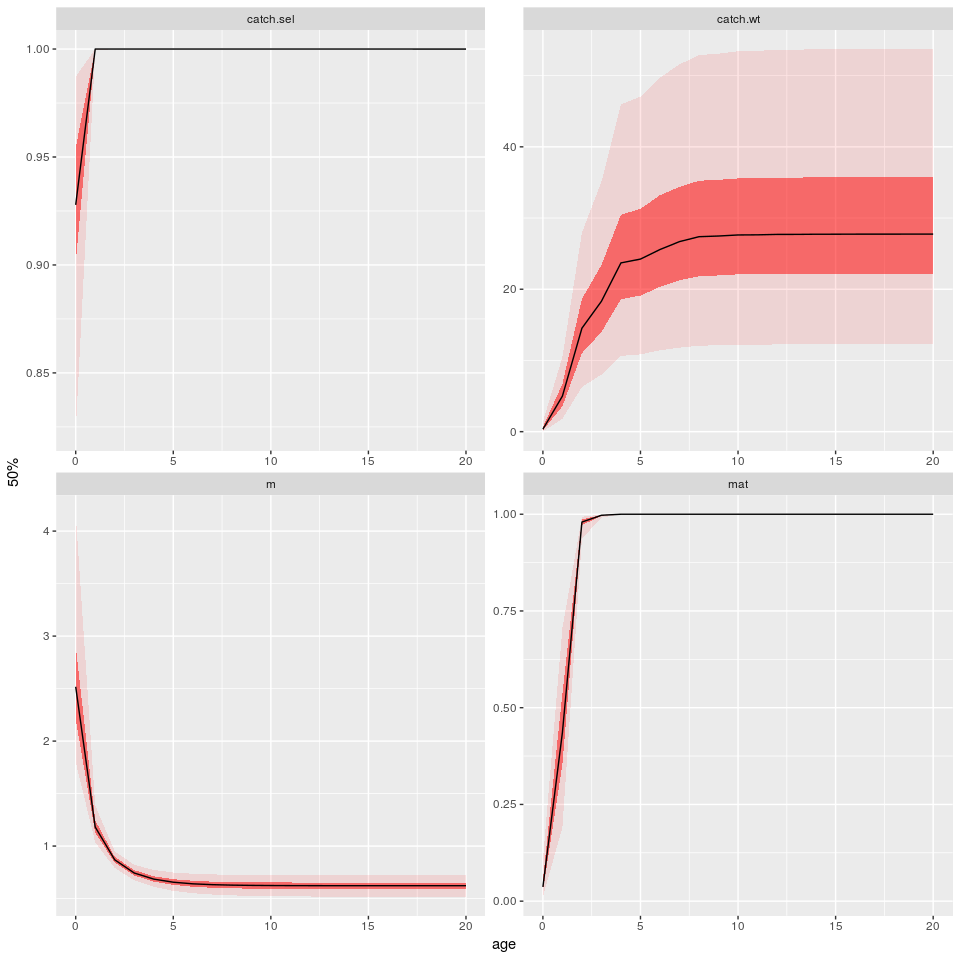
**Figure 4** Pairwise scatter plots of thornback ray life history parameters.

## Equilibrium dynamics

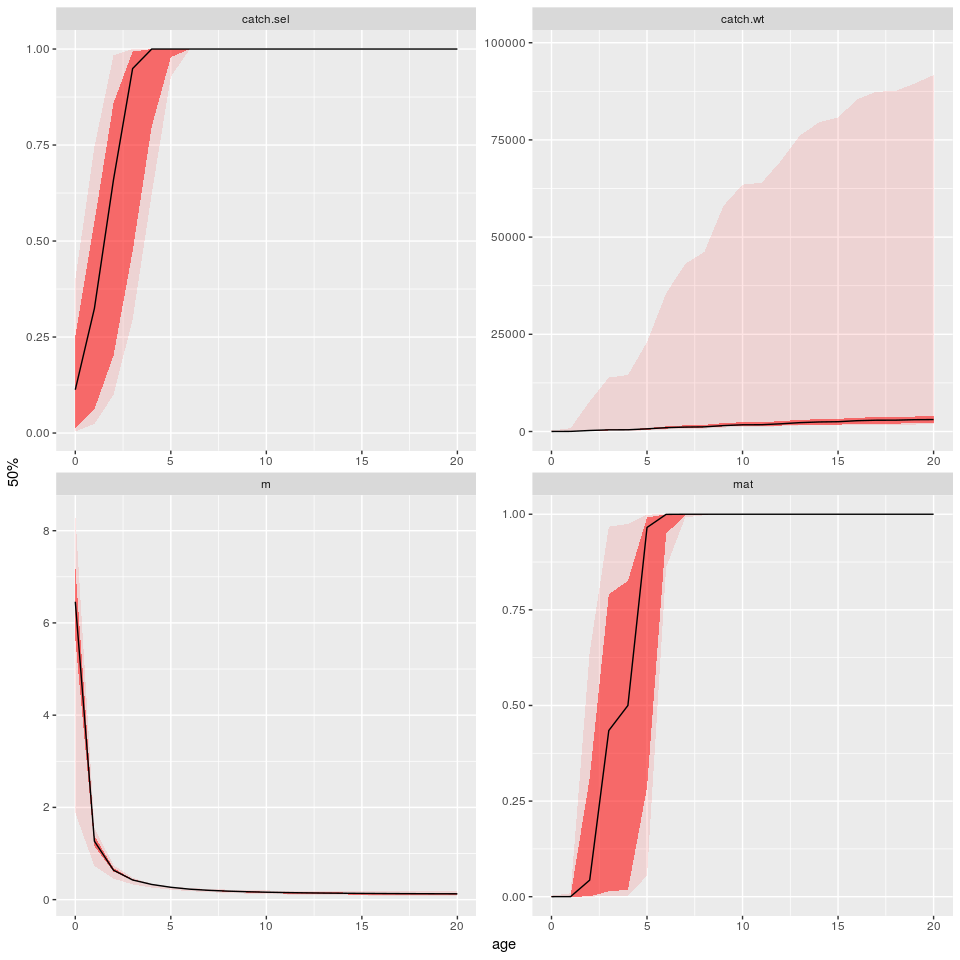
The parameters are then used by lhEql to simulate the equilibrium dynamics by combining the spawner/yield per recruit relationships with a stock recruiment relationship.



**Figure 5** Vectors for thornback ray.



**Figure 6** Vectors for sprat.



**Figure 7** Vectors for bigeye.

## Fleets

## Population dynamics

## Scenarios

## Projections

**Figure 8** VPA used for 2017 assessment advice, blue best fit, pink bootstrap with CIs.