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

Conditioning of Operating Model

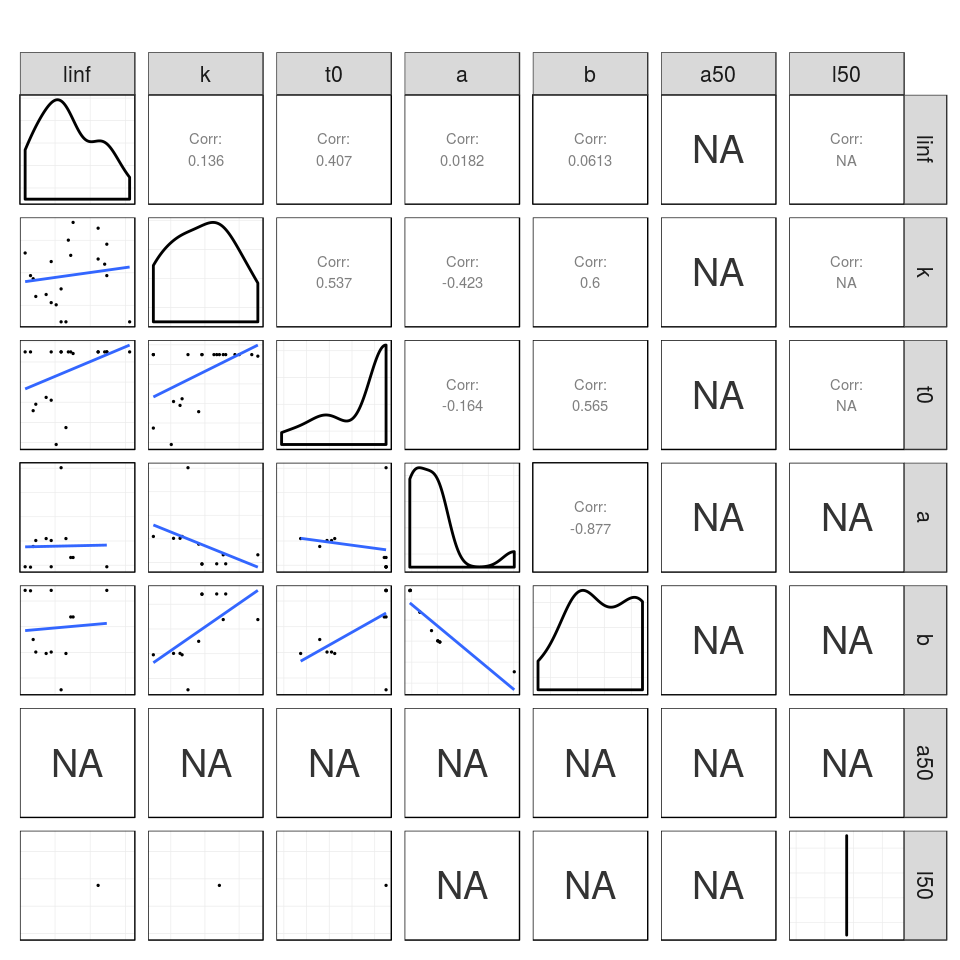
L Kell

08 febrero, 2018

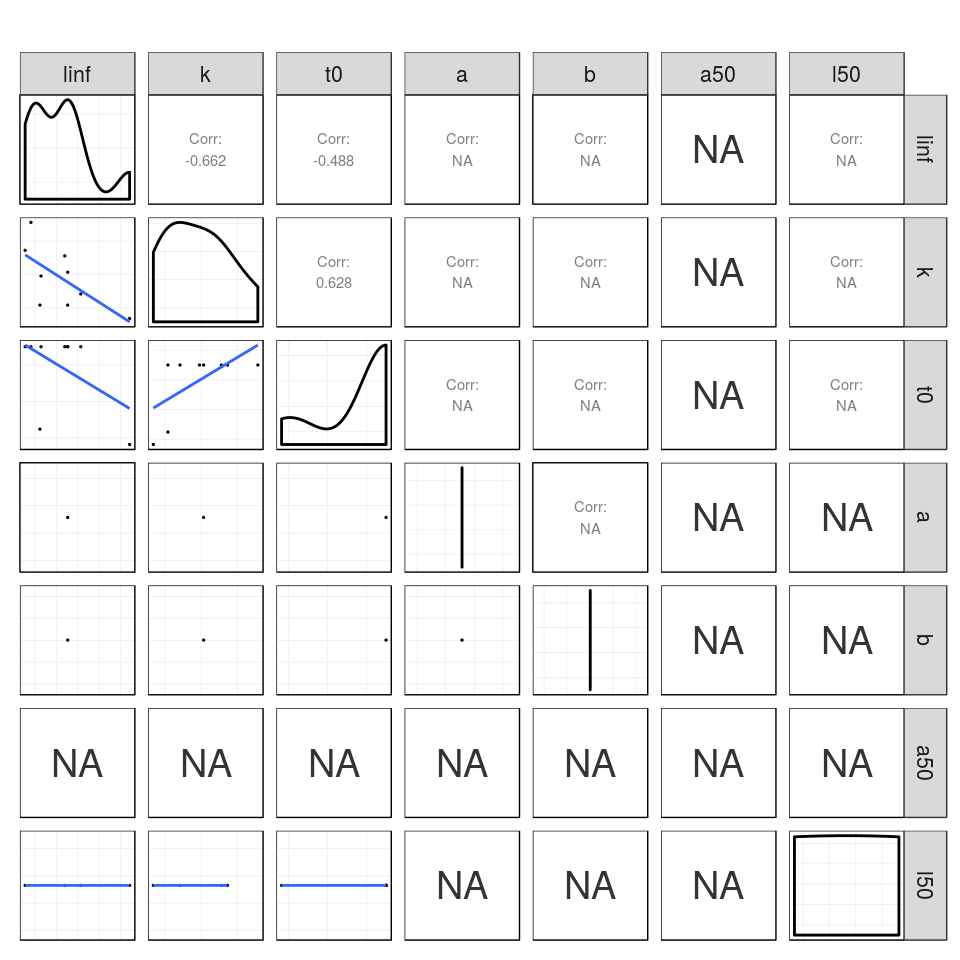
# Operating model to simulate 4 contrasting stocks

* Atlantic bigeye tuna
* Thornback Ray
* Sprat
* Plaice

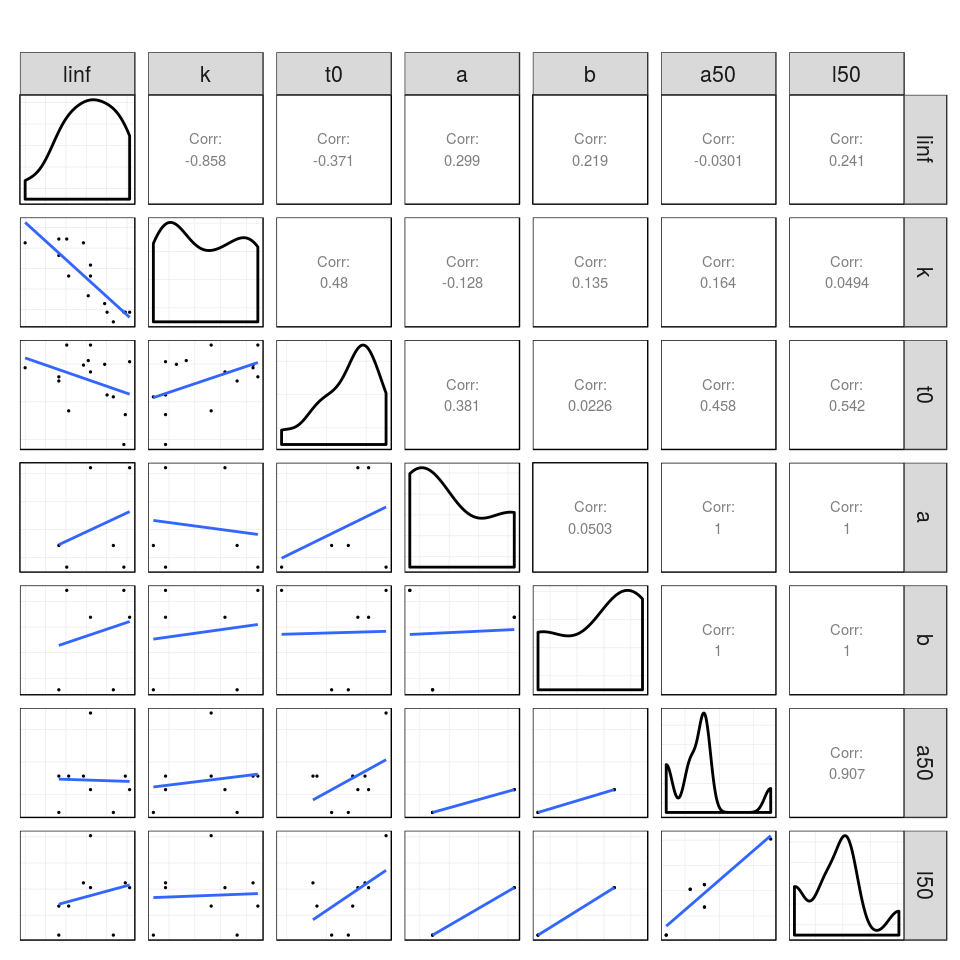
## Life history parameters



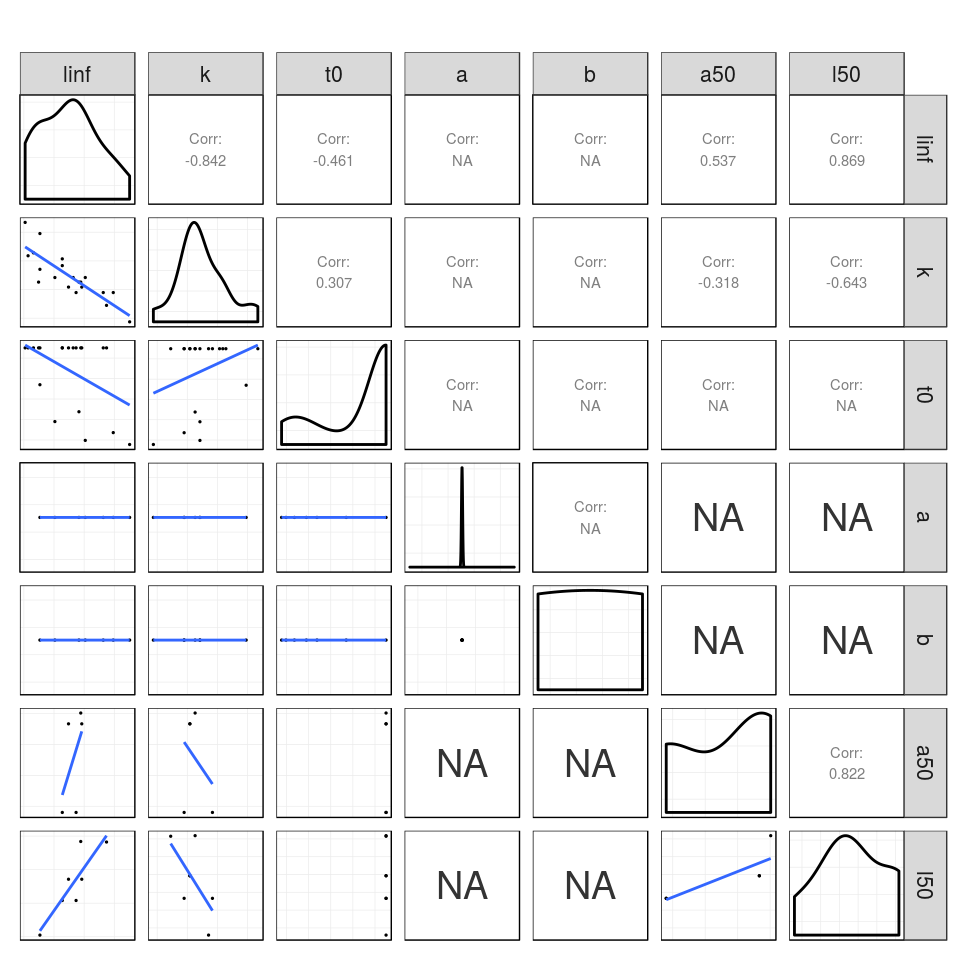
**Figure 1** Pairwise scatter plots of sprat life history parameters.



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



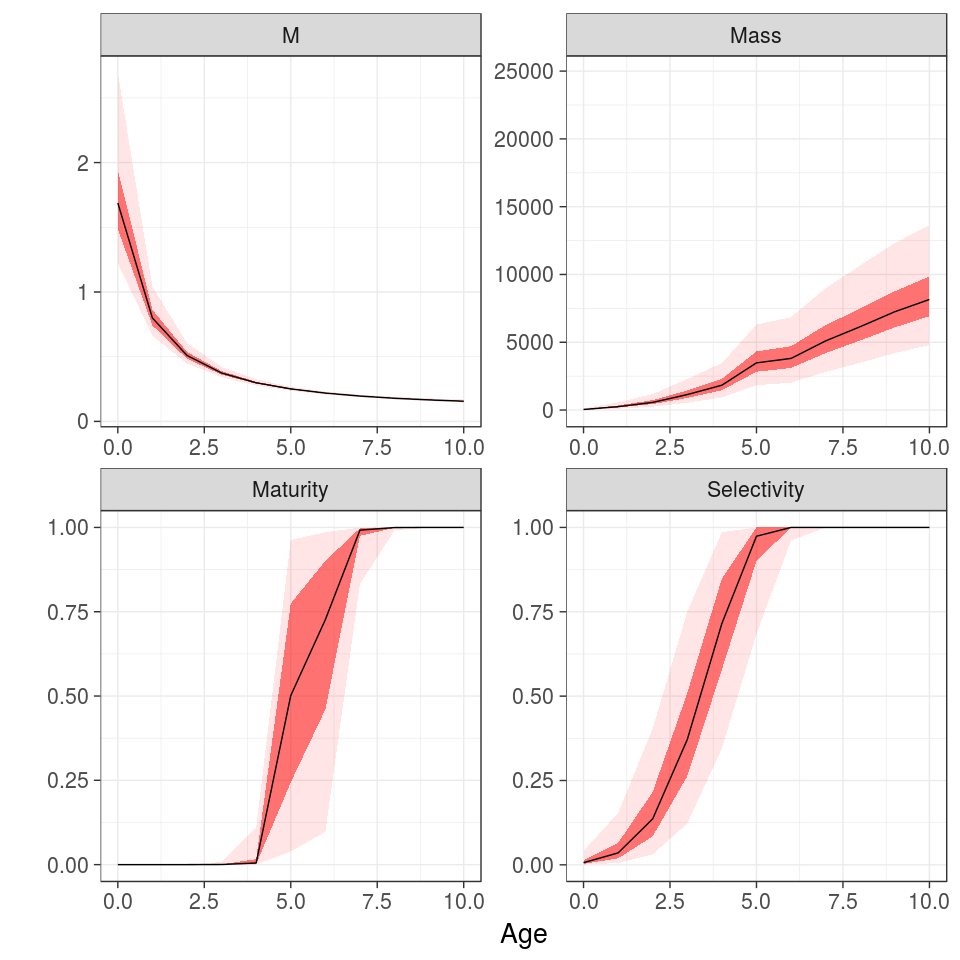
**Figure 3** Pairwise scatter plots of thornback ray life history parameters.



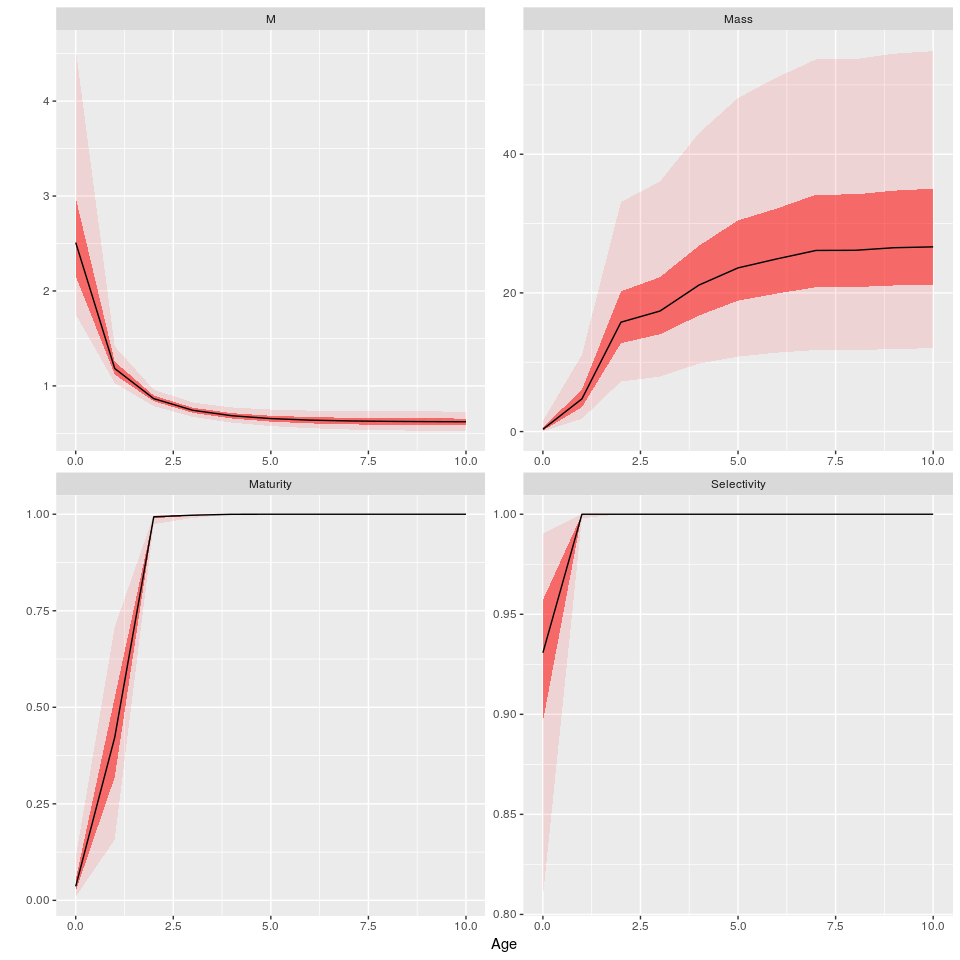
**Figure 4** Pairwise scatter plots of plaice life history parameters.

## Equilibrium dynamics

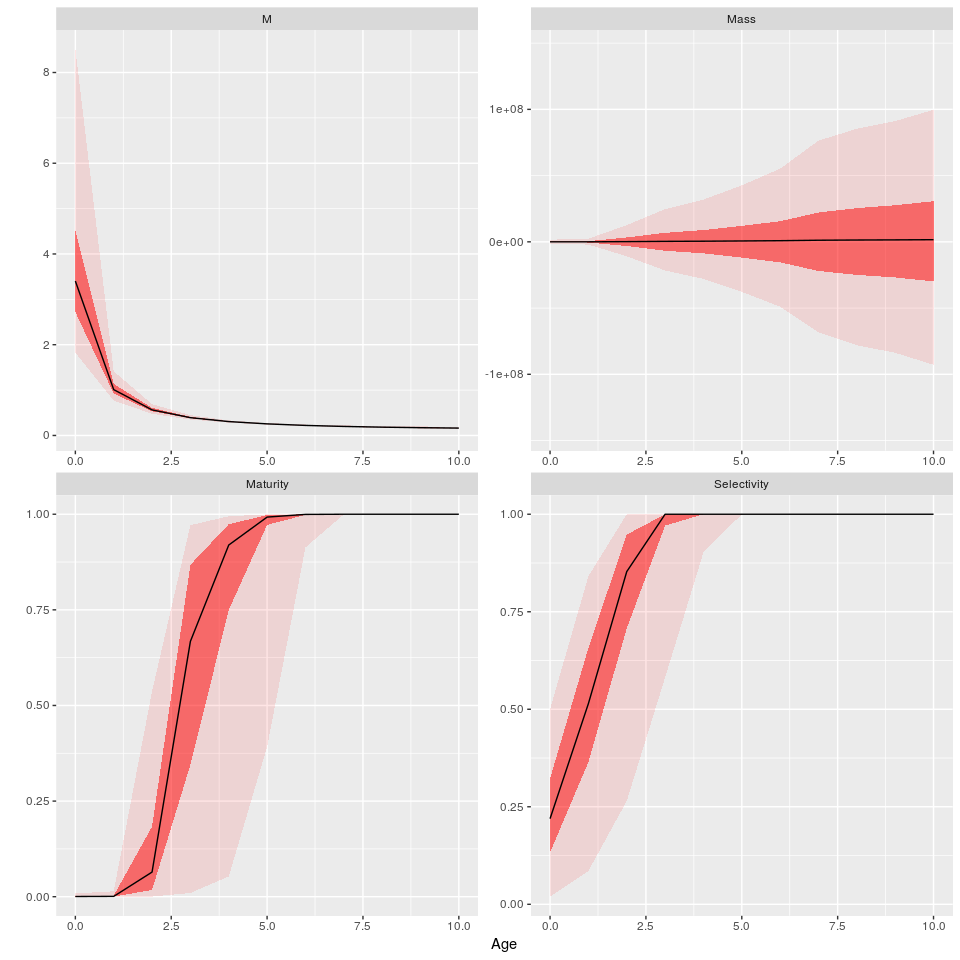
The parameters are then used by lhEql to simulate the equilibrium dynamics by combining the spawner/yield per recruit relationships with a stock recruiment relationship.



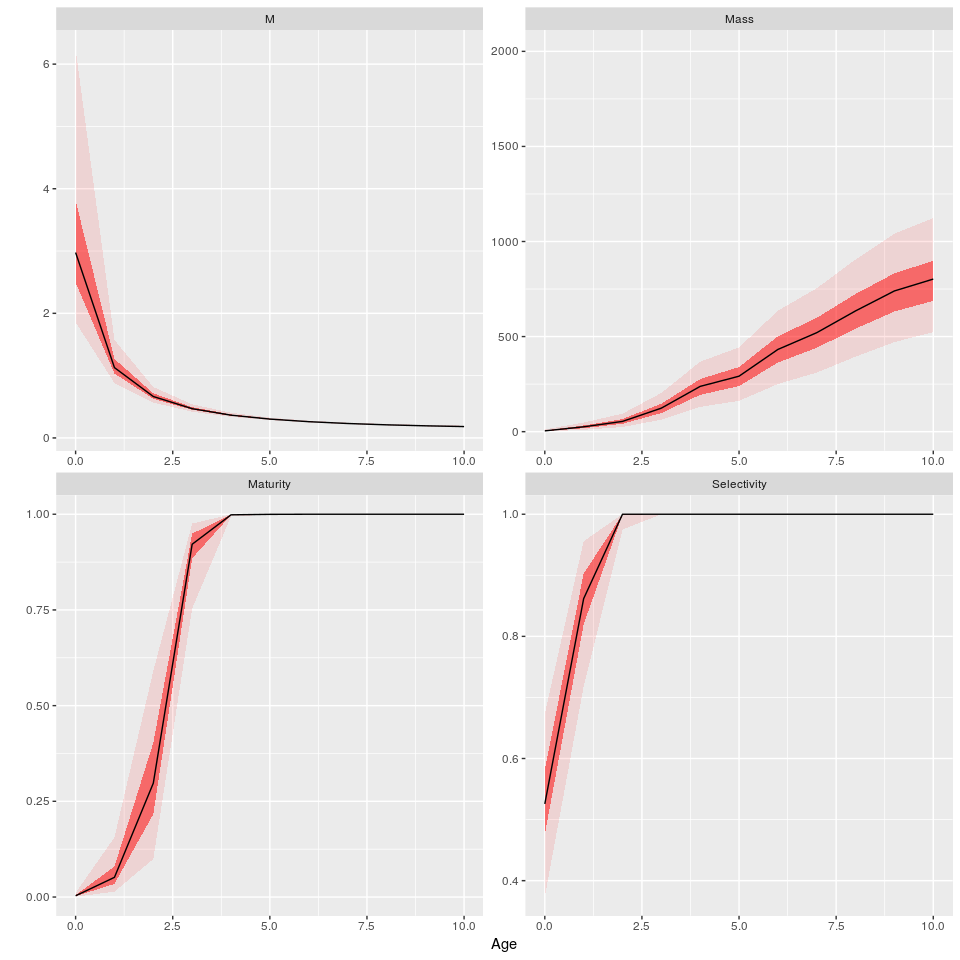
**Figure 5** Vectors for thornback ray.



**Figure 6** Vectors for sprat.

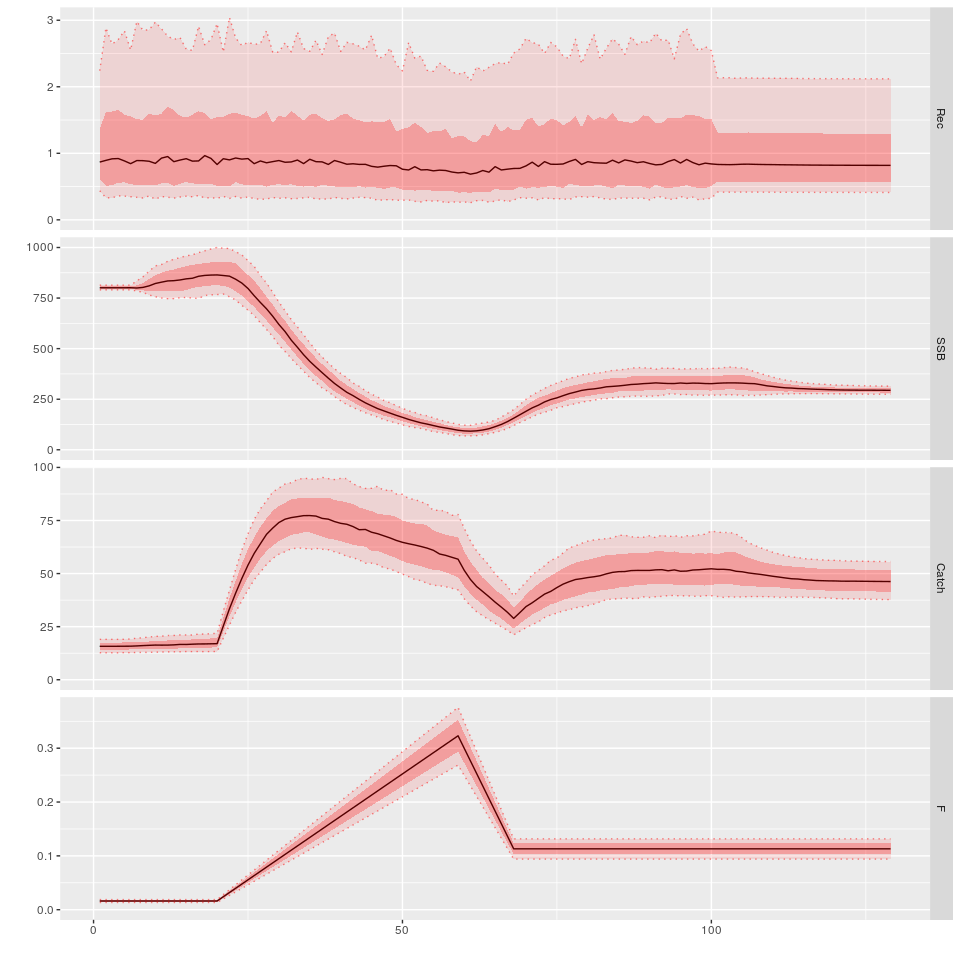


**Figure 7** Vectors for bigeye.

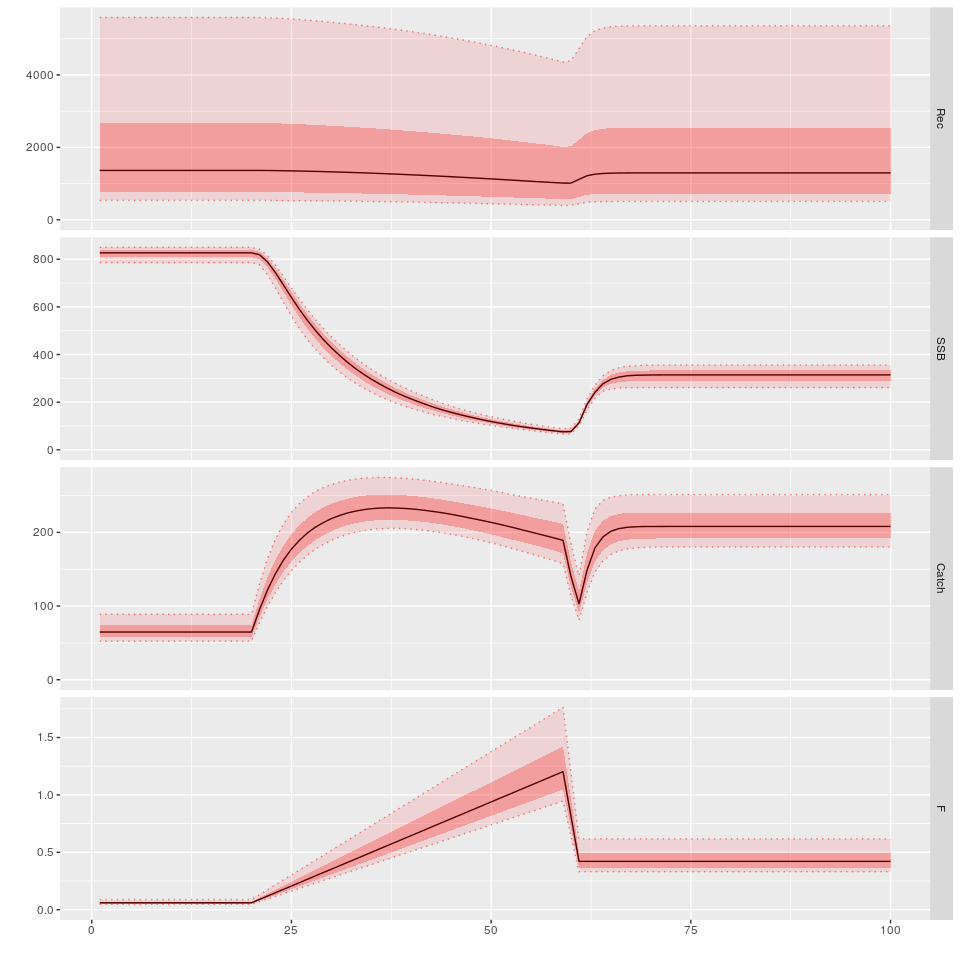


**Figure 8** Vectors for Plaice.

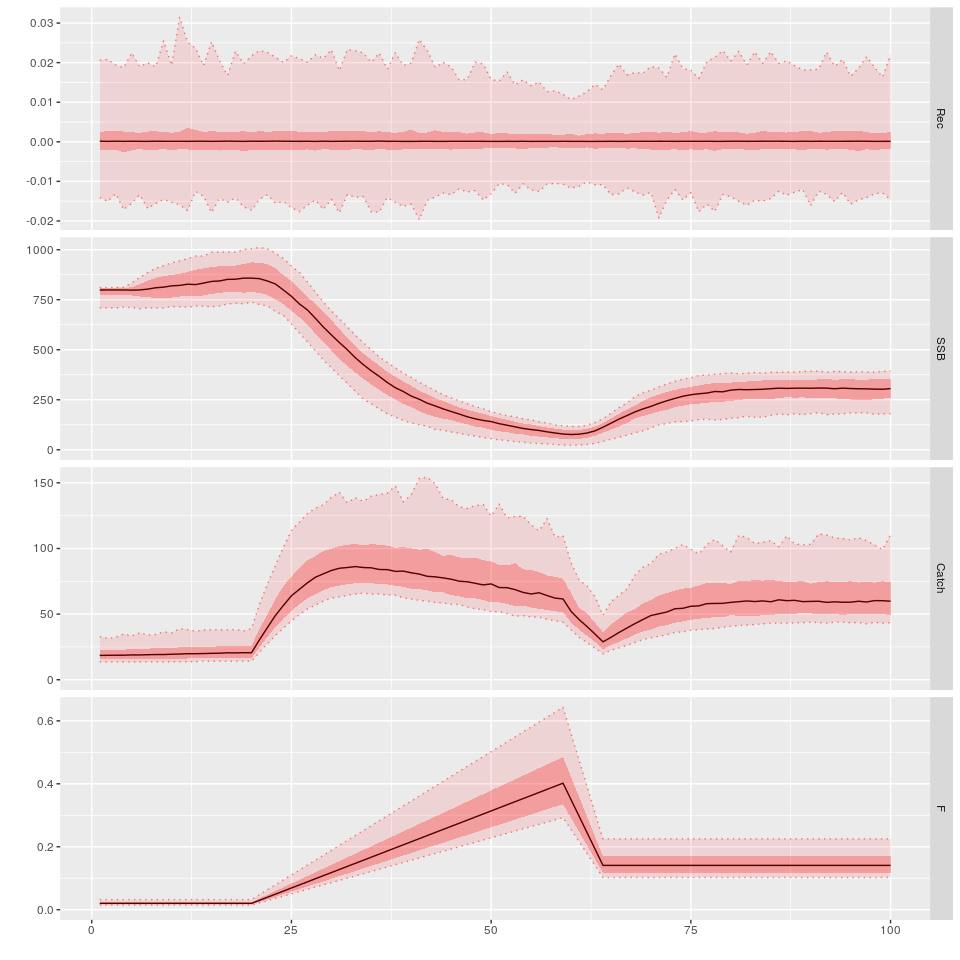
## Population dynamics



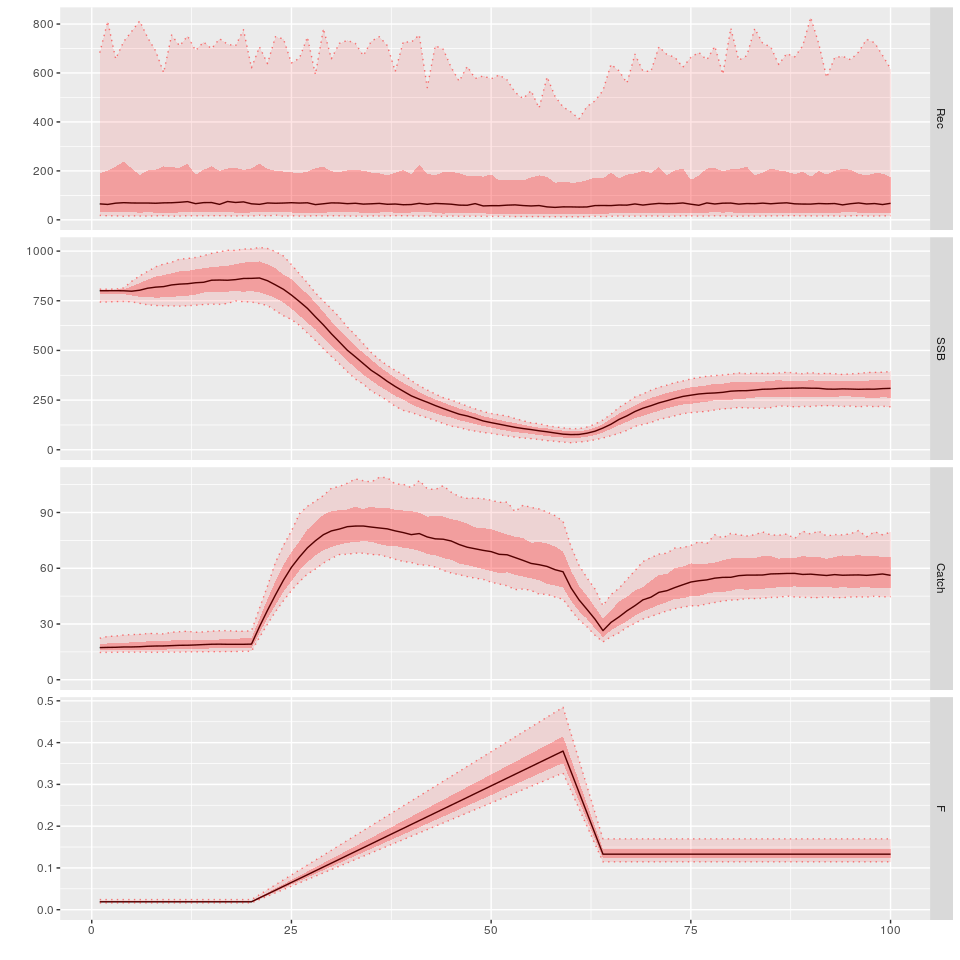
**Figure 9** Time series for thornback ray.



**Figure 10** Time series for sprat.

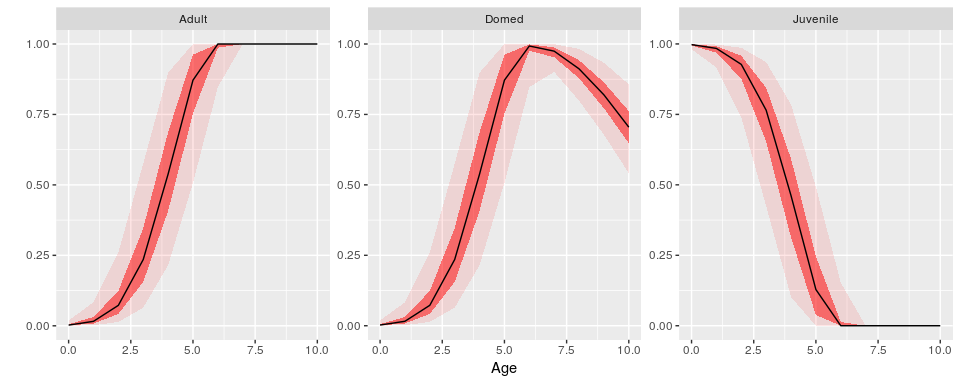


**Figure 11** Time series for bigeye.

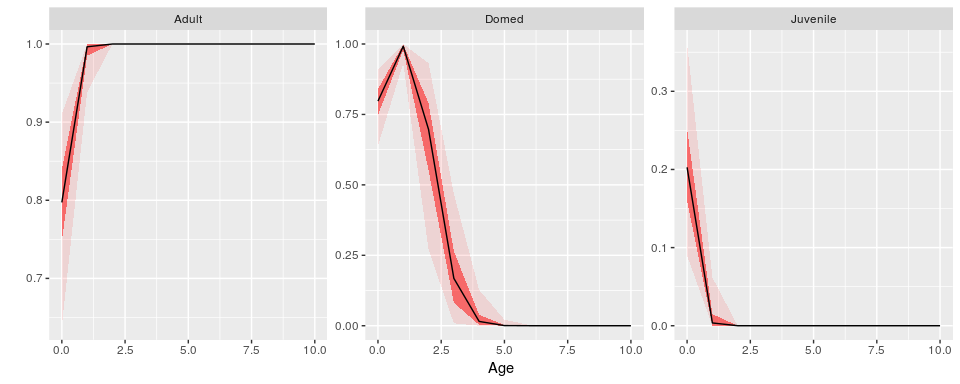


**Figure 12** Time series for plaice.

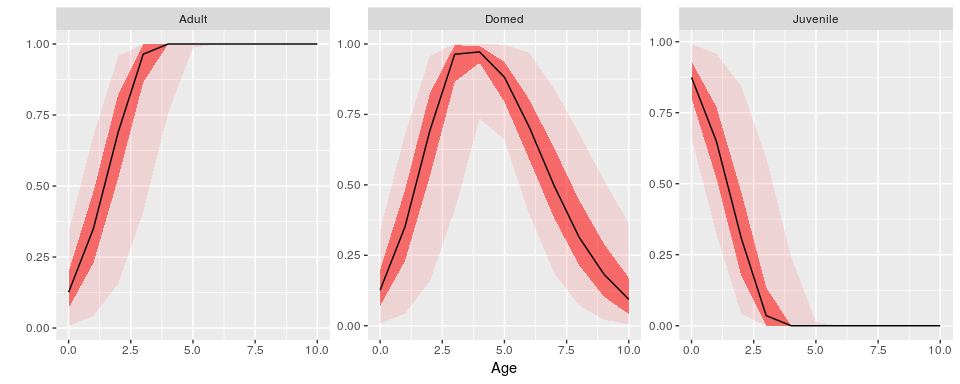
## Fleets



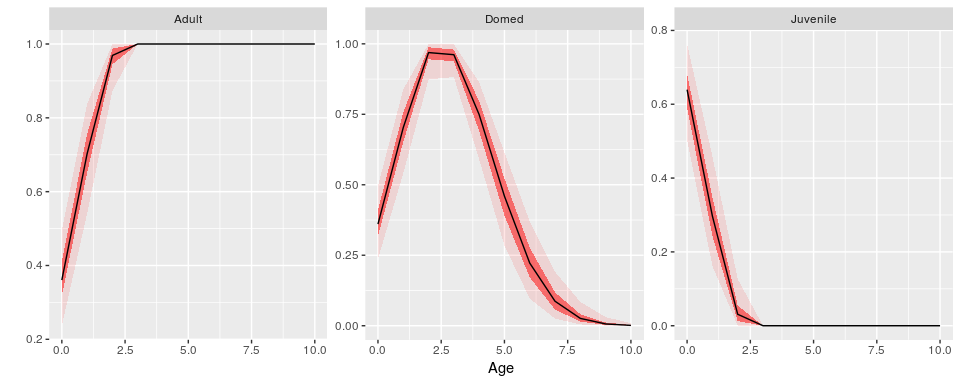
**Figure 13** Selection patterns for thornback ray.



**Figure 14** Selection patterns for Sprat.



**Figure 15** Selection patterns for bigeye.



**Figure 16** Selection patterns for plaice.

## Scenarios