# Evaluation of Black-, Grey- and White-Box Controllers

Operating Model Conditioning

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## Operating model to simulate 4 contrasting stocks

- Atlantic bigeye tuna
- Thornback Ray
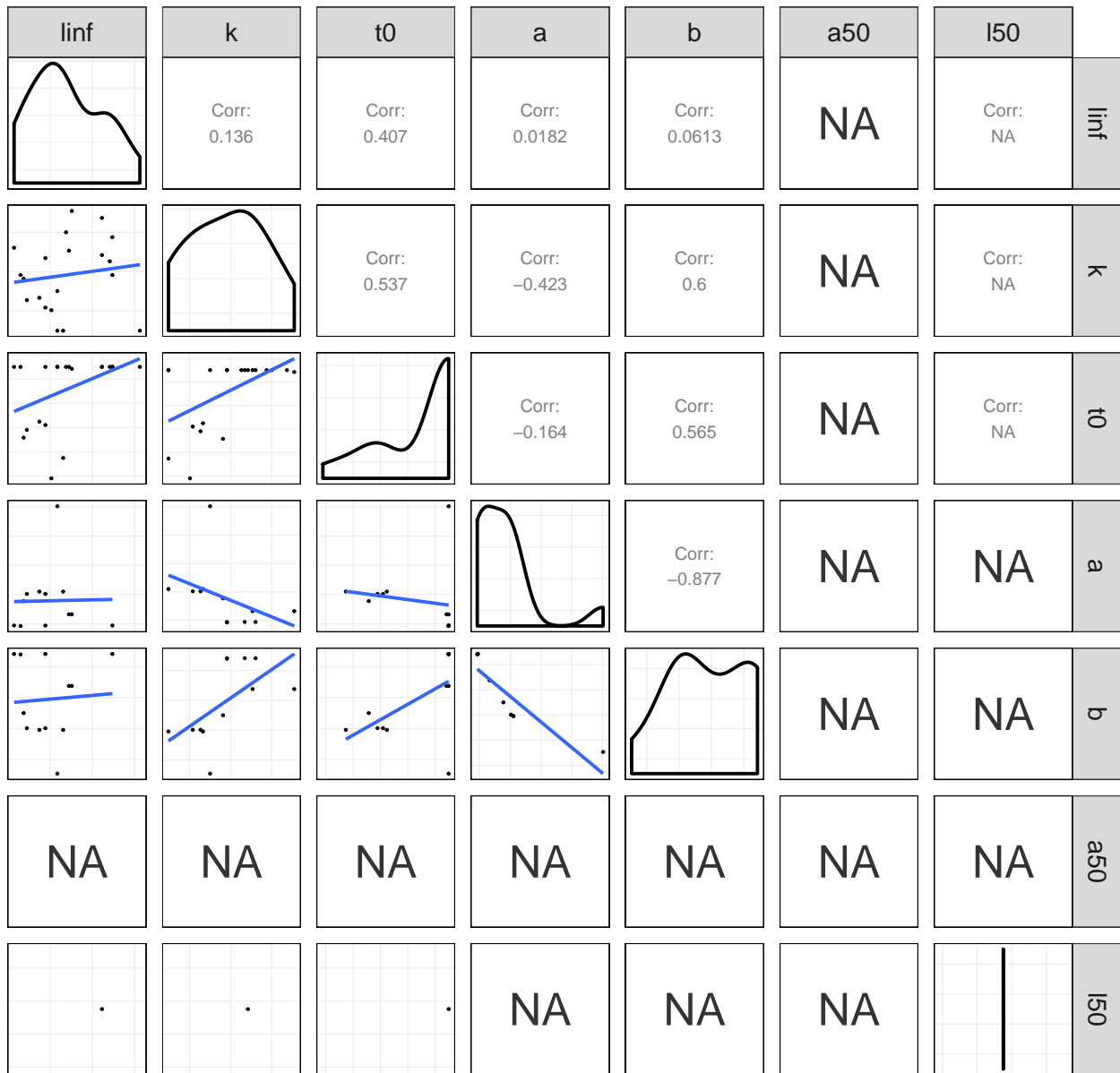- Sprat
- Plaice

# Life history parameters



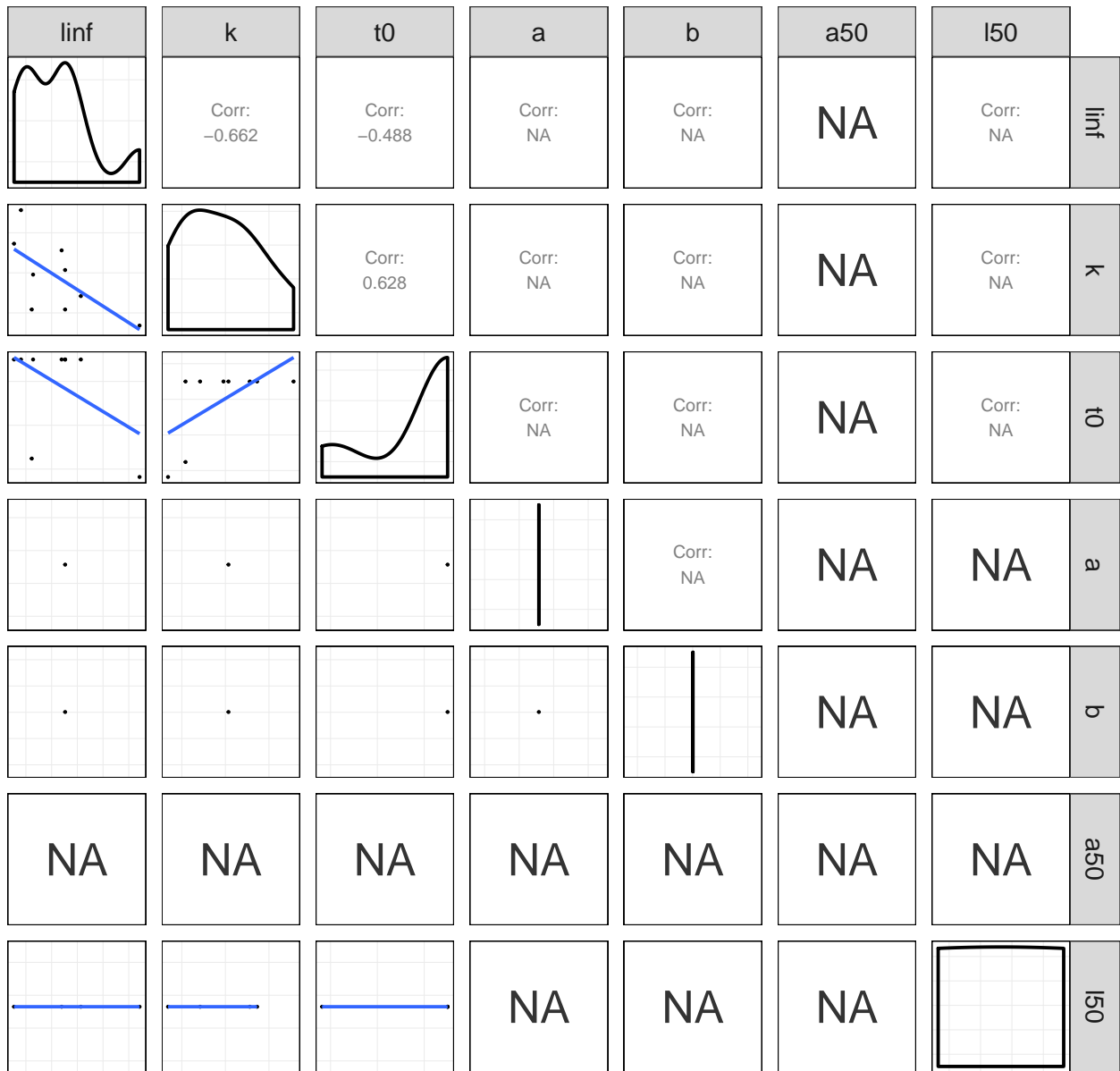**Figure 1** Pairwise scatter plots of sprat life history parameters.

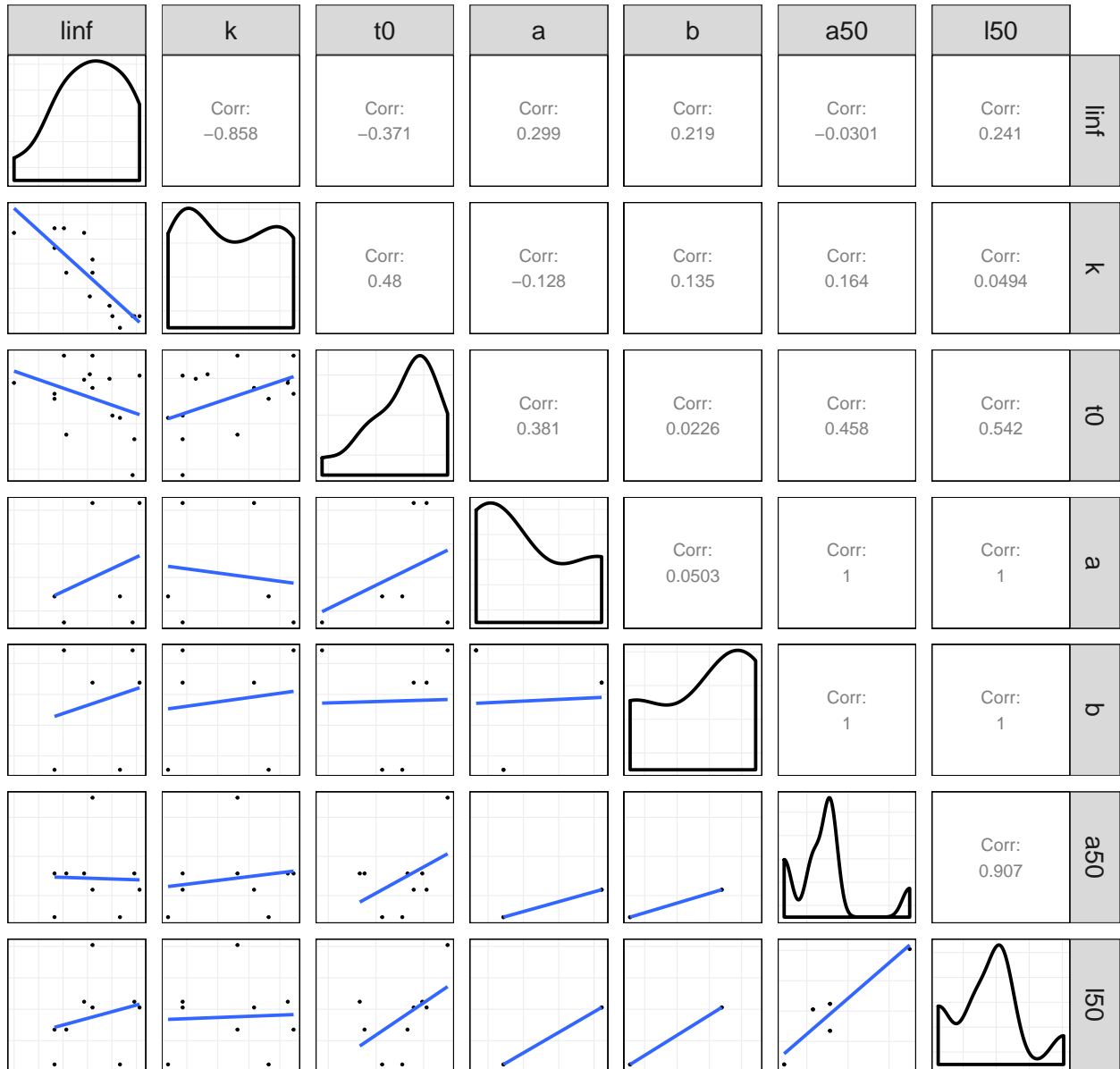**Figure 2** Pairwise scatter plots of bigeye life history parameters.

**Figure 3** Pairwise scatter plots of thornback ray life history parameters.
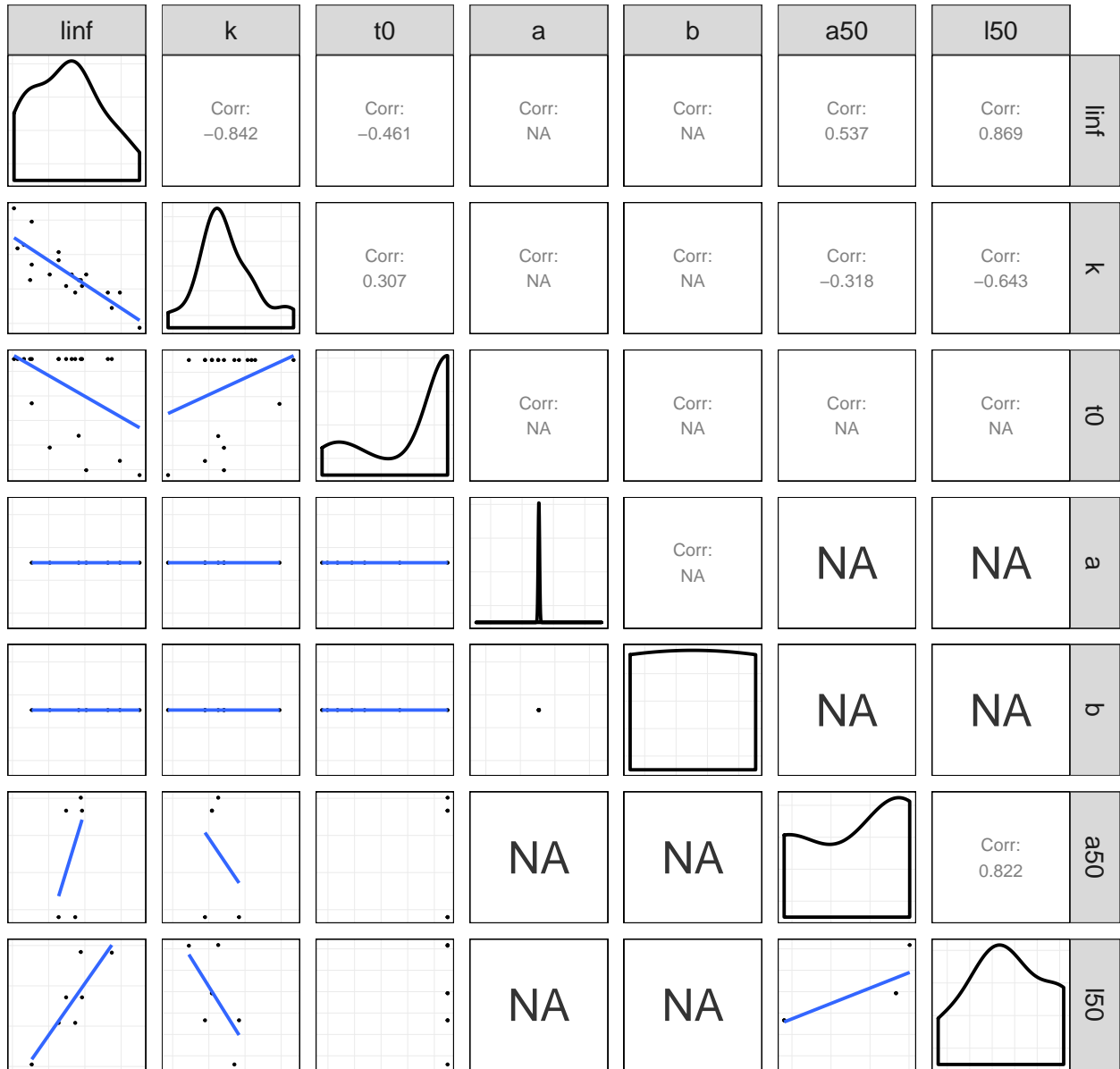
**Figure 4** Pairwise scatter plots of plaice life history parameters.

## 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.
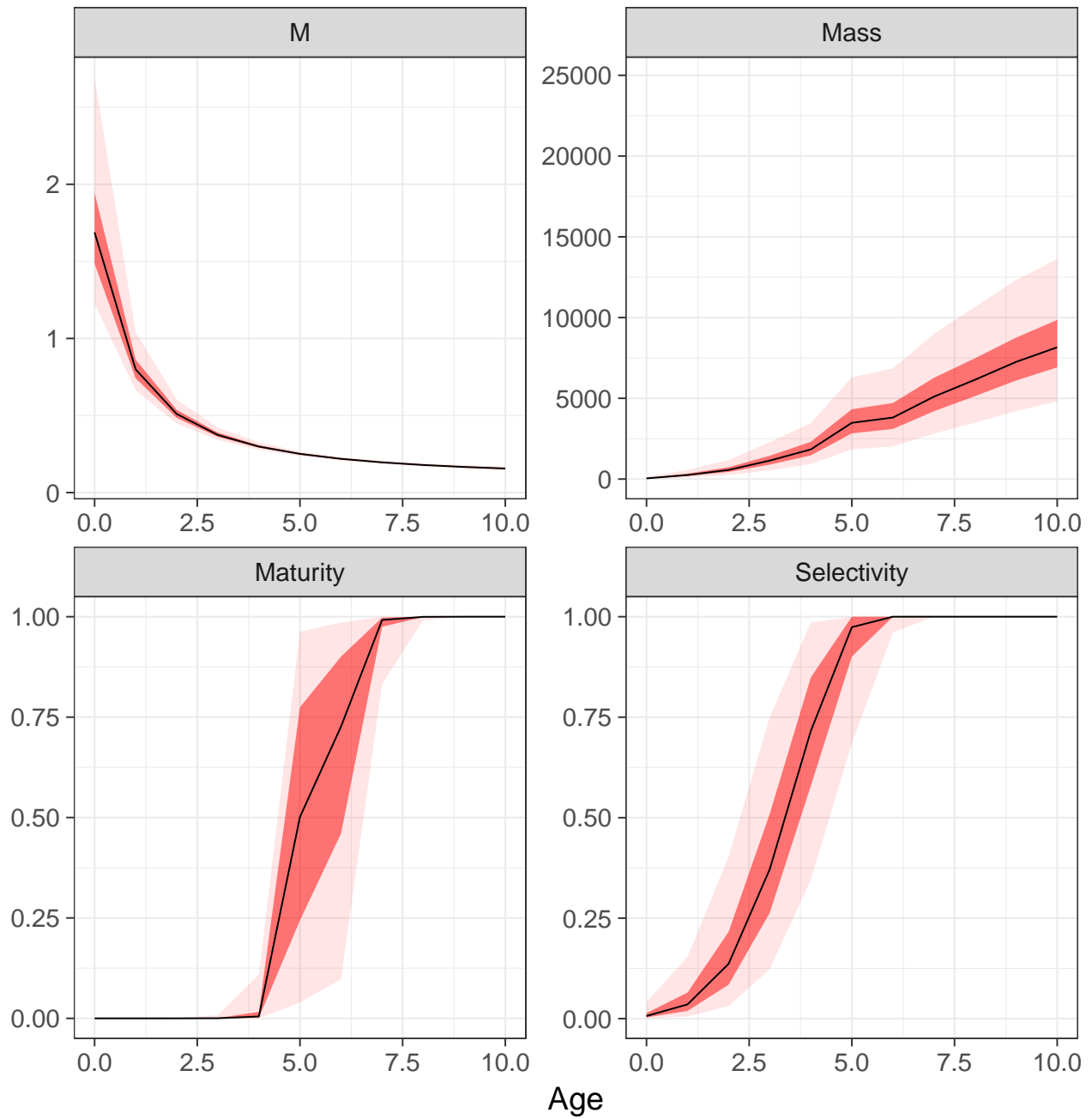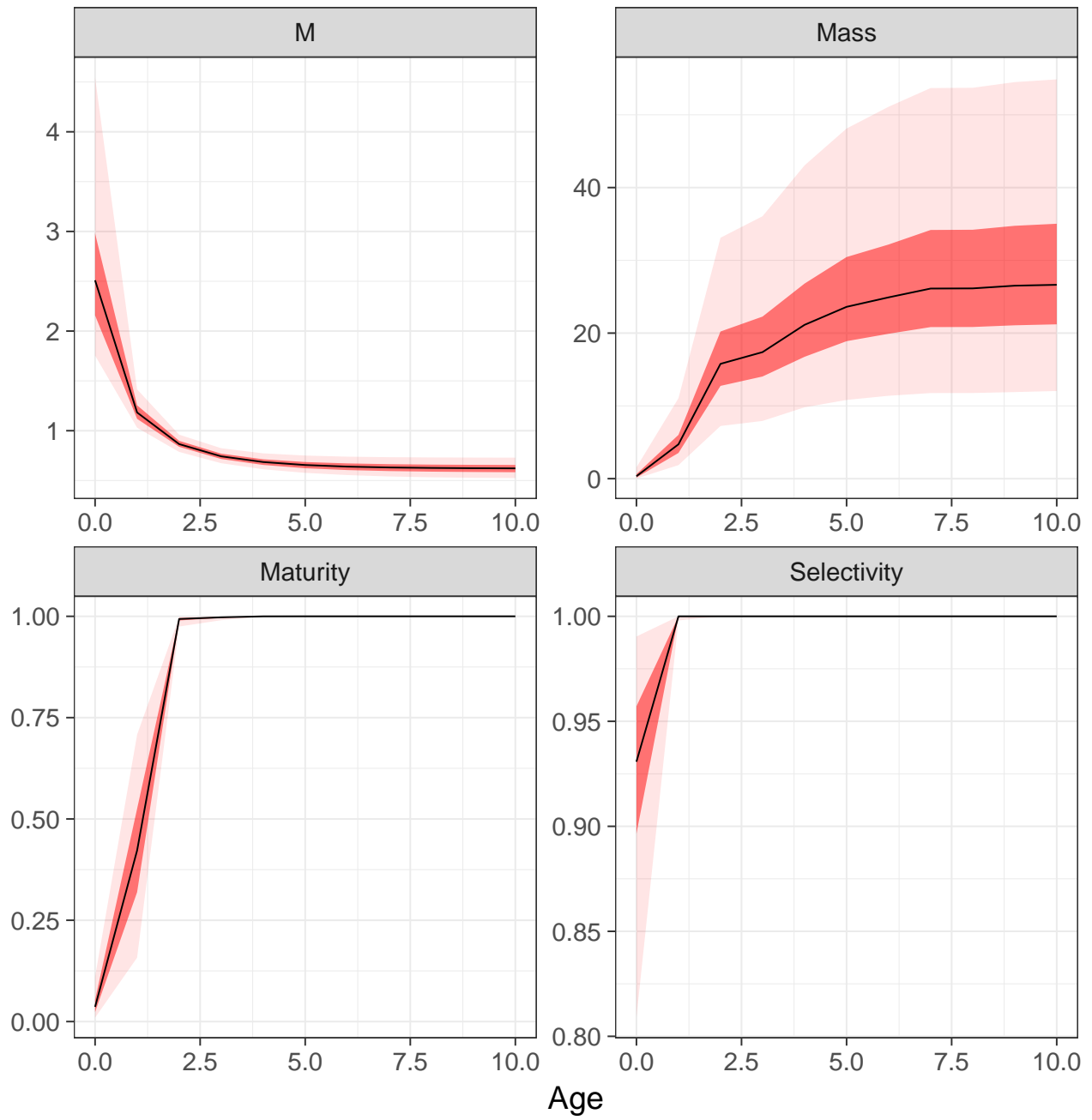
**Figure 5** Vectors for thornback ray.
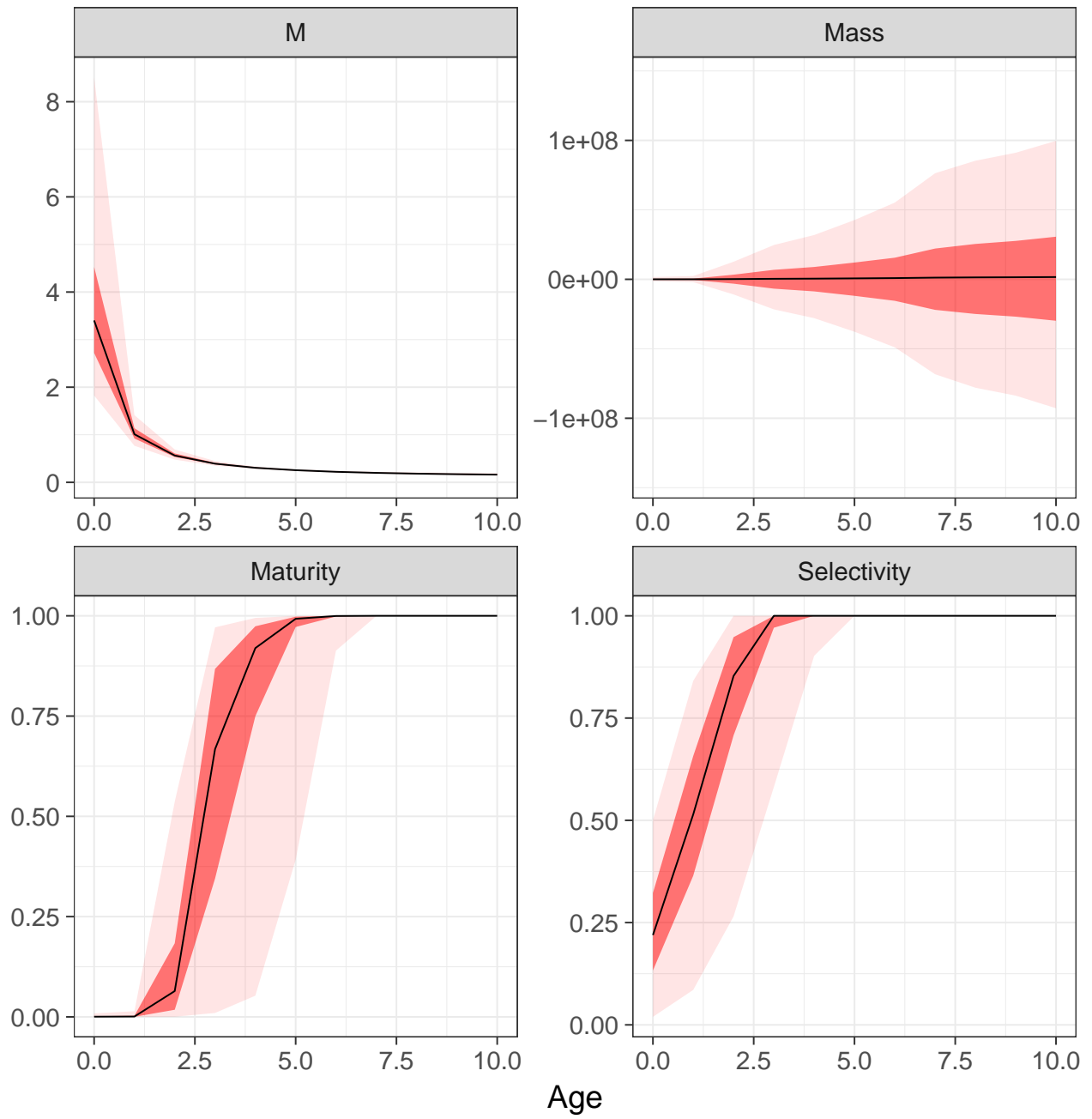
**Figure 6** Vectors for sprat.

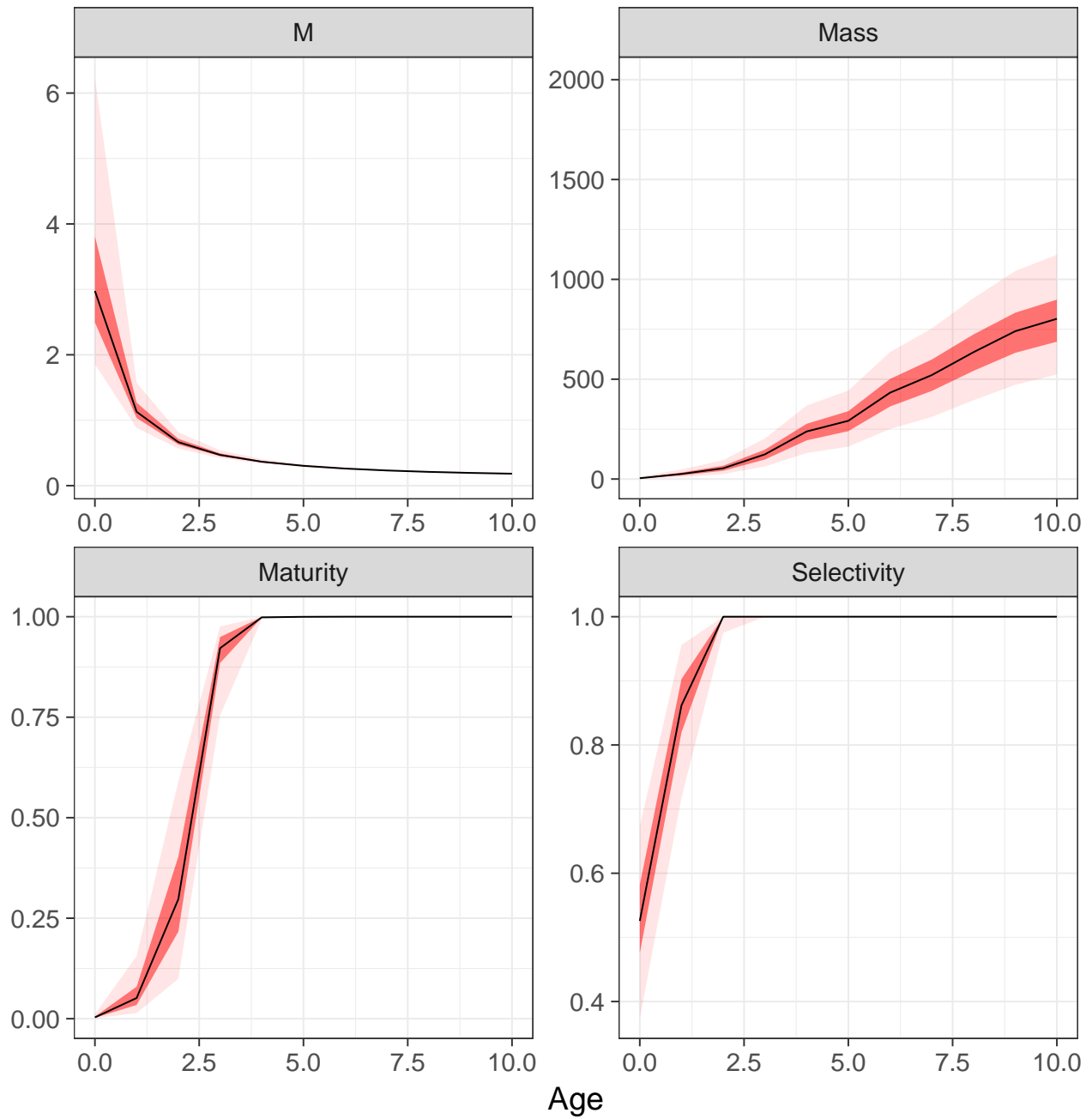**Figure 7** Vectors for bigeye.

**Figure 8** Vectors for Plaice.
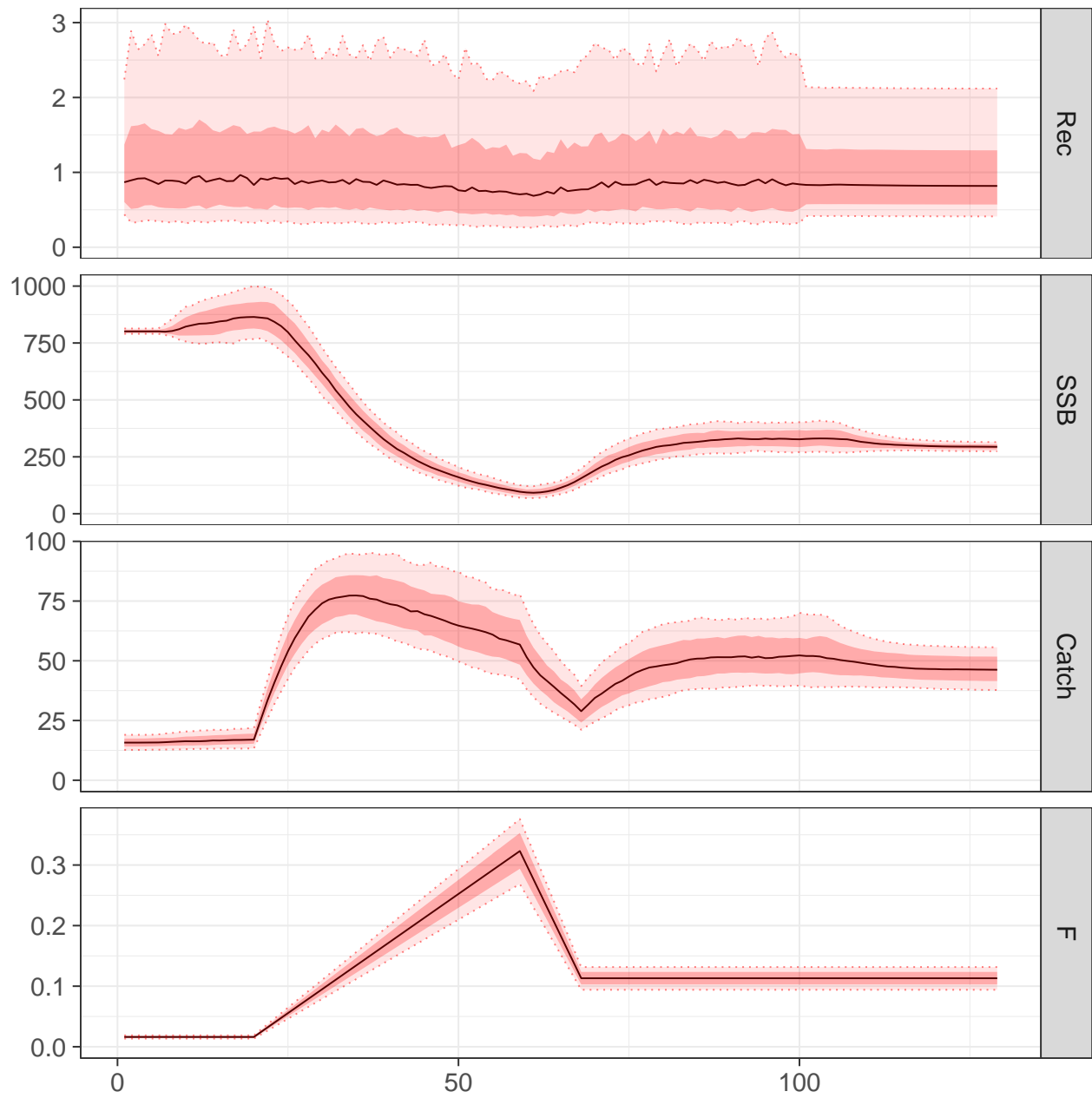
# Population dynamics



**Figure 9** Time series for thornback ray.
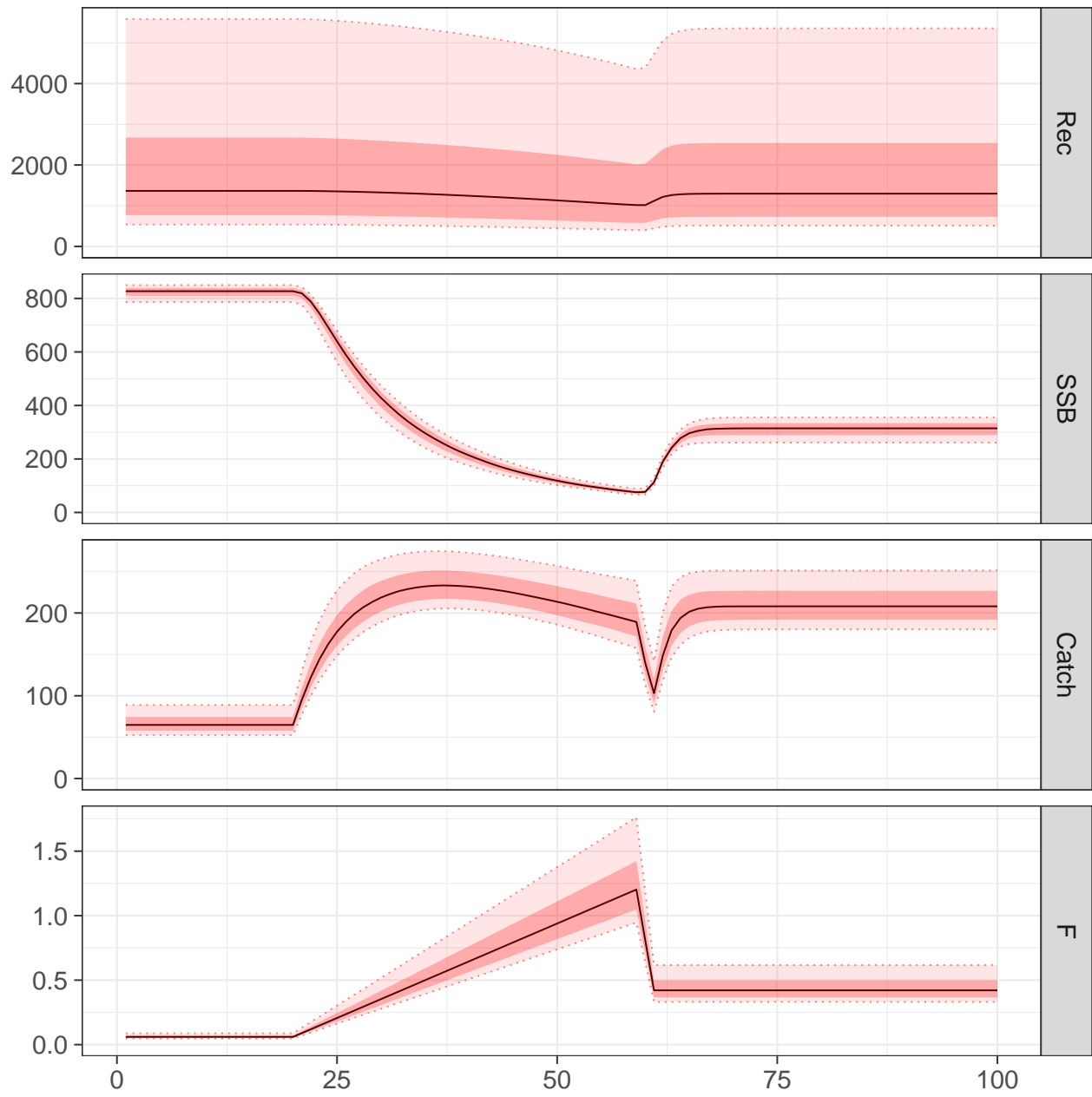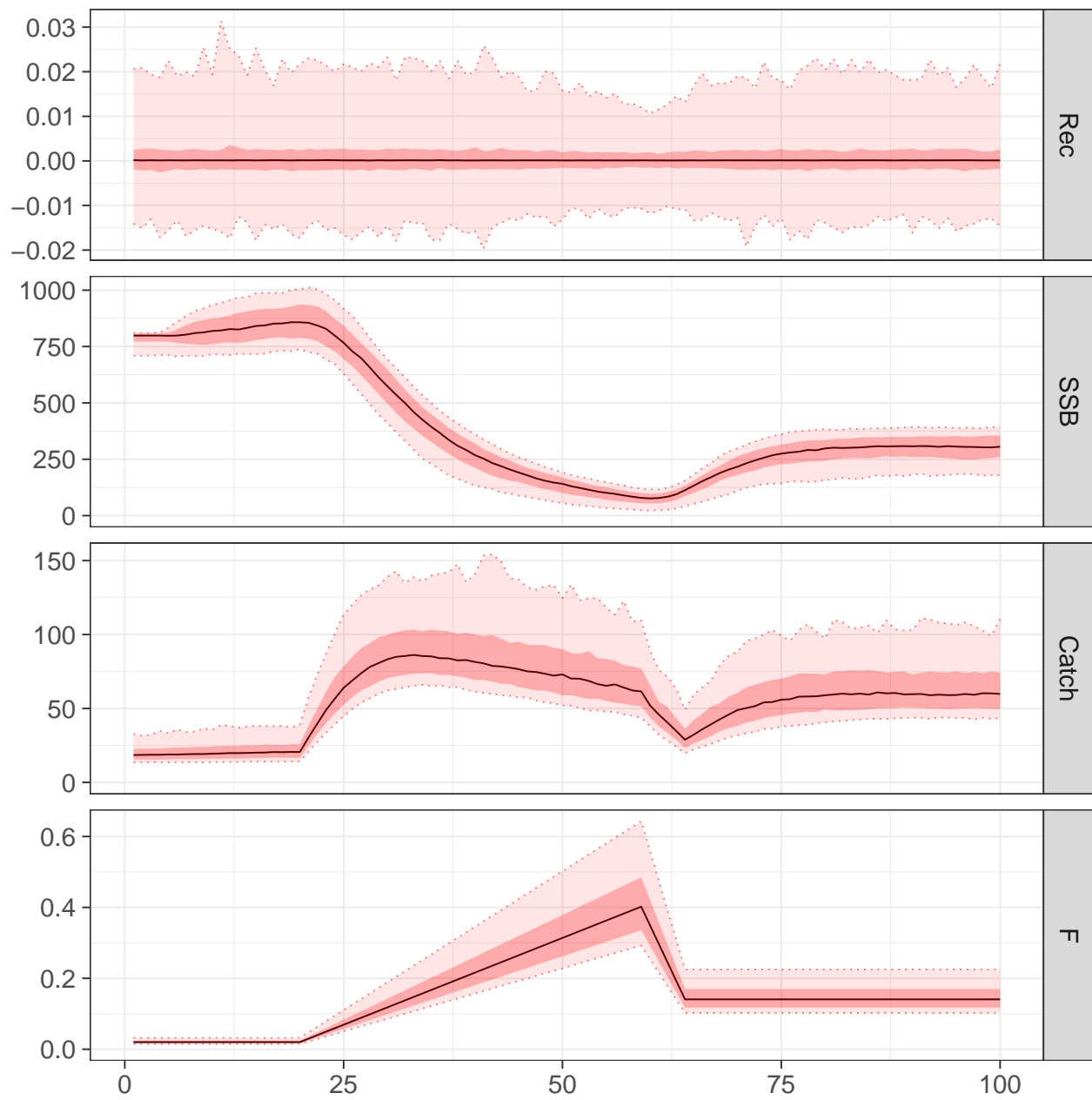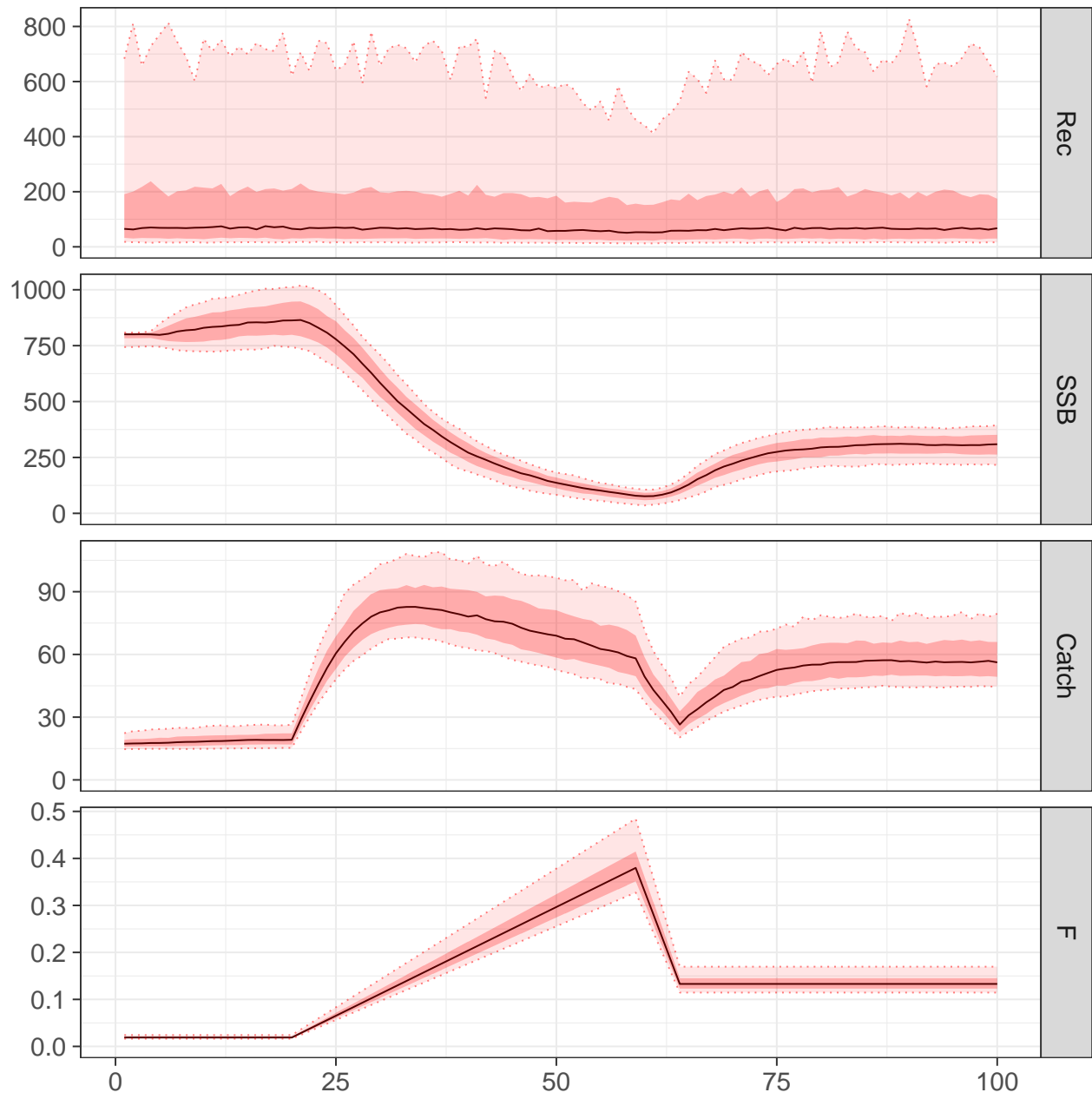
**Figure 10** Time series for sprat.

**Figure 11** Time series for bigeye.

**Figure 12** Time series for plaice.