FLife: Operating Model Conditioning

Brill

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Life history parameters

Life history parameters from Fish Base for the Von Bertalanffy growth model were L_∞ (41.8), k (0.437), and t_0 (-0.93), for the length/weight relationship $W = aL^b$ were a (0.0222) and b (2.92), and age at maturity (a_{50}) was (1.22).

The values for the empirical Gislason natural mortality relationship m_1 and m_2 were (163.8) and (-1.61) respectively.

The fishery was assumed to only catch mature fish and so selection pattern is modelled by a double normal equivalent to the maturity ogive, parameters were a_1, s_l and s_r were (2.22, 1, 5000) respectively.

The stock recruitment relationship is assummed to be of a Beverton and Holt functional form with a steepness and virgin biomass of 0.8 and 1000 units respectively.

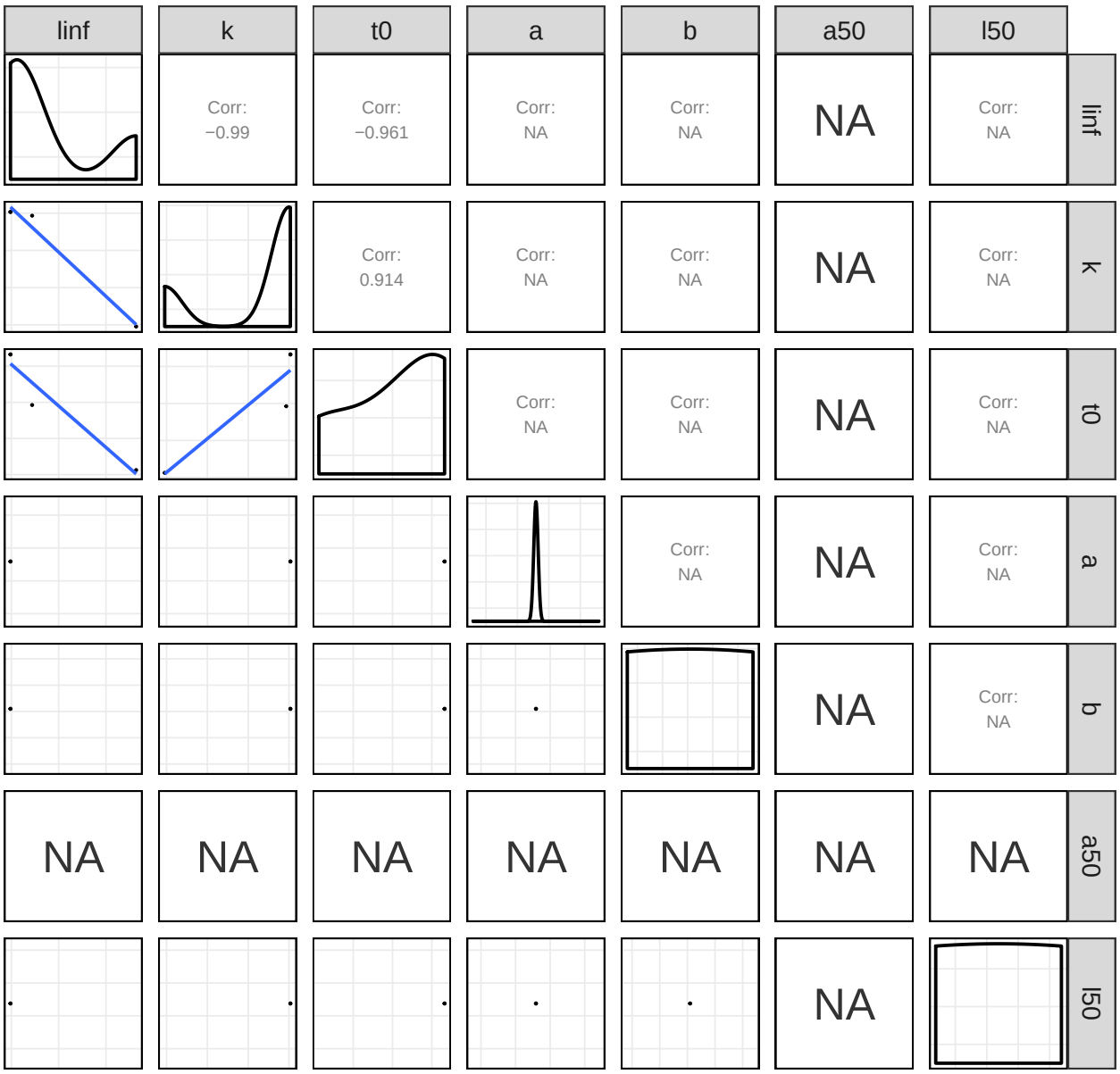

Figure 1 Pairwise scatter plots of life history parameters.

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.

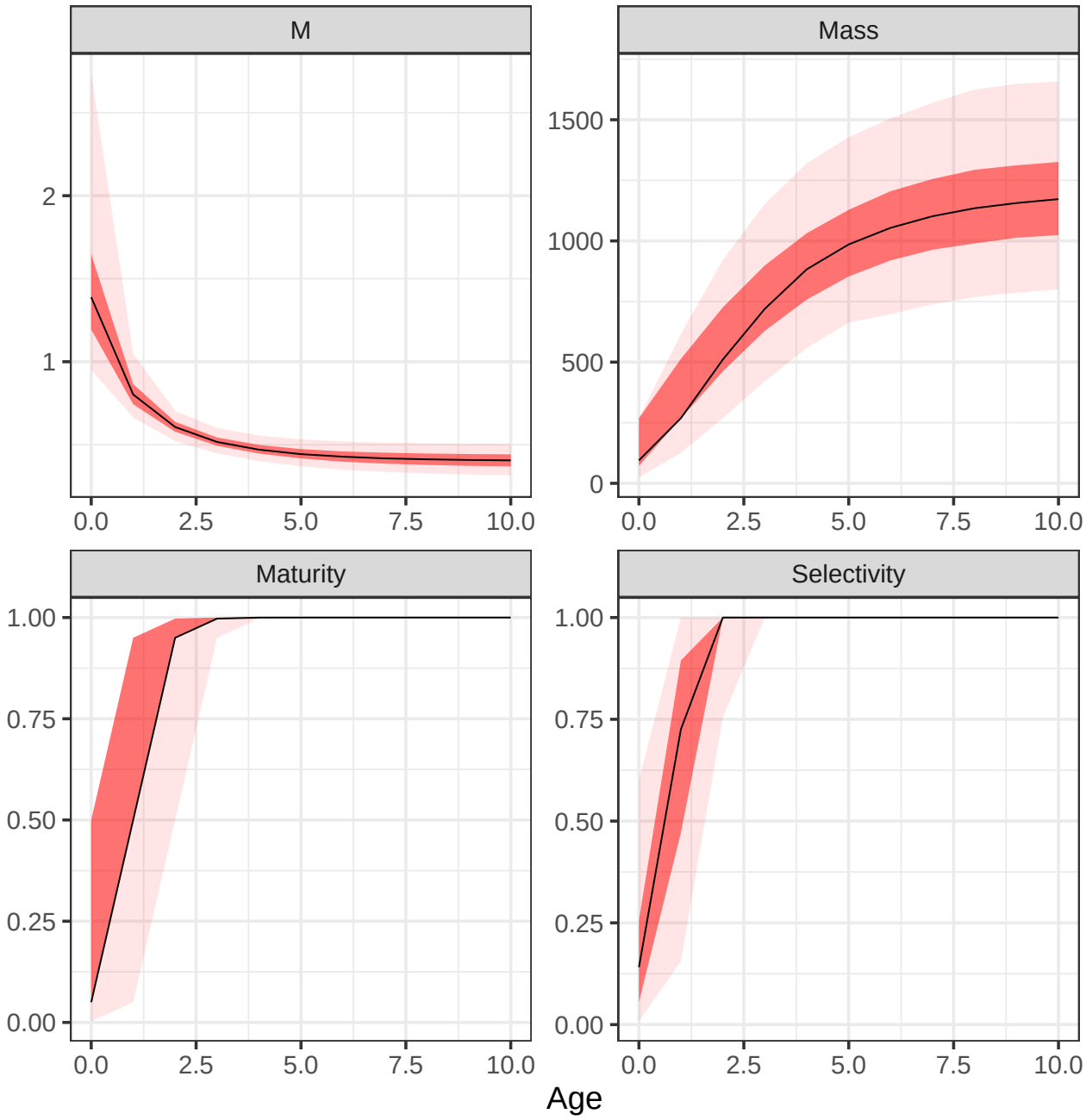

Figure 2 Vectors.

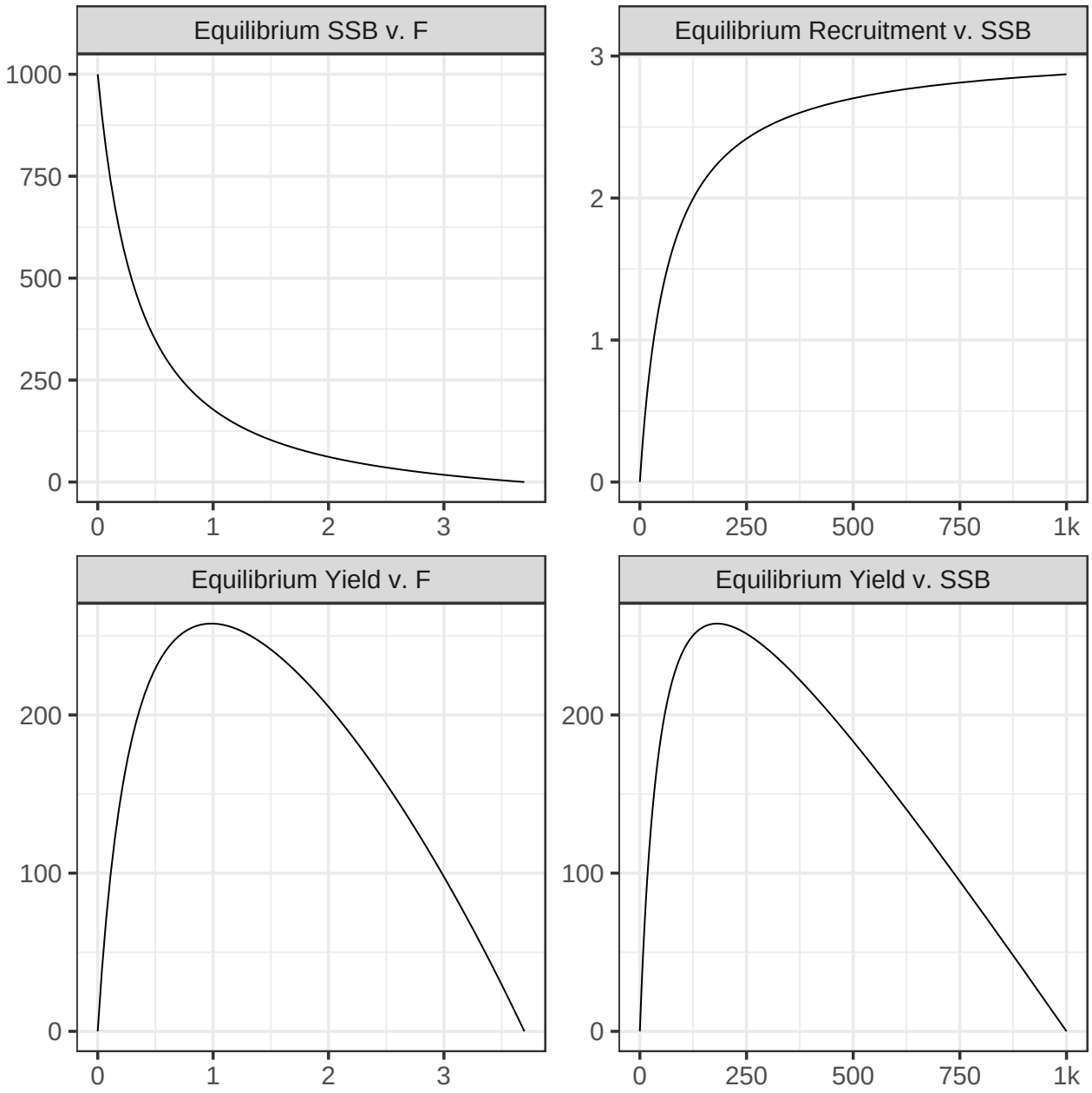

Figure 3 Example equilibrum Curve.

Population dynamics

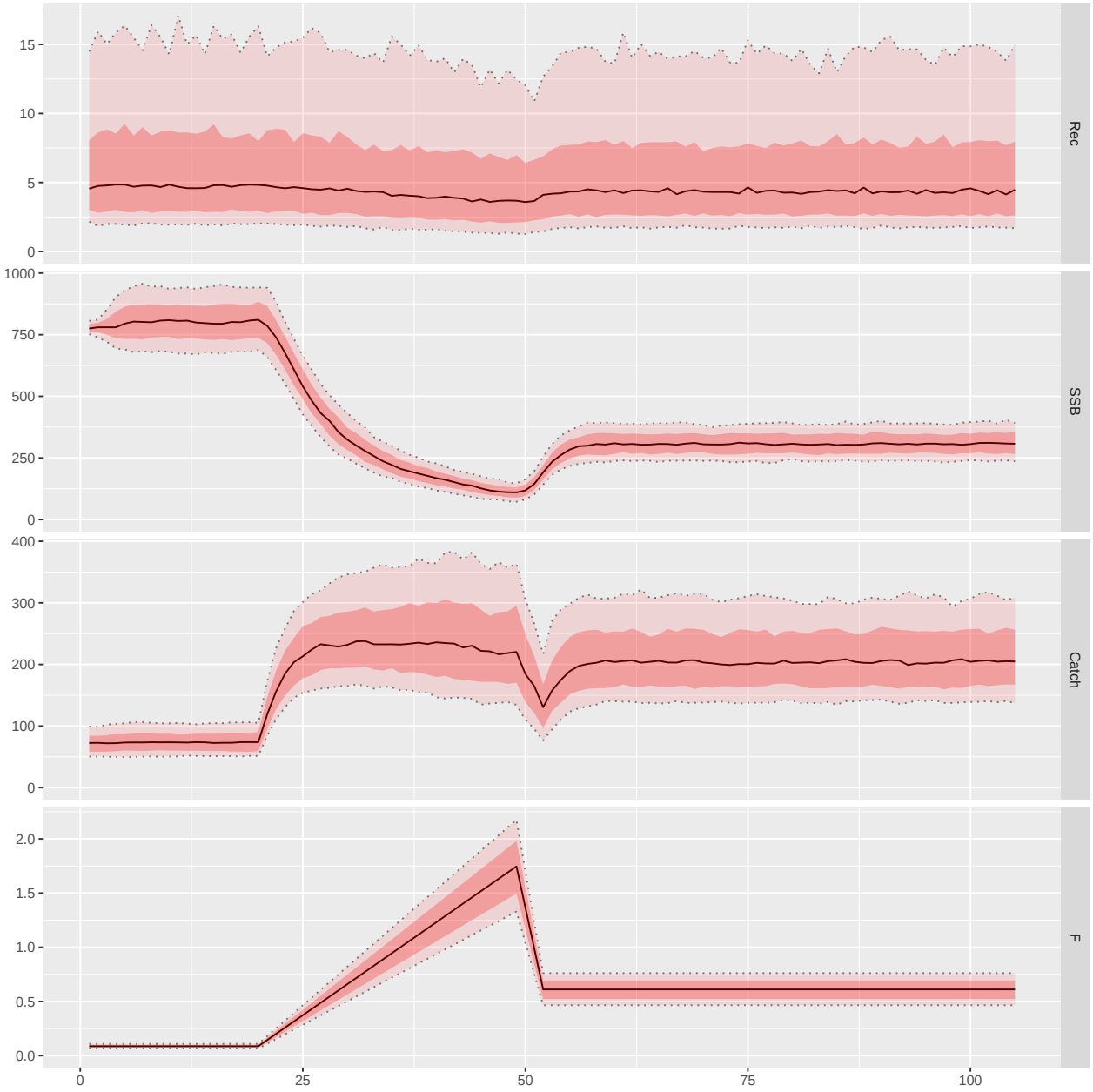

Figure 4 Time series.