YPR –Yield per Recruit

A yield per recruit (YPR) calculation similar to that proposed by Beverton and Holt (1957), based on equations summarized by Schnute (2006, Table 2). Biomass yield per recruit at reference age **aref** (y) depends on a balance between natural mortality **M** (y^{-1}) and fish growth, as determined by four von Bertalanffy parameters: **Winf**, **K**, **t0**, **b** (W_∞, K, t_0, b)

The graphical user interface (GUI) allows entry of the biological parameters (blue controls). Policy options correspond to the selected ranges of fishing mortality F and recruitment age t_R (*i.e.*, age of first capture). Points on the *eumetric curve* correspond to the maximum yield for a specified fishing mortality F, where two such values of F can be chosen in the GUI. Numbers highlighted in red show calculated values for the corresponding recruitment age t_R and maximum YPR. Clicking the green "Plot" button causes PBS Modelling to calculate **YPR** (g) at **FLen** $\times$ **tlen** points in policy space (F, t_R) and to draw the interpolated contours (grey). The eumetric curve appears in blue, and red points with vertical dashed lines correspond to the two values of F selected in the GUI.

Beverton, R.J.H., and Holt, S.J. 1957. On the dynamics of exploited fish populations. U.K. Ministry of Agriculture, Fish & Fisheries Investigations (Ser. 2) 19: 533 pp.

Schnute, J.T. 2006. Curiosity, recruitment, and chaos: a tribute to Bill Ricker's inquiring mind. Environmental Biology of Fishes 75: 95–110.