

Recruitment and Exploitation rate of *Etelis oculatus* Val. in the St. Lucian Fishery

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ABSTRACT

Von Bertalanffy growth parameters: $K = 0.40\text{y}^{-1}$; $L_{\infty} = 102\text{ cm TL}$; $t_0 = -0.29$, were derived using length frequency data obtained from St. Lucian landings of *Etelis oculatus*. These ELEFAN-derived parameters were fed into a length-converted catch curve to arrive at estimates of:

- a. Coefficient of total mortality, Z of 1.873 y^{-1} , and
- b. Present exploitation rate, E of 0.550 .

The recruitment pattern based on the derived parameters was obtained with ELEFAN II. The fish appear to be fully recruited into the fishery at around 70 cm TL, or at an age of around 30 – 35 months. Yield-per-recruit analyses were done using a value of coefficient of natural mortality (M) of 0.843 , derived from Ralston's (1987) formula and based on:

- a. The probabilities of capture method, giving a value of the exploitation rate at which maximum yield per recruit (E_{max}) is obtained of 0.662 , and
- b. Knife-edged selection at a calculated length-at-first capture of 67.09 cm TL giving E_{max} of 0.759 .

Both of these preliminary determinations suggest that the present exploitation rate is well below E_{max} .