

The logo is a rectangular box with a blue background featuring a wavy, textured pattern resembling water or fish scales. The text "Chilean Jack Mackerel Workshop" is centered in white, with "Chilean Jack Mackerel" on the top line and "Workshop" on the bottom line.

Chilean Jack Mackerel
Workshop

Maximum sustainable yield (MYS) and optimum effort of fishing of jack mackerel (*Trachurus murphy*) and pacific mackerel (*scomber japonicus*) in Perú (1997-2006)

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Abstract

Surplus production model of Pella Tomlinson (1969) with catch data, effort and catch per unit effort of jack mackerel (*Trachurus murphyi*) and pacific mackerel (*Scomber japonicus*) was applied for this fishery in Peru from 1997 to 2006, the goal was calculate of maximum sustainable yield (MSY) and optimum effort (OE). In both, results of model showed several alternatives, in maximum sustainable yield as optimum effort, due to parameter “m”. So, if this value is equal to 1 ($m=1$) then it results as Fox model, and if it is equal to 2 ($m=2$) it is Schaefer model. Based on determination coefficient r^2 obtained by the quotient between U observed and the calculate by others models, it was determined that the best model is when parameter m range around 1. For that reason Fox model will be most adequate, because adjust better to data, showing $r^2=0.69$ with MSY = 562166 tons and OE = 30 hours per trip in average.

The unit effort that was taken for development of the model is an effective unit effort, based in the hours per trip in average of the total annual trips. For management it was calculated, from MSY obtained, the number of boats and holding capacity necessary. For these results we use some indicators as number of annual trips average, efficiency (catch between holding capacity displacement) and number of trips by vessel by year.

Key words: Maximum sustainable yield (MSY), Catch, Effort, Catch per unit effort