STUDY OF THE STOCK OF EXPLOITED EELS IN THE LAGOON OF BAGES-SIGEAN Gulf of Lion, Southern France

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Achmar MALLAWA

Laboratoire de Biologie Marine
Université de Perpignan, 66000 Perpignan, France

Among the exploited stocks in the lagoon of Bages-Sigean, eels *(Anguilla anguilla)* constitute the main species. Their exploitation was highly developed in the course of the last two decades and is now representative of more than the half of fish catches.

The eels of Bages-Sigean caught by fyke nets show a polymodal distribution due to the existence of several age groups.

The highest frequency is found in the 24-36 cm length class which corresponds to the 2nd, 3rd and 4th age classes.

Growth in length is fast during the first four years of their life, from 20 cm average size in the first year, to 33 cm at the end of 4th year (from 11 cm to 34 cm by back-calculation). The length of the smallest and greatest eels in our captures were 15 and 86 cm (10 and 1100 g weight respectively), for eels from 1 year to 11 years.

Growth in weight shows a typical sigmoid form. Yearly growth rate in weight increases until four years and the maximum yearly growth-rate (30 g) occurs between 3 ($W = 39{,}36$ g) and 4 years ($W = 52{,}8$ g). Value of b ($W = aL^b$) is significantly different from 3 ($P = 0{,}975$) indicating a non-proportional length-weight relationship. Because $b < 3$ ($b = 2.8253$), the growth rate is lower in weight than in length.

This study demonstrates a wide distribution in length and in weight of individuals of the same age group.

DIFFICULTIES IN DETERMINATION OF PARAMETERS IN EEL STOCK ASSESSMENT

I. BOËTIUS

Danish Institute for Fisheries and Marine Research,
Charlottenlund Castle, DK-2920 Charlottelund, Denmark

The assessment on eels using methods in which age determination is essential, for example the virtual population analysis, seems impossible at the time being.

A new method described by Pauly (1984) has been developed for fish population dynamics in tropical waters. With this "length-structured" method several of the limitations of earlier methods might be avoided. If this method is useful for eels, new aspects of stock assessment on eel could be realized.

REFERENCE

PAULY D., 1984. Fish population dynamics in tropical waters : A manual for use with programmable calculators. *ICLARM Studies and Reviews*, **8** : 325 pp.