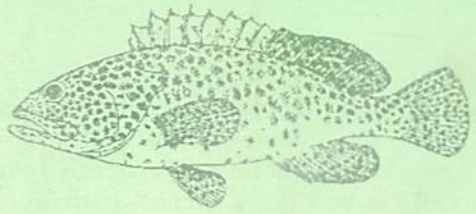
A Program for Constructing Length-Converted Growth Curves When Growth is Seasonal*

FELIMON C. GAYANILO, JR.
International Center for Living Aquatic Resources Management (ICLARM)
MC P.O. Box 1501, Makati
Metro Manila 1299
Philippines



Following Sparre's (1990) demonstration that length-converted catch curves overestimate total mortality when growth is seasonal, Pauly (1990) presented a method for constructing length-converted growth curves that allow for seasonally oscillating growth.

The intention was for this method to be released as part of the FiSAT package (Pauly and Sparre 1991). However, it will take a while for the package to be completed, tested and fully documented. The catch curve module of the package, completed and tested ahead of the other modules, was extracted and adapted for use as a stand-alone program called GOTCH·A [this name was suggested by the Editor, who also pointed out that there never will be any GOTCH·B].

GOTCH·A includes a routine for reading files generated by the Compleat ELEFAN of Gayanilo et al. (1987), and two catch curve routines:

i) the same as in the Compleat ELEFAN for cases when growth does not oscillate seasonally;

ii) a new routine, based on Pauly (1990), which is activated only when the parameter C of the seasonally oscillating version of the VBGF is > 0 [this routine requires that the length-frequency samples that are to be analyzed have not previously been combined into an overall "representative" sample, i.e., still have their original sampling dates].

Both (i) and (ii) include a procedure which performs a preliminary identification of the "best" first and last catch curve points to be included in the estimation of Z (as described in the box on p. 37 of Pauly 1990), but omit the estimation of M, mean length, selection curve, etc. presently associated with the catch curve routine of the Compleat ELEFAN (which still can be used for this purpose).

GOTCH·A is distributed on a single 360 K 5¼" diskette and its elaborate graphics support CGA, EGA, VGA and HERCULES cards. It is available from ICLARM upon request to registered users of the Compleat ELEFAN software, and in exchange for two diskettes to others.

References

Gayanilo, F.C., Jr., M. Soriano and D. Pauly. 1987. A draft guide to the Compleat ELEFAN. ICLARM Software 2, 65 p.

Pauly, D. 1990. Length-converted catch curves and the seasonal growth of fishes. Fishbyte 8(3): 33-38.

Pauly, D. and P. Sparre. 1991. A note on the development of a new software package, the FAO-ICLARM Stock Assessment Tools (FiSAT). Fishbyte 9(1):47-49.

Sparre, P. 1990. Can we use traditional length-based fish stock assessment when growth is seasonal? Fishbyte 8(3): 29-32.

Membership of the Network of Tropical Fisheries Scientists (NTFS)

Membership of NTFS is personal, free and is open to any graduate who is actively involved in tropical fisheries science, with emphasis on the biological, economic and practical aspects of assessment and management of tropical marine and freshwater fisheries. Colleagues interested predominantly in aquaculture should write to the Director, Aquaculture Program, ICLARM, for information on the Network of Tropical Aquaculture Scientists.

Any current member of NTFS can nominate a colleague for membership provided that the membership criteria are fulfilled. Alternatively, if you are not a member and wish to join, but do not know any other members who could nominate you, send a copy of your curriculum vitae and copies of any papers that you have published in the past three years to the Director, Capture Fisheries Management Program, ICLARM, M.C.P.O. Box 1501, Makati, Metro Manila, Philippines.