

About the Wytham Wood data on clutch-size variation in great tits (*Parus major*)

The figures shown in lecture are from a book chapter by Seger and Stubblefield (1996), where they are Figure 2 and Figure 3, respectively. They are reproduced here with their captions, which give some background and make clear how to interpret them. The original sources are papers by Boyce and Perrins (1987) and Pettifor et al. (1988), which analyze data from a 23-year period (1960 through 1982).

Boyce MS, Perrins CM (1987) Optimizing great tit clutch size in a fluctuating environment. *Ecology* 68, 142-153.

Pettifor RA, Perrins CM, McCleery RH (1988) Individual optimization of clutch size in great tits. *Nature* 336, 160-162.

Seger J, Stubblefield JW (1996) Optimization and adaptation. In: Rose MR, Lauder GV (eds), *Adaptation*, pp. 93-123. Academic Press, San Diego.

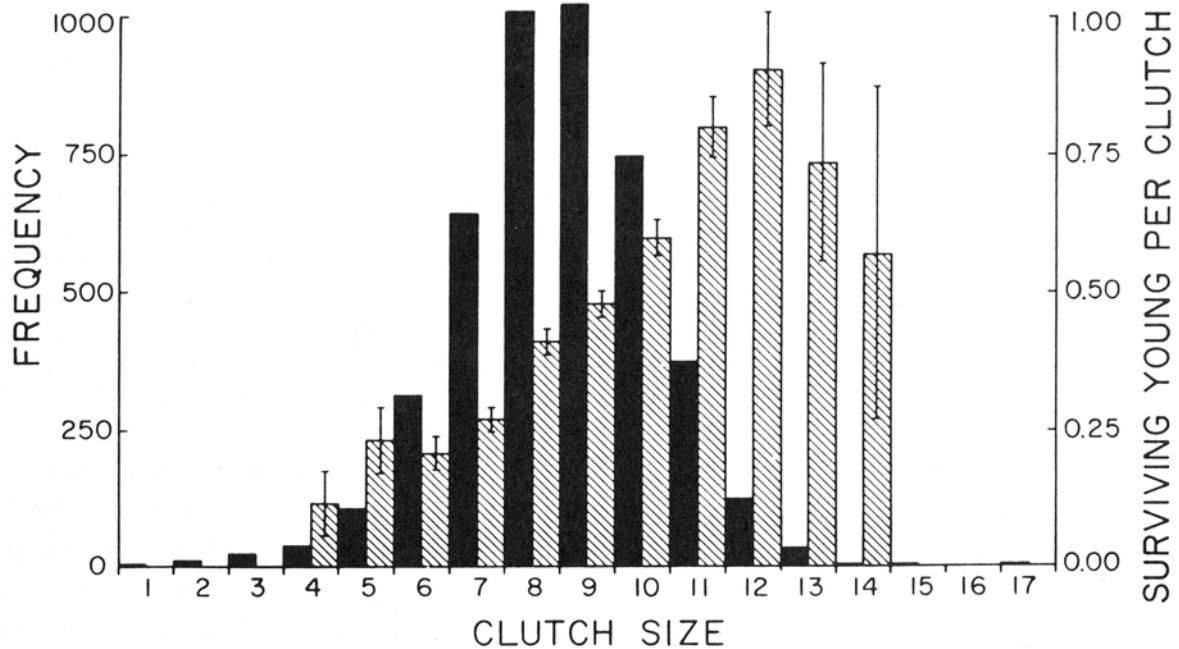


Figure 2 Clutch-size distribution and clutch-size-specific recruitment rates for great tits (*Parus major*) in Wytham Wood, 1960-1982. Solid bars show numbers of clutches of sizes from 1 to 17 eggs ($N=4489$). Hatched bars show mean numbers of young per clutch that survived to at least 1 year of age (± 1 s.e.). From Boyce and Perrins (1987) courtesy of the authors and *Ecology*.

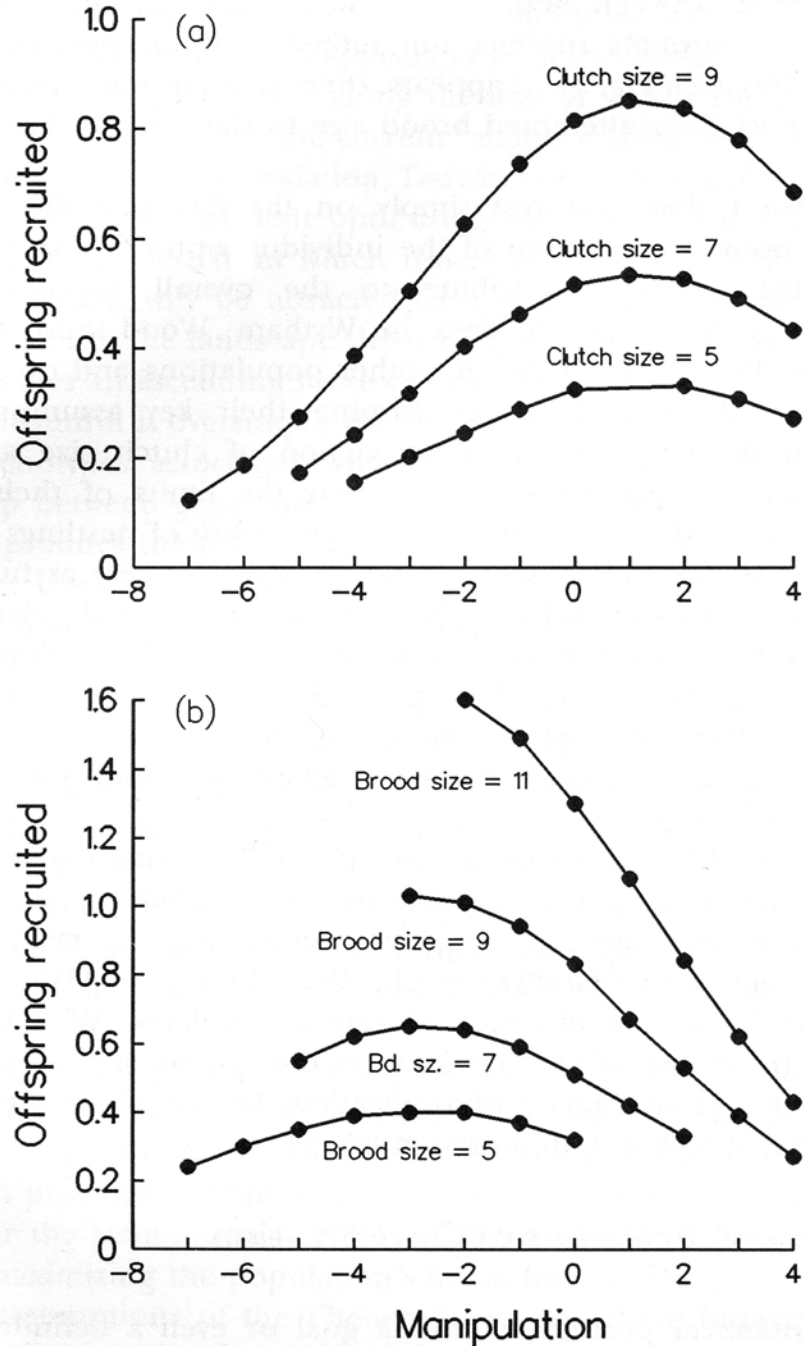


Figure 3 Offspring recruitment as a function of clutch-size manipulations for great tits in Wytham Wood. In both panels, the average number of offspring surviving to 1 year of age is estimated from a log linear model. (a) Numbers recruited are shown for *initial* clutch sizes of 5, 7, and 9 eggs. Thus the upper right-hand point represents clutches of 9 that were augmented by 4 newly hatched chicks, to a total (barring natural mortality) of 13. (b) Here the number recruited is shown for *final brood sizes* of 5, 7, 9, and 11 chicks. Thus the upper point represents a clutch of 13 eggs that was reduced by 2 to a final brood size of 11. Redrawn from Pettifor, Perrins and McCleery (1988) courtesy of the authors and *Nature*.