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# A SIMULATION MODEL OF FLOCK FORMATION IN RING-BILLED GULLS

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ABSTRACT.—Previous studies suggest that flocks of Ring-billed Gulls (*Larus delawarensis*) arise from social facilitation of flight superimposed upon otherwise random departure times. A simulation model, based on these assumptions, is developed employing three variables (1) probability of being facilitated, (2) amount of time facilitated, and (3) time span over which facilitation can occur. Simulations using a range of values for these variables were compared with results of 12 actual data sets. A wide range of *P* of following provided a close fit to the actual data, but the amount of time facilitated rarely exceeded 80% of the time separating successive birds, as expected for gulls that "straggle" out in loose flocks. The best fit to the data was when facilitation acted over the biologically reasonable time of about 1 min. I conclude that the three variables modelled provide a realistic first approximation in this species.

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