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Christiane Gallos (christiane@andrews.edu), **Dorothea Gallos*** (dorotheag@andrews.edu)
and **Shandelle M. Henson** (henson@andrews.edu). *Bifurcations in an animal behavior model
for egg-laying synchrony in a seabird colony*. Preliminary report.

Glaucous-winged gulls (*Larus glaucescens*) breed in a large colony on Protection Island, Washington, and are known to exhibit every-other-day egg-laying synchrony in dense areas of the colony. We present a discrete-time model of egg-laying behavior and use the Jury Conditions to find the stability criteria of the system as a function of the crowding factor. The system loses stability in a two-cycle bifurcation as the crowding factor increases beyond a critical value. We also explore the effects of synchrony in the presence of egg predation and show that synchrony can be advantageous for individuals. (Received September 18, 2017)