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Yu Jin. *Ducking Responsibility: How Laziness Pays Off in Arctic Duck Populations.* Preliminary report.

The producer-scronger behavior is a type of exploitative foraging strategy commonly adopted when food sources are scarce and patchy. The producers in a group will independently search for food while the scroungers exploit these efforts and follow the producers to food sources. Motivated specifically by the producer/scrounger habits of arctic Eider ducks, we create a differential equation model of this behavior. We then use this model to explore long term patterns of population size based on various environmental factors such as food availability, food patch size, and travel time between patches. (Received September 24, 2012)