

1145-70-2553

Alethea Barbaro*, CWRU Dept. of Math, Applied Math & Statistics, 10900 Euclid Ave,
Cleveland, OH 44106-7058. *An interacting particle model for the Icelandic capelin.*

The capelin is a planktivorous fish that lives in the Northern oceans. In the sea around Iceland, the capelin stock undertakes migrations of hundreds of kilometers, bringing biomass from the Arctic down into the subarctic ecosystem. These migrations have been changing recently, as the marine environment changes. In this talk, I will describe the interacting particle model that we use to simulate and predict their yearly spawning migration. I will then describe several mathematical extensions of this work, and discuss how our work on the capelin fits within the broader picture of climate change. (Received September 25, 2018)