LEV IDELS, Malaspina University-College
Time delays in periodic harvesting

To model a fish population in periodic environment we introduce a Getz delay differential equation with a parameter which describes population outbreaks.

This dynamical system then analyzed and the global existence of a solution is established.

We study some harvesting problems that were posed by F. Brauer, *e.g.*, whether periodic variations in the model transform a stable equilibrium to the stable periodic solution, will the stability of equilibrium be preserved and result in stable periodic solution?

We illustrate numerically that the resulting system has a very rich dynamic.