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In this talk I will survey basic predator-prey models, and their formulation leading to three species food chain models where an invasive species is acting as a top predator. There are many such situations in nature, such as the burmese python, which currently functions in the Florida Everglades, as a top predator. I will also talk about the control efforts of such species, and my recent efforts in this direction via the use of differential equation models. In particular, I will introduce the new concept of "ecological damping". (Received July 24, 2017)