Morgan Kaplan

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Senior Thesis

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Objectives of Kaplan Senior Thesis

This thesis aims to summarize the fifteen years of Gopher frog captive rearing data from the UGA program and to analyze how stocking densities and weather patterns affect interannual rearing success and the potential for outbreaks of disease or abnormalities. I will estimate random variation in rearing success related to clutch identity. This thesis will formalize the existing rearing protocol for dissemination and use by other amphibian captive-rearing programs. I aim to model the effects of temperature, humidity, rainfall, and stocking densities, on mass at metamorphosis, the time it takes to metamorphize, and disease and abnormalities. I expect development to be slower in cooler, rainier years because of the effects of temperature and light on algal production in aquaculture tanks. I also expect higher mortality in very hot years associated with reduced dissolved oxygen and stress-related outbreaks of disease or abnormalities. Years with moderate temperatures and humidity will likely produce frogs of the greatest mass. It is anticipated that disease outbreaks to be more numerous in tanks with higher stocking densities, and for masses to be higher in tanks with lower stocking densities.