1125-92-2285 **William Milligan*** (william.milligan@emory.edu), 1201 Summit Pointe Way NE, Atlanta, GA 30329, and **Marjorie Jones**, **Timothy Lucas** and **Courtney Davis**. *Predicting the Effects of Manual Crayfish Removal on California Newt Persistence in Santa Monica Mountain Streams.*

We construct a hybrid, stage-structured mathematical model to study whether trapping of the invasive predatory crayfish *Procambarus clarkii* can prevent local extinctions of the California newt (*Taricha torosa*), a species of special concern native to Santa Monica Mountain streams. Specifically, we numerically and analytically determine under what conditions trapping can drive the crayfish population size to zero. We observe the persistence or the time to extinction for newt populations under corresponding trapping scenarios. No simulations allow for long-term coexistence of newts and crayfish. That is, in every simulation either the crayfish or newt population goes extinct, although several scenarios delay newt extinction by several years in the presence of crayfish. We predict that crayfish extinction and prolonging newt persistence becomes more likely as the quantity of trapping resources, frequency of trapping implementation, and susceptibility of the crayfish population to trapping increases. Predictions made with our model inform restorative efforts and crayfish management. (Received September 20, 2016)