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## **Survival of eastern cottontail rabbits (*Sylvilagus floridanus*) within Missouri river bottomland agroforestry habitats**

Eastern cottontail rabbit (*Sylvilagus floridanus*) herbivory has hindered reforestation efforts at agroforestry sites within the Missouri River floodplain. There is a great need to understand the rabbits' population dynamics and movements within these environments to aid oak reforestation activities. Previous rabbit studies at our study site indicated wide variability in survival of rabbits, which might have influenced the inconsistency we observed in overall herbivory rates. We used radiotelemetry data from January through May 2003 and 2004 and December through March 2004-2005 to investigate survival rates of rabbits within bottomland fields. Monthly survival rates were calculated among the three separate intervals. During 2003, 17 deaths were observed from 24 radio-collared rabbits and in 2004, 44 mortalities of 55 radio-collared rabbits were observed. Finally, in 2005, 20 mortalities were discovered from a total of 41 radio-collared rabbits. Of the 81 observed rabbit mortalities: 33 died from mammalian predation, 10 of avian predation, 1 from hunting and 37 died of unknown causes. These data were related to a variety of factors thought to influence survival. Weather was an important determinant of predation on rabbits; higher predation rates were observed when precipitation occurred previous to discovery of rabbit mortalities. We observed no differences in survival between rabbits' age and gender. Monthly survival rates over the three years show wide variability in amount over time. These data combined with previous works, further support the dominance of mammalian predation on cottontail rabbit populations and of a potential survival/predation latitudinal gradient within the United States.