Keeping Common Species Common: What Does the Future Hold for Western Painted Turtles In The Mission Valley, Montana?

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Understanding population dynamics at the local and metapopulation level is critical for long-term conservation of wildlie. Survival and movement patterns provide valuable information for making management decisions in the face of environmental changes. I used capture-mark-recapture methods to estimate apparent survival rates and movement probabilities of adult and juvenile western painted turtles (*Chrysemys picta bellii*) across space and time in northwestern Montana. I also conducted road mortality surveys to examine the potential impacts of road mortality on the overall population size and structure. Five pond complexes were sampled three times a year from fall 2002 to spring 2005. I captured 1072 individual adults 5050 times and 442 individual juveniles 3078 times. Although both juvenile and adult apparent survival rates were influenced by pond, seasons, and year, I found very different patterns, spatially and seasonally, between age classes. Movement rates were

very low (< 4 %) and were influenced by distance between ponds and depth of originating pond. Road mortality averaged 185 individuals/year. Annual road mortalities ranged widely depending on pond characteristics but in general were higher than the 2-3 percent mortality suggested by other research to likely affect long-term viability in turtle populations. Population growth rate was negatively influenced by the presence of roads and positively influenced by movements. These survival and movement patterns illuminate the importance of maintaining habitat connectivity for long-term population viability. This population will be discussed in relation to the planned Highway 93 reconstruction project and the potential for climate change to alter wetland habitats.