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The Effects of Prescribed Fire on a Population of Eastern Box Turtles (*Terrapene carolina*) in Southwest Michigan

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We report here on previous and ongoing efforts to understand how prescribed fires affect a population of Eastern Box Turtles (*Terrapene Carolina*) in Southwest Michigan. Work with the animals began in 2007, and a larger proportion of animals we have found have burn injuries. Those animals which are burned show varying degrees of resilience to their injuries with some animals succumbing quickly and dying over a short period of time while others with extensive injuries are able to recover over several years. This resilience to fire may be an adaptation in areas that were subject to historical natural fires, but it is unlikely that northern populations can persist over extended periods in which fires are induced frequently by wildlife managers to control vegetation. Researchers have concluded that, given the barrage of insults they face, long-lived species such as turtles are vulnerable to small increases in adult mortality. Consequently we need to find ways to minimize the impacts of fire in those cases where it is deemed necessary. Our work shows that turtles that have not emerged from their over-wintering burrows prior to burning are somewhat protected from damage. We are therefore investigating means to predict time of emergence. Turtles and a set of their burrows are currently being monitored with iButton data loggers to identify thresholds that might trigger when these ectotherms emerge. We report on our findings thus far.