
****ANALYSIS OF SPINY SOFTSHELL TURTLE DISTRIBUTION AND ABUNDANCE IN FOUR RIVERS SYSTEMS IN EASTERN MONTANA (POSTER)**

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The spiny softshell turtle (*Apalone spinifera*) is designated as a species of concern in the state of Montana due to a lack of knowledge regarding their conservation status, loss of habitat connectivity and anthropogenic changes in hydrology. Information on population abundance, and basic population structure for these turtle species is necessary to better understand how climatic changes, human responses to these changes, and other disturbances influence this neglected faunal component of freshwater ecosystems. To examine differences in subpopulations exposed to different environmental factors, spiny softshell turtles were studied in four river systems in south eastern Montana. Over two years a total of 328 spiny softshell turtles (283 females, 41 males and four juveniles) were captured and tagged in the Bighorn, Clarks Fork, Musselshell and Yellowstone Rivers. The proportion of males to females across all four rivers was 86.28% females and 12.5% males. Based on a method adapted from the von Bertalanffy growth model by Plummer and Mills (2015), the length of the female spiny softshell turtles were correlated to known ages from other studies and broken into four age cohorts (juvenile, subadult, reproductive adult, mature adult). Numbers of turtles in each cohort were found to be significantly different between the four rivers $p <$

0.00001. The Musselshell and Yellowstone Rivers had a more even distribution of age classes with the Musselshell having notably less mature adult turtles. Differences in hydrology, such as temperature, and the timing and magnitude of spring pulse flows on these four rivers may explain the observed spiny softshell turtle demographic structures.