**Suitable Spiny Softshell Turtle (Apalone spinifera) Nesting/Basking Habitat Availability in Dammed and Undammed River Systems

Larissa Saarel, Rocky Mountain College, Billings, MT

*Indicates Presenter

**Indicates Student Presentation

Riverine turtles are highly adapted to habitats created by the dynamic nature of free-flowing rivers. Dam-regulated flows may decrease suitable habitat for many species, such as the spiny softshell turtle (*Apalone spinifera*). We examined nesting habitat (sand and gravel bar) availability and the reproductive potential of spiny softshell turtles in the dammed, Bighorn River and undammed, Yellowstone River. As a preliminary test, we used ArcGIS and publicly available NAIP data to classify and analyze suitable spiny softshell turtle habitat on 20-mile stretches of both rivers near their confluence. We determined the population demographic structure from 485 turtles captured during six years of surveys. Our goal was to assess whether nesting habitat availability correlated with the population demographic data. Overall, adult spiny softshell turtles appear healthy and of similar sizes on both rivers, yet there is a concerning lack of recruitment and abundance on the Bighorn River. We found significant differences in several metrics of nesting habitat availability between the Yellowstone and Bighorn rivers. On the Bighorn River, limited nesting habitat correlated with very low numbers of juveniles, recently recruited size classes, and males. Through a better understanding of the effects of dams on spiny softshell turtle population persistence, changes in management can be explored to enhance riverine turtle conservation and other species with similar life-history strategies.