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Effects of Invasive Trees on Native Floodplain Forest Vegetation & Breeding Bird

Jacob Myers

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Nest predation has a major influence on the productivity of bird communities, and nest-, patch- and landscape-level characteristics may play important roles in mediating nest success. However, invasive plants may alter habitat features, predation, and nesting success. We examined whether invasive trees, Russian olive (*Elaeagnus angustifolia*) and eastern red cedar (*Juniperus virginiana*), in Missouri River riparian habitats influenced bird nesting success by monitoring nests during the summer of 2019. At the nest-scale, we tested the impact of nesting in invasive versus native substrates on nesting success. Preliminary nest-scale data from the 2019 field season suggest that birds used Russian olive for nesting more than any other nest substrate, and nesting success was generally lower in Russian olive than in native plants for individual bird species and for all bird species combined. The generally lower nesting success in Russian olive in 2019 is consistent with data from these same sites in 2017, but 2018 nesting success at these sites was generally higher for Russian olive than for other nest substrates. Thus, Russian olive may have a negative impact on bird nesting success in Missouri River riparian forests during some years, but the effect does not appear to be consistent across years.



Jacob Myers

Co-author, REU Student, Swanson Lab
Environmental Sustainability Major

Sierra Rider

Co-author, REU Student, Swanson Lab
Department of Biological Sciences



One of my (Jacob) favorite parts of this project was hiking around the sites. Honestly just being outside every day was pretty awesome, though it got pretty hot some days. Over the course of the summer, I also tripped over many things: logs, vines, holes, trees, etc. I must have stumbled hundreds of times. But it was great to be in the woods searching for birds. I now understand much more about bird behavior than at the beginning of this project.

One of my (Sierra) favorite parts of this project was being outside everyday, and the large array of wildlife we encountered. From birds, to frogs and toads, to mammals, it was truly amazing. A funny moment was when I slipped on a wet log and fell into a patch of thorny vines and dead trees. I got the hair from my bun wrapped around a branch, couldn't move my head and Jake had to save me.

