

In 2015, I began collecting data on the richness, abundance, and productivity of medium and large raptors in the short-grass steppe ecosystem at the USDA-Central Plains Experimental Range (CPER) 8 miles north of Nunn, CO. I have documented raptor productivity each year since (2015-2020; 6 years) as I work toward building a long-term (≥ 10 year) dataset. Collecting annual data on richness, abundance, and productivity of CPER's raptors remains a short-term and long-term goal of my project. I have found that annually there are approximately 10 active raptor nests on and around CPER. On average, about 5 nests produce young. Most of the young produced are Swainson's Hawks (*Buteo swainsoni*), a Tier 1 species of conservation concern in Colorado (CPW 2015). Golden Eagles (*Aquila chrysaetos*), another Tier 1 species of conservation concern (CPW 2015) produced young annually until last year (2020) when the cottonwood tree (*Populus* species) supporting their nest collapsed in a spring storm. I expect them to rebuild, but only time will tell. Great-horned Owls (*Bubo virginianus*) and Ferruginous Hawks (*Buteo regalis*) also nest occasionally but have been impacted by power line electrocution and disturbance, respectively. Monitoring CPER's raptors closely enough to document these sorts of nest losses and mortality is a secondary goal of my project. I regularly report my findings to the Colorado birding community. For example, following the 2016 field season, I reported in the Lark Bunting (Dwyer and Dwyer 2017) that I had not yet collected enough information to identify patterns relative to any particular range management practice. By the end of 2019, that had changed. Although my sample size was still small, my research suggested that raptors nested equally in pastures with and without cattle in them in the nest year, but produced more young from nests in pastures where cattle were present (Dwyer et al. 2019). Presumably, because the greatest numbers of raptors nesting at CPER are Swainson's Hawks, and Swainson's Hawks feed primarily on insects, this species benefits from the diversity and abundance of insects on and around cattle. Though initially surprising, the relationship becomes intuitive when one remembers that grassland raptors evolved together with roaming herds of bison (*Bison bison*). Today, with bison extirpated from most of their range, cattle may fill some of the niche left behind. Information of this type can directly influence conservation and management of raptors in Colorado's grasslands. Providing information such as this can be used to evaluate how human actions affect raptor communities, and is the primary goal of my research. My research is focused on CPER because research generated there can influence agricultural practices throughout the region, including on the Pawnee National Grasslands, eastern Colorado and beyond. Since 1939, CPER has conducted research in rangeland ecology to study the effects of various biotic and abiotic responses to grazing and other management strategies on grassland communities (USDA 2017). Although CPER has investigated the response of numerous species to management strategies over many decades, and despite the reality that the CPER is home to three raptor species listed as Tier-1 species of greatest conservation need (CPW 2015) by Colorado Parks and Wildlife (Ferruginous Hawk, Golden Eagle, and Swainson's Hawk), research on CPER's raptor community did not begin until I initiated the long-term study described here. By conducting my research at CPER, and by publishing it when a long-term dataset has been collected, I will be able to directly influence conservation and management of raptors in Colorado's grasslands. This research is primarily focused on conservation and management.