
USING ADVANCED TECHNOLOGY TO EVALUATE THE EFFECTS OF RESTORATION TREATMENTS ON BIRD USE OF SHRUBBY DRAWS DURING FALL MIGRATION

Kate Stone, MPG Ranch, Florence, Montana 59833

In 2012, the MPG Ranch initiated efforts to restore ground cover and woody structure in several draws degraded by decades of cattle grazing. To evaluate the effects of restoration treatments, we are studying bird use of draws during fall migration, tracking changes in bird use as restoration progresses. To map bird occurrence at the scale of restoration treatments, we developed and tested an iPad application that allowed us to place bird detections directly onto high-resolution, geo-referenced aerial imagery. Along with an exact location, the application allows us to record descriptive information such as species, behavior, and substrate used. In our pilot season, we recorded observations of 1,061 birds. The Vesper Sparrow was the most commonly observed species. We were able to detect spatial and temporal trends in bird use of shrubby draws, with notable clustering in areas of established woody vegetation. We also detected several species using shrubby draws during fall migration that would not typically be found in this habitat type in the breeding season. In the future, we will make quantitative associations between bird detections and the presence of features such as shrub and tree cover or the presence of water. Given what we deemed a successful pilot season, we plan to continue the use of the iPad application during subsequent fall migrations as draw conditions change and habitat conditions presumably improve.