A Habitat Assessment Protocol To Determine Suitability for Southwestern Willow Flycatcher Occupancy in the Northern Rio Grande Watershed

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The goal of this study is to create a diagnostic “suitability” tool to assess potential habitat for southwestern willow flycatcher (SWFL) sites in the San Luis Valley, Colorado. The tool defined key parameters critical to the life stages of SWFL living in the Upper Rio Grande watershed based on insect forage, habitat structure, and occupancy data collected from known occupied vs unoccupied willow sites. Habitat was assessed with transects to collect height, canopy cover, and leaf gap data. Vegetation coverage was groundtruthed and drawn as polygons using Google Earth Pro. Terrestrial insect forage was sampled from available habitat within and surrounding the willow patches and analyzed for insect Order and amount of biomass. Occupancy was confirmed using data collected by field technicians during summertime SWFL surveys in 2021 and previous years. Habitat and forage characteristics of both occupied and unoccupied sites were compared and statistically analyzed, and significant differences of the above parameters defined the “cut score” for each parameter, creating a diagnostic tool by which to measure suitable habitat against poor habitat. Some parameters were found to have more “weight” than others, but in this initial model, scores for each parameter were not weighted until the tool can be field tested to a greater extent. The intent is to use this tool to assess other potential Southwestern Willow Flycatcher areas in the upper Rio Grande watershed; both to identify deficiencies and recommend management actions to improve sub-standard habitat based on parameter analysis with the "diagnostic" scoring tool.

Awards Won:
Fourth Award of $500
Arizona State University: Arizona State University ISEF Scholarship (valued at up to $52,000 each)
University of Arizona: Renewal Tuition Scholarship