GRADUATE STUDENT SPOTLIGHT

Andrew Greenawalt
2019 Douglas & Carol Federighi Waterfowl Graduate Assistant
Hometown: Cuba, NY
Candidate: M.S. Natural Resources

Andrew started in November 2019 and is the first graduate student on the Federighi Graduate Assistantship. His project is focused on harvest dynamics and migration ecology of wood ducks that breed in Wisconsin and the upper Midwest.

UWSP Wood Duck Project
Project Overview:

In the Upper Mississippi River and Great Lakes Region, it's estimated that >60% of the wood ducks harvested originated from within-state boundaries (Bellrose and Holm 1994) though there is uncertainty regarding the effects of harvest in these populations. Further, there is a gap in our understanding about which vital rates or times of the year might be most limiting to population growth. Andrew's project is focused on studying the population dynamics of wood ducks in this region to address these uncertainties. He is using capture-mark-reencounter data to estimate demographic rates, like harvest and survival probabilities, and he is using light-level geolocation technology to study migration. Specifically, Andrew's goals are to (1) improve understanding of the drivers of waterfowl mortality by examining effects of climate, harvest regulations, and density on survival and harvest probability of wood ducks in Wisconsin, and (2) improve understanding of wood duck migration chronology and winter habitat use using geolocators. To meet these goals, Andrew has outlined the following objectives:

1. Use seasonal capture-mark-reencounter data to estimate seasonal demographic rates across multiple spatial scales (individual states [MN, WI, MI], to bird conservation regions, to the entire Upper Mississippi River and Great Lakes Region) by age and sex class.
2. Examine environmental and anthropogenic factors affecting the wood duck mortalities.
3. Use band recovery data, light-level geolocation data, and eBird data to examine fall and spring migration chronology and associated covariates and winter habitat distribution from wood ducks that breed in the Upper Mississippi River and Great Lakes Region.
4. Build an initial conceptual demographic model applicable to wood duck populations in the region based on study findings and vital rates gleaned from the literature to identify and prioritize model information gaps and relevant future research needed in the Upper Mississippi River and Great Lakes Region.