Research on turkey populations in Alabama

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In 2015, the Alabama Cooperative Fish and Wildlife Research Unit at Auburn University and the Alabama Department of Conservation and Natural Resources (ADCNR), will begin the most comprehensive and long-term study of eastern wild turkey (*Meleagris gallopavo silvestris*) populations ever conducted in the state using funds provided by Auburn University, ADCNR, and Federal Aid in Wildlife Restoration. In this project, Alabama Unit staff and graduate students we will be capturing and marking turkeys with radio-transmitters and leg bands to measure movement, survival and production rates in the three most significant landscapes in the state. The landscapes chosen for study are the hardwood forests and fertile valleys around J.D. Martin Skyline WMA, the rugged mixed-pine hardwood forests in an around Oakmulgee WMA, and the intensively managed pine forests surrounding Scotch WMA.

These areas were chosen for study not only because of the differences in habitat, but because of the potential differences in the rates that affect the size, structure, and sustainability their turkey populations. The research results will be used to provide improved forecasts of turkey populations for all areas of the state. With an estimated population of over 400,000 birds and over 50,000 hunters pursuing them, eastern wild turkeys are unquestionably the most important game bird in Alabama. Over the long-term, the number and harvest of turkeys have increased, but there is the perception that turkey populations have declined during the last decade.

Annually, the ADCNR makes recommendations on turkey seasons and bag limits that may affect future populations. When making those recommendations, the agency wants to consider the potential effects of regulations on the size and structure of future turkey populations because their goal is to achieve a satisfactory balance between the number of adult gobblers in the population and the desired level of harvest. Predicting the effects of harvest regulations on turkey populations requires a model that can be used to forecast populations. These types of forecasts, similar to forecasts about hurricane landfall, need to include a measure of our

confidence in them. The best way to improve those forecasts and thereby improve turkey management is through applied research, and monitoring the effects of management on turkey populations. In the future, experimental changes to bag limits and seasons may be used to enhance ADCNR's ability to forecast the effects of regulations on turkey populations.

Working with ADCNR biologists, the Alabama Unit developed a prototype for forecasting the effects of harvest management on turkey populations. In the absence of recent research results, the prototype incorporates a population model based on best guesstimates of survival and production rates for Alabama turkeys, as well as the effects of changes to seasons and bag limits. Developing prototypes such as this one is the first step in identifying critical information needed to make reliable forecasts that could guide management recommendations. Consequently, the information needed to improve forecasts of turkey populations determined the objectives for the research project.   In the future, results from this ambitious research project will be used to update the prototype and will presumably lead to better, more reliable forecasts of turkey populations further improving ADCNR's ability to manage Alabama turkey populations for public benefit.