

ECOLOGY AND POPULATION DYNAMICS OF ELK IN FRAGMENTED FORESTS OF APPALACHIA

A McIntire-Stennis supported project



Forestry and Natural Resources
College of Agriculture, Food and Environment

Elk were common to the eastern U.S. prior to 1800, but hunting and other pressures caused their demise. There is now significant interest and activity in reintroducing elk to many states to provide recreational and economic opportunities and return an important species to the ecosystem. In the absence of large predators like the gray wolf, rapid population growth of elk in states like Kentucky have posed challenges to management of this wide-ranging species, particularly where high population densities occur. Populations must be managed to ensure that recreation and economic opportunities are sustained while minimizing negative impacts to the environment and humans.



McIntire-Stennis supported research at the University of Kentucky Department of Forestry and Natural Resources aims to quantify important aspects of reintroduced elk populations that are important in managing the species in the Appalachian region. Research is also characterizing the ecological impacts of elk including the browsing of tree seedlings that impedes the regeneration of native forests and reclaimed surface mines, spread of invasive species, and human-elk interactions.

About McIntire-Stennis

The McIntire-Stennis program, a unique federal-state partnership, cultivates and delivers forestry and natural resource innovations for a better future. By advancing research and education that increases the understanding of emerging challenges and fosters the development of relevant solutions, the McIntire-Stennis program has ensured healthy resilient forests and communities and an exceptional natural resources workforce since 1962.



COLLABORATION



Researchers have worked in partnership with Kentucky Department of Fish and Wildlife Resources, Morehead State University, University of Tennessee, USDA Animal Parasitic Diseases Laboratory, and the Rocky Mountain Elk Foundation to advance elk reintroductions and population management.

IMPACT

20 years of research continues to inform management of elk in Kentucky and characterize important ecological impacts of this large herbivore on forest communities and reforestation sites.



\$1.5 million
in competitive grant funds for elk research in Kentucky.



22 and 400
graduate students with published science and undergraduate students involved in elk research and education.



1 and 3.5 million
annual economic contribution of elk hunting in Kentucky and the number of acres in Appalachia that this on-going research impacts.