



2017

Comparison of Dog Surveys and Fall Covey Surveys in Estimating Fall Population Trends of Northern Bobwhite

Evan P. Tanner
Oklahoma State University

R. Dwayne Elmore
Oklahoma State University

David K. Dahlgren
Utah State University

Craig A. Davis
Oklahoma State University

Samuel D. Fuhlendorf
Oklahoma State University

Follow this and additional works at: <http://trace.tennessee.edu/nqsp>

 Part of the [Natural Resources and Conservation Commons](#)

Recommended Citation

Tanner, Evan P.; Elmore, R. Dwayne; Dahlgren, David K.; Davis, Craig A.; and Fuhlendorf, Samuel D. (2017) "Comparison of Dog Surveys and Fall Covey Surveys in Estimating Fall Population Trends of Northern Bobwhite," *National Quail Symposium Proceedings*: Vol. 8 , Article 70.

Available at: <http://trace.tennessee.edu/nqsp/vol8/iss1/70>

This Bobwhite Population Estimation is brought to you for free and open access by Trace: Tennessee Research and Creative Exchange. It has been accepted for inclusion in National Quail Symposium Proceedings by an authorized editor of Trace: Tennessee Research and Creative Exchange. For more information, please contact trace@utk.edu.

COMPARISON OF DOG SURVEYS AND FALL COVEY SURVEYS IN ESTIMATING FALL POPULATION TRENDS OF NORTHERN BOBWHITE

Evan P. Tanner¹

Department of Natural Resource Ecology and Management, Oklahoma State University, Stillwater, OK 74078, USA

R. Dwayne Elmore

Department of Natural Resource Ecology and Management, Oklahoma State University, Stillwater, OK 74078, USA

David K. Dahlgren

Jack H. Berryman Institute, Department of Wildland Resources, Utah State University, 5230 Old Main Hill, Logan, Utah 84322, USA

Craig A. Davis

Department of Natural Resource Ecology and Management, Oklahoma State University, Stillwater, OK 74078, USA

Samuel D. Fuhlendorf

Department of Natural Resource Ecology and Management, Oklahoma State University, Stillwater, OK 74078, USA

ABSTRACT

The use of fall covey surveys to monitor population trends for northern bobwhite (*Colinus virginianus*; hereafter bobwhite) have been widely used in bobwhite research. Estimates of relative abundance from this monitoring technique are often important in assessing population responses to management practices or annual variation. However, conducting covey call surveys is labor intensive and typically can only be conducted during a narrow time frame. The use of dogs as a research tool may offer an efficient alternative to monitor bobwhite population trends. While dogs have been used in research for many other gallinaceous species, their application for bobwhite has received minimal research. To compare traditional and novel (dog) methods for both relative population abundance and density estimation, we conducted covey call surveys (50 points) and dog transects (32 km) during the fall (Sep-Oct) season from 2012-2014 at Beaver River WMA, Beaver County, Oklahoma, USA. A total of 306 detections were observed through fall covey count surveys, while only 44 detections were observed through dog transect surveys. Fall covey surveys yielded indices of 1.45, 2.04, and 3.21 detections per point count during 2012, 2013, and 2014, respectively. Dog transects yielded 0.23, 0.34, and 0.67 detections per km during 2012, 2013, and 2014, respectively. A Pearson's correlation coefficient of 0.996 indicated high correlation between indices estimated between both survey methods. However, the low sample size for detections during dog surveys precluded any analysis that would yield bobwhite density estimates. Our results indicate that dog transects can be a method for estimating abundance indices for bobwhite. However, if estimates of bobwhite densities are of interest, then use of dog transect surveys are not recommended as only under high quail densities or with high observer efforts do enough detections accumulate for robust density estimation unless large effort is expended.

Citation: Tanner, E. P., R. D. Elmore, D. K. Dahlgren, C. A. Davis, and S. D. Fuhlendorf. 2017. Comparison of dog surveys and fall covey surveys in estimating fall population trends of northern bobwhite. National Quail Symposium Proceedings 8:261.

Key words: bird dogs, *Colinus virginianus*, covey surveys, population index, quail density, survey techniques

¹E-mail: evan.tanner@okstate.edu

© 2017 [Tanner, Elmore, Dahlgren, Davis and Fuhlendorf] and licensed under CC BY-NC 4.0