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Theron M. Terhune II

Tall Timbers Research Station and Land Conservancy

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EVALUATING TWO TRAP-AND-RELEASE METHODS FOR BOBWHITES

Theron M. Terhune II¹

Tall Timbers Research Station & Land Conservancy, 13093 Henry Beadel Drive, Tallahassee, FL 32312-0918, USA

ABSTRACT

Numerous methods exist for capturing northern bobwhite (*Colinus virginianus*) including various net configurations and baited, wire-funnel traps. The latter represents the most commonly used technique whereby more than 97% of the studies in the current body of literature report using Stoddard's (1931) standard quail trap for capturing bobwhites. Some researchers, however, employed multiple methods of capture for the same study. Regardless of the technique used, birds are either worked up directly in the field or held overnight and released the next day. Each of these approaches has their distinct advantages and limitations, and may vary with respect to their overall impact on bobwhite behavior and survival germane to stress incurred during capture, handling, and/or transport. Despite the inherent difference in capture and handling time, no known studies have evaluated the influence of these two capture methods on bobwhites. Yet, the tenability of the information gained from research is predicated on the notion that our methods do not influence the individuals being studied. During 2014 – 2015, we captured bobwhites ($n = 664$) on Tall Timbers Research Station (TTRS, ~1570 ha) using standard funnel traps during fall (Oct/Nov), winter (January) and spring (Mar/April). All birds were leg-banded and one subset (Cohort 1; $n = 108$) was radio-tagged, worked up in the field and release immediately at the capture site and a second subset (Cohort 2; $n = 212$) was transferred to holding boxes, held overnight and the next morning they were radio-tagged and released nearby the capture site. I evaluated daily survival rate for each of the 4 groups (radio-tagged cohorts, banded-only controls) using Burnham's joint model in program MARK. Preliminary results indicate the daily survival for cohort 2 was moderately better than cohort 1 but similar to control groups. Additional data will be incorporated upon the completion of March 2016 trapping season.

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Key words: *Colinus virginianus*, capture, handling effect, mark-recapture, northern bobwhite, wire trap

¹E-mail theron@ttrs.org

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