

CALIBRATING HARVEST RATES. UNGULATE MANAGEMENT OF HARVESTED WILD BOAR AND RED DEER POPULATION BY USING NON-INVASIVE POPULATION ESTIMATES IN GERMANY

HOHMANN, U.¹, C. EBERT^{1,2}, D. HUCKSCHLAG¹, R.R. MARELL², M. RAHLFS¹, B. SPIELBERGER² AND B. THIELE²

1. Institute for Forest Ecology and Forestry Rhineland-Palatinate, Hauptstrasse 16, 67705 Trippstadt, Germany.
ulf.hohmann@wald-rlp.de
2. Seq-IT GmbH und Co KG, Pfaffplatz 10, 67755 Kaiserslautern, Germany.

In Germany as in many other parts of Europe forest dwelling ungulates are usually regulated by means of hunting. But reliable data on population sizes are lacking in most cases which would be helpful in calibrating hunting success in terms of population regulation. Within this framework non-invasive genetic population estimation approaches represent a promising tool for ungulate management. We developed and tested a non-invasive genetic approach for wild boar (*Sus scrofa*) and red deer (*Cervus elaphus*) population estimation based on faeces collected from free ranging populations in south western Germany. Through genotyping of faecal samples a capture-mark-recapture based modelling of population size has been conducted. In the study area, a state hunting ground of 10.000 ha size, the applied hunting regime intends to reduce wild boar and red deer populations as a measure to diminish forest damages (red deer) and to control diseases (classical swine fever, wild boar). A comparison of the resulting spring population densities based on genotyping faeces showed that harvest was merely able to take approx. 50% of assumed reproductive output for red deer and only approx. 35% of assumed reproductive output for wild boar. Thus the current hunting practice has been denounced as an insignificant regulating tool and reliable population estimates can be used as a calibrating tool to adjust hunting practice.