



The use of video recording in order to collect data for higher tier wildlife risk assessments under field conditions

INTRODUCTION

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Acquisition of data in order to assess essential parameters required for a refined exposure assessment can be challenging when studying wild animals. Fixed-position automated video recording can provide unique opportunities for observations of free-ranging birds and mammals to gain essential biological information.

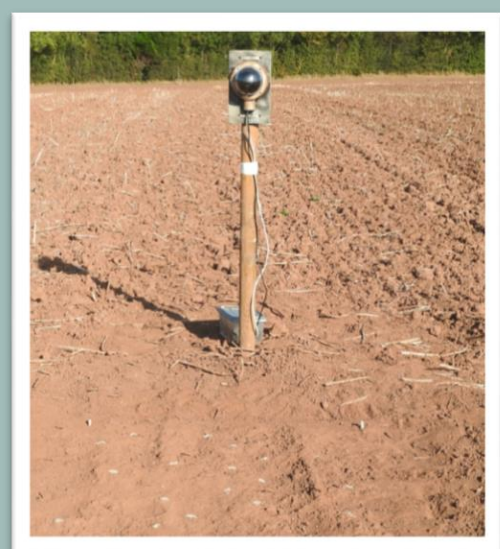
Two different camera systems with their specific advantages and limitations are presented here together with examples of field studies in which these systems have successfully been used either instead of or as an addition to conventional methods.

1) Motion-triggered wildlife cameras



- Relatively low maintenance, which allows observation over long periods (several days)
- Videos are only recorded when there is activity, which reduces the amount of footages to be subsequently decoded
- Medium-quality video footages sufficient for identification of species and their enumeration

2) Continuous-recording high-quality-image camera



- Very high-quality video footage allows identification of very small food items and subtle details of bird behaviour
- Relatively high maintenance, which limits observation periods to a few hours

Studies on reproductive success

- Example: Breeding success of rabbits
- Motion-triggered cameras were placed at the entrances of rabbit warrens alongside the study fields
- Regular observation sessions were performed during the entire period of reproduction (May to September)



- Per observation session the numbers and percentage of juvenile rabbits in front of the warrens could be determined and compared between treatment and control fields

Focal species studies

- Identification of 'focal species' adds realism to a risk assessment in so far as the assessment is based on a real species using a certain crop
- The use of wildlife cameras can support the identification of focal species as many study fields can be observed at the same time and because they facilitate night observations
- Example: Identification of species of birds and mammals that forage in home gardens



Dietary studies

- Example 1: Avoidance study using wildlife cameras



Bait stations were set-up offering seeds with different coatings. The number of visits as well as the amount of food consumed by different bird species could be recorded and compared.

- Example 2 : Study on food selection using high-image-quality cameras



Different food items were offered within the same observation area. Food items consumed by several bird species could be identified when decoding the video recordings.

SUMMARY

The use of video recording has several advantages over other methods e.g. direct observations:

- There is no disturbance by the observer, which might alter the behaviour of the observed birds and mammals
- It allows identification of diurnal, nocturnal, and of shy species that would not be seen using other methods
- Very detailed observations are possible due to the close proximity to the animals
- There is proof of observations in form of photo and/or video which can be watched repeatedly

This quickly advancing technology is providing unique opportunities for studying animals under the most realistic conditions and for collecting novel biological data.



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