PRACTICE ABSTRACT

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Monitoring wildlife using camera traps in Lithuania's Dzukija National Park Living Lab

Mindaugas Bakševičius, Michael Manton and Gediminas Brazaitis

Title of the good practice /activity

Monitoring wildlife using camera traps in Lithuania's Dzukija National Park Living Lab

Main photo

Legend for photo

A grey wolf (*Canis lupus*) and a moose (*Alces alces*) photographed using the automatic wildlife camera traps in Dzukija National Park living Lab.

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"why" section

Wildlife monitoring is the practice of observing and studying animal behavior in their natural habitats and provides valuable insights into population dynamics, and distribution of various species. The aim of wildlife monitoring in the Eco2adapt project is to evaluate how wildlife effect forest resilience. Wildlife caused damages on tree regeneration limits the natural recovery processes, tree species richness and stand structural complexity. Forest regeneration requires specific environmental, especially light, conditions that are often met in forest gaps. Vytautas Magnus University has established a wildlife monitoring network in the Dzukija National Park Living Lab (DNPLL) to track how large and medium size herbivore mammals use different sized forest gap and clearcuts. It is expected the study will cover a gradient of forest landscapes throughout Europe.

"how" section

How do we select an area for monitoring?

Select areas that share similar characteristics: soil type, vegetation, dominant tree species, undergrowth structure or regenerating forest < 1.5 m. Each LL should contain a gradient in forest stand gaps or openings. The number of selected areas may vary based on LL conditions, but at least two camera traps should be placed in each of the following gap classes:

A. Stand without gaps

B. Small gap (<0.1 ha)

C. Gap or clearcut (0.3-0.8 ha)

D. Large gap or clearcut (2.5-6 ha)

Installed camera traps should consist of a single camera for class A and B. In classes C and D, two cameras can be used: one in the center and the other near the edge to ensure that there is no image duplication.

Mount the cameras 3m above the ground at a 75° angle towards the ground with a minimum visibility of 15m. Avoid facing the camera in an east or west direction to prevent sun flare. The camera view should include naturally regenerating or planted seedlings. Confirm no intensive animal trails are within or near the selected monitoring areas. Ensure the camera is not obstructed by leaves, twigs, or branches. Set the camera setting; trigger sensitivity: High, camera mode: Photo, storage recycling: Off, burst mode: 2-3, PIR interval: 5 seconds.

Define the photo capture area by placing 2 stakes on either side of the field of view range at approximately 4.8 and 14.8 m from the position of the camera on the tree. Paint stakes brightly and attach reflective tape to provide easier identification of the capture area. The left stake closest to the camera should display the country ISO code and a unique number. Stake placement should be visible in the camera's field, and the PIR sensor should detect movement in all corners.

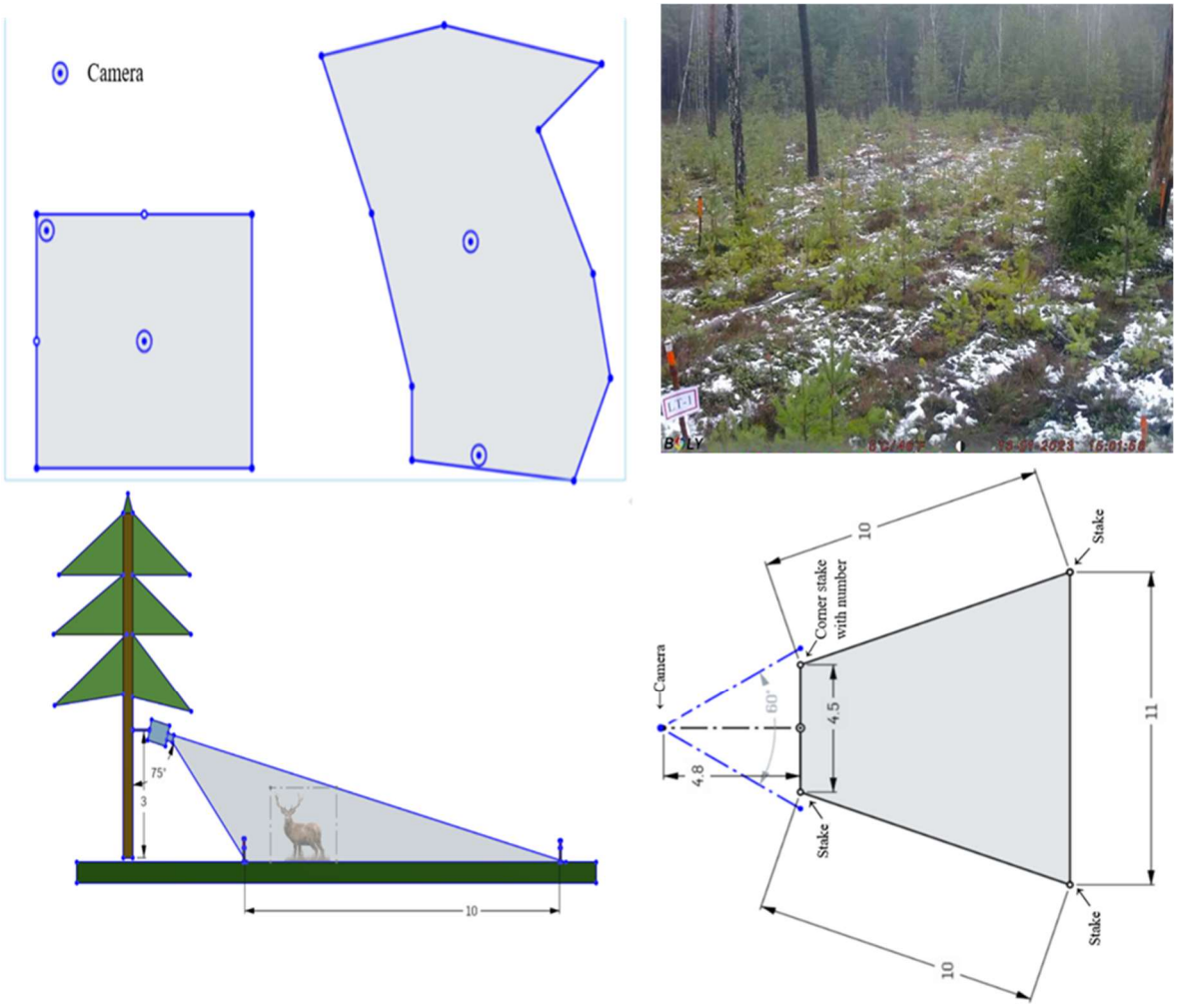
See the additional photo for an overview.

Advantages of the practice/activity

This monitoring protocol offers several key advantages that contribute to the effectiveness in wildlife research. The standardized monitoring areas are selected by each Living Lab to ensure consistency. The incorporation of a comprehensive gradient, consisting of four distinct forest gap classes, enables the assessment of how wildlife affects forest regeneration, recruitment of forest trees and forest resilience. Adhering to the wildlife monitoring protocol

ensuring representative sampling throughout the living lab. Additionally, the protocol includes measures to prevent issues such as excessive blank pictures and quicker battery drainage, ensuring high data quality. With its integration of data and clear visualized instructions, this protocol stands as a comprehensive and adaptable framework for wildlife monitoring. Finally, using camera traps provides more accurate and natural observation methods to record wildlife and forest interactions. This enables the Eco2adapt project to monitor wildlife activity over an extended period.

Additional photo/figure, if any



Additional photo/figure legend, if any

Setting up the camera trap. Positioning of camera in the gap (top left), Camera trap overview dimension plan (Bottom left and right) and view of the field of view for capture (top right.)

NUTS3 location

Alytus County

Main partners in good practise, if any (names of the organizations/ stakeholders groups)

Dzukija National Park

Further information: link to the www pages

https://www.eco2adapt.eu/methods-and-protocols/monitoring-biodiversity-levels-and-species-invasions

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About this practice abstract and eco2adapt

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eco2adapt - Ecosystem-based Adaptation and Changemaking to Shape, Protect and Maintain the Resilience of Tomorrow's Forests, is running from September 2022 to August 2027.

The overall goal of eco2adapt (a multi-actor, participatory project) is to is to to create smart and practical solutions that will help forests thrive for generations to come. With the support of local communities, we're working on new ideas for managing forests to keep them healthy and resilient in the face of challenges such as climate change.

Project website: www.eco2adapt.eu