

LIFE SAFE-CROSSING

ACTION A5. DESCRIPTION OF TARGET ROAD SEGMENTS, IDENTIFICATION OF CROSSING POINTS USED BY ANIMALS AND ANALYSIS OF TRAFFIC VOLUME AND SPEED

ACTION REPORT December 2020

EXECUTIVE SUMMARY



Introduction

The LIFE SAFE-CROSSING (LIFE17NAT/IT/464) project aims at implementing actions to reduce the impact of roads on some priority species in four European countries: Marsican brown bear (*Ursus arctos marsicanus*) and wolf (*Canis lupus*) in Italy, Iberian lynx (*Lynx pardinus*) in Spain, and Brown bear (*Ursus arctos*) in Greece and Romania. This will be done mainly through

- Installation of Animal-Vehicle Collision Prevention Systems on most critical road segments;
- Adaptation of crossing structures to enhance connectivity for the target species;
- Development of activities to increase the attention of drivers about the risk of collisions with the target species.

The main goal of Action A5 was to define the areas where to implement the concrete conservation actions foreseen in Action C1, specifically where to install the Animal vehicle prevention system (AVC PS) the virtual fence.

The action started in March 2019 and lasted until September 2020. This report presents the activities carried out in the different project countries.

Progress

In order to reach the main goal of Action A5 the following activities carried out were:

- Characterization of the selected road segments
- Monitor the wildlife mortality on the selected monitored segments
- Monitor the traffic volume
- Monitor the crossing points used by wildlife

The characterization of the road segment consisted in field surveys and GIS analysis to estimate the permeability of the roads to animal movements.

The monitoring of the wildlife mortality foresaw the survey of the selected road segments to register the animals found dead. The surveys were made 2 times/month, generally in the first hours of the morning. The segments were travelled by car at low speed and all animals found dead were registered in a common database. The main variables registered were:

- Species
- Geographical coordinates
- Shape of the road
- Speed limit
- Habitat type

Moreover, we also registered, in all the road segments, the animals found dead outside the planning monitoring sessions, in order to obtain an accurate and complete overview of the situation.

The analysis of traffic volume was carried out through the installation of a specific device on the selected road segments to measure:

- Number and types of vehicles per day
- The speed of vehicles
- Distribution of numbers vehicles in the 24 hours.

The monitoring sessions were carried out on a seasonal basis, each monitoring session lasted at least 5 to 10 days to cover working days as well as the weekend.

Traffic volume data are essential to understand driving behavior and to better evaluate the feasibility of the installation of the prevention devices.

In the frame of this action we monitored the crossing points used by the animals through camera trapping and recording the tracks of the different species. This activity was mainly concentrated in the AVC clusters that resulted from A3 action, and in other specific points selected on the basis of field inspections where we detected the signs of animal passages. This activity allowed us to monitor the different species crossing the roads, the frequency of their passages, as well as the time of the day. Camera traps were opportunistically moved along the monitored road segments to monitor the use of the different passages. Camera trapping data were stored in a specific database.

Overall, we monitored 504,19 Km of roads, round 100 km more than was originally foreseen in the project proposal.

The length of different segment in the different project areas were the following:

- Greece: 37 km
- Italy: 185,3 km Majella National Park; 49,2 km Abruzzo Lazio e Molise National Park; 21,29 km Terni Province
- Romania: 120 km
- Spain: 91,4 km

From March 2019 to September 2020, 612 monitoring session were carried out to detect road wildlife mortality, while the total sessions to measure traffic volume were 46.

The monitoring of road crossing points was carried out not only through camera trapping but also through intensive field surveys especially in Romania and in Greece.

Evaluation

The action was implemented successfully and no major problems were encountered.

The results obtained set the basis to define the sites of installation of the prevention devices foreseen in Action C1. Specific maps showing the selected sites for the installation of the AVC PS were produced for each project area.

The selection process started on the basis results of Action A3 (identification of AVC clusters and crossing points clusters), and then was defined on the basis of the results obtained during the action implementation. The already available data came out from previous LIFE projects were also used to better implement the different activities.

A standard approach was used to carry out the different activities in order to allow the comparisons between the different local conditions.

The main problem encountered were mainly related to the interruption of the monitoring activities from March to May 2020 due to Covid 19 restrictions, but it didn't affect in a significant way the action implementation. As was underlined for Action A4 the risk of theft of the camera traps was another problem, but it was overcome through specific field surveys to detect animal tracks, where the camera could not be installed.

In conclusion, it is important to underline that the results obtained in the frame of this action will be fundamental to evaluate the effectiveness of the concrete interventions foreseen in Action C1.

The details of the activities carried out in the different project areas are presented separately in order to highlight what was done by the different project beneficiaries.