Effectiveness of amphibian mitigation measures to reduce roadkills in low traffic roads

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Energy transport networks

Railway networks

Irrigation channels

Roads
Introduction

Hypotheses

Methods

Results

Discussion

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**Barrier effect / habitat fragmentation**

**Pollution (habitat degradation)**

**Habitat change**

**Habitat destruction**

**Refuge**

**Roadkill**

**Disturbance (repulse)**

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Adapted from Trocmé et al, 2002
Why amphibians?

Most threatened vertebrate group on Earth

2nd most roadkilled group in LIFE LINES study area
Specific amphibian measures

Under road Tunnels

ACO tunnels – safe cross from one side of the road to another

Barriers

New designed concrete and canvas guiding barriers to direct the animals towards the tunnels
Objective

Examine the effectiveness of amphibian mitigation measures in low traffic roads

Hypothesis

Amphibian mitigation measures (guiding barriers and specific under road tunnels) drastically reduce amphibian roadkill
Methodology

Night surveys by car at constant speed (30km/h)

BACI

Before measure implementation
- 2015
- 2016
- 2017

After measure implementation
- 2018
- 2019
- **2020**

Record both dead and live amphibians
Methodology

Control areas with same landscape characteristics
**Results**

**Figure 1.** Amphibian mortality before and after measure implementation on road EM 535

**Figure 2.** Amphibian mortality before and after measure implementation on road EM 535 (control areas)
Results

Figure 3. Amphibian mortality before and after measure implementation on road EM 529

Figure 4. Amphibian mortality before and after measure implementation on road EM 529 (control areas)
Discussion

Low traffic roads can account for elevated amphibian mortality

Installed mitigation measures drastically reduced amphibian mortality in low traffic roads

Simple measures (e.g. canvas barriers) can be enough to strongly decrease amphibian mortality.
Thank you for your attention!!