

PROJECT SAFE ROADS FOR BEAR (FUNDED BY PATAGONIA&TIDES)

IMPLEMENTED

1. Presentation

Vehicular traffic on the roads that cross the habitat of the Marsican brown bear (*Ursus arctos marsicanus*) represents a continuous danger to this species and it was a cause of death of several bears, including a young female killed on SS 479 between Villalago and Scanno on 23rd October 2014, a young male on highway 24 near Tornimparte toll-booth and another female near Pescasseroli in May 2011, whose orphaned cubs fortunately survived.

2. Purpose.

2.1 Main purpose.

Reducing the causes of death of the Marsican brown bear related to anthropic causes.

2.2 Specific purpose.

Reducing wildlife-vehicle collisions regarding the Marsican brown bear in particular in its *core area* through mitigation measures of wildlife-vehicle collision.

Priority area: Road SR 83 “Marsicana” (ex SS 83) in the stretch between Gioia dei Marsi – Gioia Vecchio (from km 22 to km 30), in the municipal territory of Gioia dei Marsi (AQ).

3. Description.

According to some assessments, road accidents involving wildlife are about 2% of the total amount of road accidents, in 2-5% of these cases injured people are reported, in 0,03-0,05% it occurs at least the death of one of the passengers (Dumant *et al.*, 2000). On the one hand, it is necessary that drivers get aware of the risk of wildlife-vehicle collision by the installation of road signs, sound stripes or humps and speed detectors in the most dangerous points, on the other hand, we need to alert animals through the installations of reflective studs on the road sides that deter them from crossing the roads while a car is coming up.

3.1 Installation of specific devices and signals, road sides maintenance.

3.1.1 Reflective studs.

Studs are needed to deter wildlife from crossing the roads. They are prism-shaped and triangular-basis devices that are installed on guard rails or on proper supports at a varying height according to the target species (about 70 cm for bears).

Road signs.

Road signs are aimed at warning drivers and making them slow down. On the road stretch at issue we want to install four panels with reflective film and LED blinkers, fed by a photovoltaic panel, one each 4 km (2 panels each side road). On the yellow panel there will be the drawing of a bear with an Italian-English writing “speeding kills bears”.

3.1.2 Hold-up sound stripes.

Hold-up sound stripes led drivers to slow down in the most frequented places by wildlife. In the road stretch at issue, sound stripes should be installed in four points with four stripes each, one each 4 km (two each side). For each point it would be installed a triangular danger signal (signaling sound stripes).

3.1.3 Road side maintenance.

Clearing the road sides increases the visibility and deter wildlife from crossing the road, especially medium and large animals, visible also from a distance by a driver. This measure is fundamental in those points (bends, humps) where the road conformation reduces visibility.

3.2 Police preventive and repressive measures.

We believe that, along with mitigation measures, Police should apply all those preventive and repressive measures, according to the rules of the road, to make speed limits (50 km/h) to be respected at least on the stretch at issue.

3.3 Bikers and drivers' awareness.

Very important would be informing and rising the awareness of some categories of people: commuters, bus drivers (ARPA) and bikers.

4. Road mortality.

Road mortality means the study of wildlife mortality caused by collision with vehicles. The majority of collisions occurs at night, with peaks at dusk and dawn and between May and September. That happens not only for wildlife larger movements during the summer time, but also for the increase of the vehicular traffic in areas frequented by wildlife such as National Parks. There is a high risk of collision for the Marsican brown bear in the Abruzzo NP as two events in 2011 and 2012 testify. On May 3, 2011, in locality Valle Chiara, an adult female was found dead on the road SR 83, few kilometers from Pescasseroli (AQ), hit while crossing the road with her three cubs, luckily survived. On October 12, 2012, a one-year-old cub was hit by a car near (AQ) but luckily it was not seriously hurt.

5. Target species.

Besides the Marsican brown bear, large mammals such as wolves, red deer, roe deer and wild boars may benefit from the mitigation measures.

The project is scheduled as it follows:

Schedule.

<u><i>March /December 2012</i></u>	<ul style="list-style-type: none"> - Check on signposting on the road stretch at issue; - Check on the environmental characteristics; - To contact PNALM (Abruzzo National Park), Province of L'Aquila, Local Police, mayors of the involved municipality to sign an agreement; - To contact bikers associations and ARPA (Abruzzo public transport Agency).
<u><i>January/February 2012</i></u>	<ul style="list-style-type: none"> - To consult relative studies and publications and contact eventual specialists; - Check on the need material/km; - Quotes for sign posts to be installed.
<u><i>April/May/June 2013</i></u>	<ul style="list-style-type: none"> - Material purchase; - Works realizations; - Public presentation of the project and road stretch opening.

Overall cost

8,000 USD