

LET'S TAKE ACTION FOR THE BEAR

PURPOSE

This project consists of a set of conservation actions to enhance the habitat of the Marsican brown bear and promote its spill over from the core areas of the Abruzzo, Lazio and Molise National Park to neighbouring suitable lands, with benefits for other protected species.

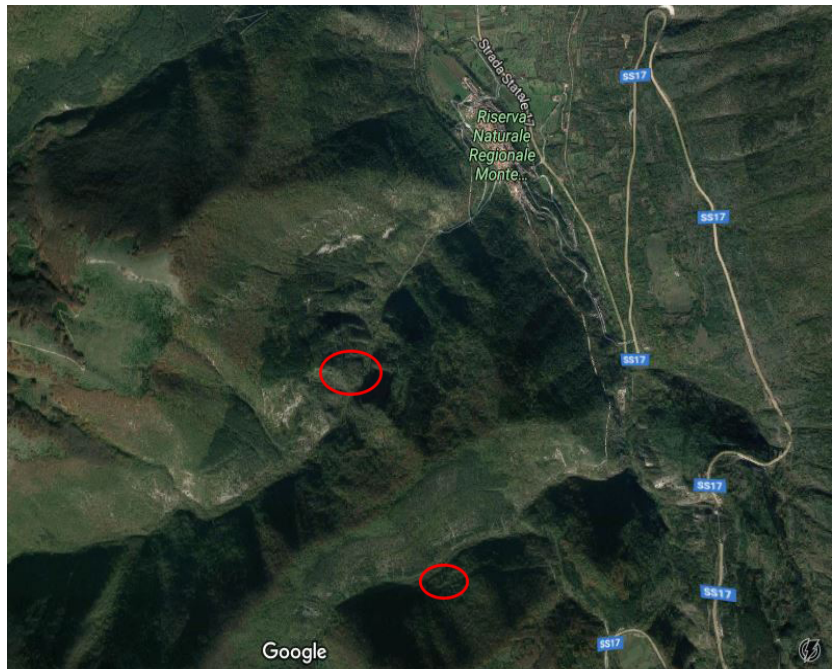
1. Actions

1.1 Pruning fruit trees in abandoned orchards

Pruning 150 fruit trees and shrubs in abandoned orchards in the ALMNP-Monte Genzana Nature Reserve (MGNR) and MNP wildlife corridor leads to a larger fruit production. This is an effective method to steer the movements of the bears and other species, and distract them from places where they could cause conflicts with rural activities.



A SLO member is pruning an apple tree in the Monte Genzana Nature Reserve.



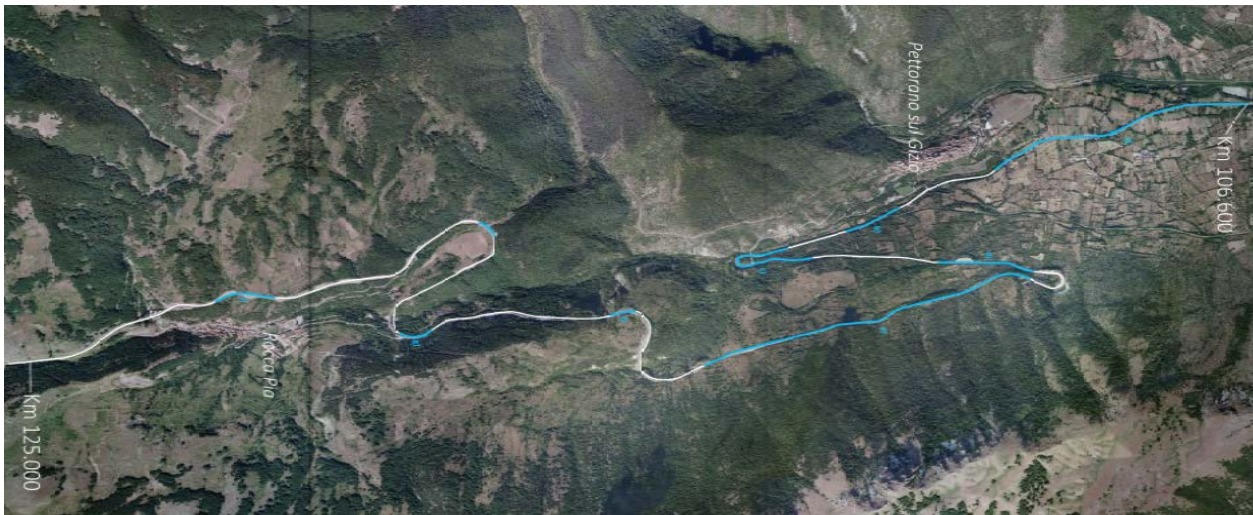
Map of the two areas (in red) in Monte Genzana Nature Reserve dedicated to Action 1.1.

1.2 Setting up wildlife warning reflectors to enhance bio-permeability of SS 17

This action aims to minimize the risk of road kills along 11.2 kilometres of State Road 17 in the municipalities of Pettorano sul Gizio and Rocca Pia by setting up 672 optical and acoustic wildlife warning reflectors on road posts - one every 30 metres - in order to reduce vehicle-wildlife collisions in the ALMNP-MGNER-MNP corridor. This road kills many wild animals, in particular wild boar and red deer, and on average two wolves every year. In 2014 a female bear survived a collision with a car, while in 2016 a 3-year-old male was killed just outside of the intervention area. Ultrasound reflex reflectors are a soft road ecology measure to prevent the loss of biodiversity due to the impact of roads crossing wildlife corridors, and reduce the habitat fragmentation caused by these infrastructures. Their deterring function is ensured by the combination of ultrasound and reflex reflectors, scaring animals at the passage of cars and pushing them back to the wild.



Tasso investito sulla SS 17.



In blue the stretches of State Road 17 where to implement Action 1.2.

1.3 Removing old reforestation and agricultural fences

Large parts of the wildlife corridor between the ALMNP and the SVRP, such as the territory between Villalago and Bisegna, formerly used by livestock-owners and for reforestation projects, are currently abandoned, but without removing the barbed wire and fences, which in some places hamper the free movements of wildlife. Taking out these fences will not only solve a habitat fragmentation issue in areas of high ecological relevance for the bear and other wildlife species, but also improve the natural scenery.



One of the several old fences abandoned on the mountain to be removed by Action 1.3.



Map of the area (in red) where to implement Action 1.3 in Villalago and Bisegna territory.

1.4 Restoring three paths to minimize human disturbance to bears from off-path hikers

The Mainarde mountain range is one of the wildest parts of the ALMNP. It is situated at the edge of this protected area either under a geographic or management perspective. Paths M2, M7 and the Alpines' path to the Marrone mountain - where the bear called "Stefano" was killed in 2013 by poachers - are reported on maps, but are not clearly signalled on the ground due to the lack of regular maintenance, which favours the washing away of signs and marks by weather inclemency and the comeback of vegetation. Often hikers, especially those who are not familiar with the area, get lost and walk off path, which is prohibited by the Park Law not to disturb wildlife. This action aims to restore these three original paths, close their deviations and consequently minimize disturbance to bears in areas where they forage, winter and breed cubs. Improving hikers' accessibility to the area through identifiable paths is also a strategy to strengthen the control of the territory and prevent illegal actions.



Slopes of Monte Marrone, where to restore the paths according to Action 1.4.



Map of Monte Marrone area and its paths, where to implement Action 1.4.

2. Ecological background

Habitat fragmentation is a worldwide threat for the loss of biodiversity. Considering the great impact of infrastructures on the bear home range and distribution, mitigation of habitat fragmentation and recovery of wildlife corridors become a crucial conservation measure to prevent the extinction of the bear population in the Central Apennines, fostering its expansion outside the current core area, reclaiming suitable vital grounds.

3. Social background

Local communities in the Central Apennines are mostly unaware of the great importance of nature conservation. Mountains have been for centuries their economic and social barrier. With the ending of transhumance and urbanization of the society, migrating from rural areas into the nearest cities or abroad, the abandonment of agriculture augmented the residents' perception of living in depressed areas where the surrounding nature, stunning but unproductive from an industrial economical perspective, was considered just as the main obstacle to "development". The never-ending call for high-impact infrastructures and facilities proves the scarce appeal that the environment protection exerts on some parts of the local communities. In this context, National Parks are mostly seen as limitations and wildlife as competitor of the last rural activities. Local people both identify in them the conflict between human and non-human (nature), public and private interest. Changing this deep-rooted conflictual approach is the most difficult challenge to win.

4. Strategies

Aware of this social background, we believe that promoting nature and wildlife-based economy is a winning strategy to support the local budding businesses investing on it, and disarm scepticism about the idea of environmental protection, which is widespread in all the areas of intervention. Another strategy is to involve as much young local people as possible in order to work on the new generations, which may drive a change in their families. To beat the "shyness" of local young, the project aims to involve young volunteers from other parts of Italy or abroad, in order to include also local peers. This strategy proved effective in the communities of Pettorano sul Gizio and Anversa degli Abruzzi, where Salviamo l'Orso has set Erasmus programmes with English students. The spill over effect of these initiatives is undeniable, but must be regularly fuelled to create a real consensus around nature conservation.

Most of all, working cheek by jowl with the local people for the enhancement of a common natural and cultural heritage (for instance a mountain, the bear, and the wolf) proved to be the best way to convince them of its value and the need for protection. The collaboration with the MGNR and its local staff is a way to consolidate the Bear Smart Community work started in 2015. The initiative to remove 4 km of barbed wire has originated from some local people, which consider it an obstruction and potential entrapment to wildlife as well as to their domestic animals.



Italian and English Salviamo il'Orso's volunteers are removing spontaneously the barbed wire during one of the usual monitoring activities.

The educational and communication strategy to learn-by-doing will be supported by public presentations of the actions in the different areas to make the local community feel part of it and not the victim of occupying forces.

About the Mainarde area, the charming story of the French painter Charles Moulin, who lived from 1919 to 1960 in Castelnuovo al Volturno, the most of the time in a cottage that he built in the Mount Marrone to live in harmony with nature, undoubtedly has a key educational appeal either on local people or visitors.

Volunteers and community of interests, such as outdoor enthusiasts and students, will be involved and motivated to take part in the field-actions by a presentation of the project in every area of intervention, online and by training courses held by professionals from Salviamo l'Orso and the Nature Reserve (botanists and agronomists about pruning, zoologists about the importance of wildlife corridors and road kill prevention).

4.1 Significance for outdoor enthusiasts

All project actions are set open air, in or very close to – as in the case of the road ecology measure - beautiful natural environments. Usually outdoor enthusiasts have a consumer approach to nature focusing more about the challenge to climb a cliff than understanding the natural balance to respect.

Oftentimes they see nature conservation more as a restriction to their full enjoyment than as a need for preserving the natural environment that surrounds them, including wildlife species.

The project actions intend to fill this gap by combining passion for outdoor activities to conservation actions, which need open air work and physical effort to be carried out.

So, the challenge to win is not only reaching the mountain area where the volunteer work is set, but also achieve the environmental goal.

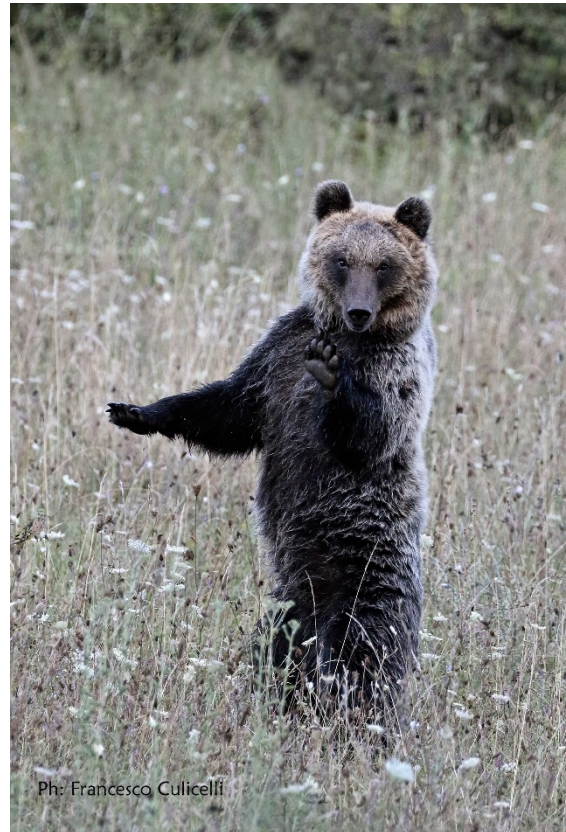
What outdoor enthusiasts can do for themselves may have a very positive impact on the environment also.

Involving them in these conservation measures is the best way to raise their awareness on how to enjoy outdoor activities, and reduce their impact or even help the preservation of habitat and wildlife at the same time.

That's the meaning of Let's take action for the bear.

4.2 Significance for local stakeholders

Without direct involvement of local people, it would be impossible even to identify the intervention areas. Pruning fruit trees in abandoned orchards outside the small towns of Pettorano sul Gizio and Rocca Pia is an action that the MGNR, whose staff is mainly made of local people, has planned to implement, in partnership with SalviAMO l'Orso, as a best practice of coexistence with the bear, increasing food sources in the mountain and reducing bear frequentation of urban centres for food and consequent insurgence of conflicts with rural activities. Lack of volunteers was the main reason why pruning has not been carried out on a regular basis in the Reserve. In 2016, thanks to the cooperation with SalviAMO l'Orso, 20 fruit trees were pruned. Some local people suggest extending this start up intervention also in other areas. With EOCA funding it will be possible to host a large number of volunteers and prune 150 trees in 4 days, relying also on the help of local people. Food and accommodation will be supplied by local businesses. This strategy aims at making local stakeholders (farmers, businesses, citizens) more aware that wildlife is a resource and an opportunity for development, instead of a problem. This action is complementary with the best practices for man-bear coexistence, which have been implemented since 2015, thanks to the "Bear Smart Community Genzana" project.



A Marsican brown bear is standing to better look at the surroundings.

Action 2 focuses on the road kill issue, which represents a danger both for non-resident and resident drivers, with high costs in terms of loss of biodiversity and damage to vehicle and people. Volunteers will carry out this action with the support of the local Nature Reserve. Public meetings will be held to publicise this initiative and make the citizens aware of the road ecology issue, which is apparently still underestimated if we consider the number of collisions involving local people. The Nature Reserve and SalviAMO l'Orso will organise a training course to train ANAS staff on how to maintain the acoustic wildlife warning reflectors and prevent their destruction, along with the white road posts, during snow ploughing operations.

Action 3 comes from a bottom-up request from people from Scanno and Villalago to remove at least 4 km of barbed wire around some pine groves reforested in 1980s and lately abandoned. The volunteers will be based at mountain cottages, run by a local enterprise, and reach the working places on foot. This action enhances the mountain ecosystem by removing hampers for wildlife movements and restore the landscape for

residents and tourists' fruition. Living in a cottage for 5 days would be an unforgettable deep-in-nature-experience for the volunteers, but also for the citizens involved.

Action 4 is focused on Mount Marrone, and wants to involve local people in nature conservation through the development of an eco-friendly tourism, which can help preserving the environments of the Mainarde mountains. The small community of Castelnuovo al Volturno is called to play a leading role in this new approach, thanks to some businesses, which are investing on nature protection and promotion. Senza il coinvolgimento diretto delle persone che vivono il territorio sarebbe stato impossibile individuare le aree di intervento.

5. Self-sustainability of the project

The project actions are all self-sustainable for the following reasons:

Action 1 – Salviamo l'Orso has already pruned around 50 trees in the SVRP in two years and 20 trees in the MGNR in 2016. The association believes on the necessity to increase food sources for the bear in mountain areas outside of towns to minimize conflicts with local communities, but the number of trees pruned every year is quite low due to lack of funding to accommodate volunteers and to keep working longer than one day. The EOCA funding will enable volunteers to operate for four days in a row and prune 150 trees. Once freed of obstructive vegetation and dry branches, pruning fruit trees after funding has finished will be an easier task to be performed by



A Marsican brown bear is seeking food.

Salviamo l'Orso, the Nature Reserve volunteers and local people every year in the period March-April and October-November, respectively before blossom and the first frost.

Action 2 – Check-up of the straight stretches of State Road 17 will be carried out on a regular basis, mostly in autumn, when wildlife movements become more intense in view of the winter, and in spring, after the snow. Replacing broken or missing optical and acoustic wildlife warning reflectors will be provided by the MGNR staff and Salviamo l'Orso volunteers soon after the check-ups. After a start-up funding by EOCA, the Nature Reserve and Salviamo l'Orso will dedicate part of their annual budget to purchase optical and acoustic wildlife warning reflectors for maintenance and replacement of the broken ones.

Action 3 – Removal of barbed wire will be extended to other areas after the EOCA funding has finished.

Action 4 – After the “hardware” intervention funded by EOCA, regular “soft” maintenance of the paths will be carried out by Salviamo l'Orso volunteers and environmental guides operating in the area of Mainarde mountains.

6. Three measurable, time-orientated outcomes for the project

Objective 1 – Increase food sources for bear in mountain areas

In the period October-November 2017 or March-April 2018 or October-November 2018, depending on the availability of funding, Salviamo l'Orso and the MGNR will prune 150 trees in already-identified mountain areas. The project can be measured by taking photos and marking a GPS waypoint of every single tree. Pruning activities will involve 25 volunteers, the staff of the Nature Reserve and at least 5 local people. The effectiveness of this action, in terms of increasing fruit production and consequent frequentation by individuals of Marsican brown bear, will be monitored in autumn 2019 and 2020 by the Nature Reserve staff and Salviamo l'Orso volunteers by pictures of trees bearing fruits, observations from a distance of wildlife feeding on fruits, search for bear signs of presence (scat, tuft of hairs, scratches on tree trunks) and by trail cameras. In the years after the funding has finished, Salviamo l'Orso will carry on regular pruning on those trees and possible extend this intervention on nearby areas. Collection of signs of presence in the intervention area can be measured in minimum three signs of presence in fruit time 2019 and 2020 each.

Objective 2 – Reduction of road kills along State Road 17

In the spring-summer 2018, before red deer rut and pre-winter bear fattening period, 672 optical and acoustic wildlife warning reflectors will be set up on white roadside posts at a distance of 30 m each other for 11.2 km of State Road 17 in the following stretches:

- a) from Km 106.600 to Km 108.400
- b) from Km 109.100 to Km 109.500
- c) from Km 109.900 to Km 111.000
- d) from Km 112.000 to Km 112.800
- e) from Km 113.400 to Km 116.200
- f) from Km 117.400 to Km 117.600
- g) from Km 119.100 to Km 119.400
- h) from Km 120.800 to Km 121.000
- i) from Km 122.900 to Km 123.400

Car beams activate reflectors and sound emission, which is audible in a range of 50-100 m for about 1.5 seconds, deterring wildlife from possible crossing of the roadway when approaching the vehicle. This combined sound-reflector approach is the first to increase safety against animal movements without the need for artificial barriers. The effectiveness of this action is measurable with a 50% reduction of collisions in the project area in comparison with the 2011-2016's data provided by MGNR road ecologists.

Objective 3 – Removal of abandoned barbed wire and fences from the natural environment

Remove minimum 4 km of abandoned barbed wires and fences, increasing wildlife permeability in the area of Villalago-Bisegna to be monitored by trail camera *ex ante* (2017) and *ex post* the intervention (2018).

7. Budget

30,000 € funded by EOCA.

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