



LIFE20 NAT/NL/001107

Project title:

Enhancing the viability of Brown bears in Central Italy and Greece through the development of coexistence corridors

Beneficiary:

ARCTUROS - Civil Society for the Protection and Management of Wildlife & the Natural Environment

REPORT

A3 - Assessment and identification of specific factors affecting bear conservation in the area of Amyntaio

1. Identification of human-bear conflicts

Due to the study areas' landscape morphology, i.e., large agricultural fields surrounded by mountains, there is strong presence of orchards and consequently, there are constant negative interactions/conflicts between bears and farmers. Similarly, there is a strong presence of bears at the vicinity or in villages, due to the presence of fruit trees (cherries, plums etc.), especially during the summer season. Although there is a strong livestock presence in the area, attacks on animals can be considered as rare. Finally, apiaries are very well protected, hence, except in one occasion, bear raids on apiaries are rare as well.

2. Set out locations of the water wells

There are two major water wells in the area with significant difference amongst them in terms of preventative measures, e.g., fence. Water well 1, located at the village of Sklithro (Lat.: 40.6286228 Lon.: 21.5092765), is very well fenced and the entrance of wildlife is impossible (Figure 1). However, water well 2, which is located at the outskirts of Asproyia village (Lat.: 40.6214344 Lon.: 21.4730102) is not appropriately fenced (Figures 3-4) and the chance for wildlife to enter is significantly high, as evidenced several months ago when a large male bear entered the well and unfortunately drowned. Furthermore, after the initial assessments of this water well, several tracks of other species (i.e., roe deer, wild boar and mesopredators) were identified within the perimeter of the site. Additionally, the current fence has been destroyed (dropped) in many places, clearly from a bear. In addition, because of a large concrete wall surrounding the well (see Figure 4), it is not possible for any species to manage to get out of the "pool", after accidentally entering it. It is recommended to change the fence as soon as possible with an identical one that has been placed on water well 1. A camera was placed on site to thoroughly investigate and assess the bears' (and not only) presence within the water well.



Figure 1. Water well 1. The type of the fence that has been placed on site is appropriate to deter wildlife from entering the premise.

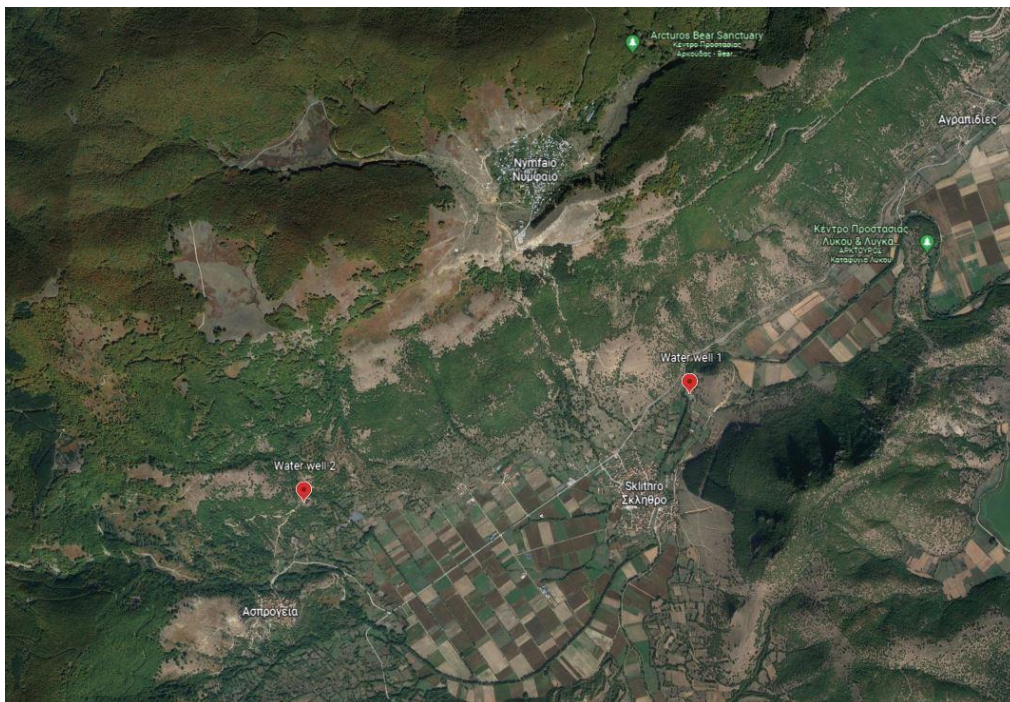


Figure 2. Position of the two water wells. Water well 1 (Village of Skithro). Water well 2 (Village of Asproyia).



Figure 3. Water well 2 located near to Asproyia village.



Figure 4. The north side of Water well 2.

3. Set out unused fruit orchards locations or natural fruit resources

There are several abandoned fruit orchards in the area (Figure 5), however the most visited by bears are Orchard 4, located near to the Village of Pedino (Lat.: 40.676807 Lon.: 21.586493) and Orchard 6 which is located near to the Village of Limnohori (Lat.: 40.612352 Lon.: 21.538338). Both orchards seem to be abandoned. Orchard 4 consists of cherry, nut and apricot trees. There is strong damage to most of the fruit trees on this orchard, exclusively from bear raids (Figures 6-7). In Orchard 6 (Figure 8) there is an electric fence that is not functioning. During the preliminary field investigation, we recorded strong bear presence at both sites therefore a camera network has been placed.

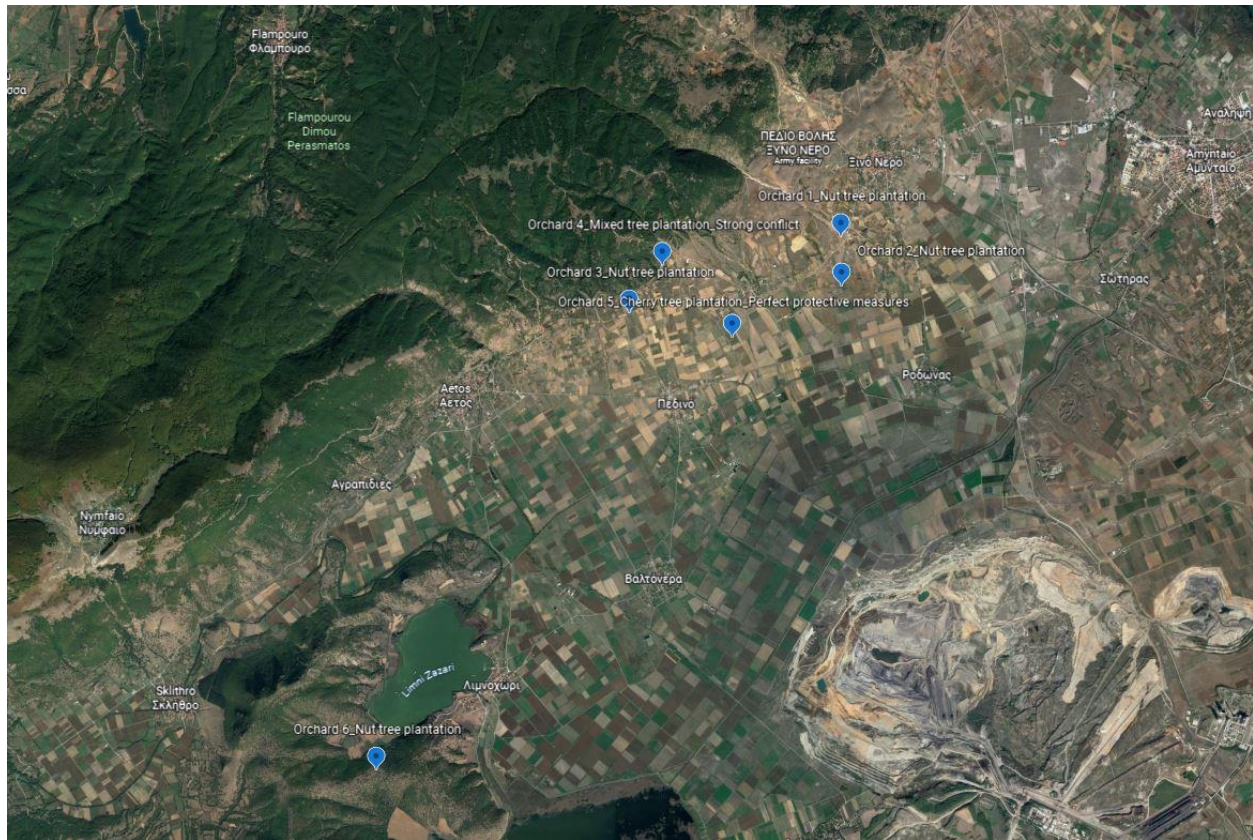


Figure 5. Map indicating the position of six fruit orchards monitored within the framework of LIFE.



Figure 6. Part of the Orchard 4, situated north of the Village of Pedino.



Figure 7. Part of the Orchard 4.



Figure 8. Part of the Orchard 6 which consists primarily of nut trees.

4. Assess livestock farms, apiaries and unprotected fruit orchards close to human settlements.

An initial survey to identify an example of an ideal preventive measure has been already completed. The best example derives from a cherry farm close to the village of Pedino (Lat.: 40.6675807 Lon.: 21.598285) that is protected by an electric fence system (Figure 9). Although the neighboring unprotected orchards (predominantly nut tree farms) are systematically raided by bears, this farm, according to the owner, has not been raided since the time that the system was placed. Similarly, it is positive and encouraging as well, that the majority of apiaries within the study area that have been already assessed, are protected by electric fences (Figure 10), which seem to minimize human – bear conflicts. Moreover, bears systematically raid a small number of livestock within the study area either during grazing or at night within the stockyards. To address the problem, a number of Greek shepherd dogs (GSD) have been donated in the past in the area whereas it is scheduled within the framework of the program, and as a significantly important action of ARCTUROS, more GSD to be donated in the near future. A database with all the information regarding bear raids has been created (Figure 11).



Figure 9. A cherry farm near Pedino village that is ideally protected by the setting of a fully operational electric fence system.



Figure 10. An electric fenced apiary located near the town of Amyntaio.



Life_Conflict_ERT (1) - Microsoft Excel

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Figure 11. Human bear conflicts database. The type of conflict is recorded followed by date, area, coordinates, ARCTUROS response and contact details.

5. Analysis of the effective location of bear-proof garbage cans and other food attractors.

An initial assessment of the 20 already positioned bear-proof garbage cans on site has been already done by ARCTUROS (Figure 12). The network is facing a number of issues associated either with the improper use of the cans or the non-use of them. In the majority of the already monitored cans, the plastic garbage bins are positioned outside of the cans. Additionally, although there is a relatively high number of open garbage dumps (Figure 13), the majority of them have already been fenced. Nevertheless, there are two unfenced dumps, located at the outskirts of villages Aetos (Lat.: 40.6687729 Lon.: 21.5652986) and Limnochori (Lat.: 40.6199429 Lon.: 21.5579513), where the systematic presence of bears and other wildlife (i.e., wolves and raptor species as well) has been documented entering the dumps for foraging purposes. A network of cameras has been set and already operates to thoroughly assess bear presence and behavior at those dumps.



Figure 12. A bear proof garbage metal can.

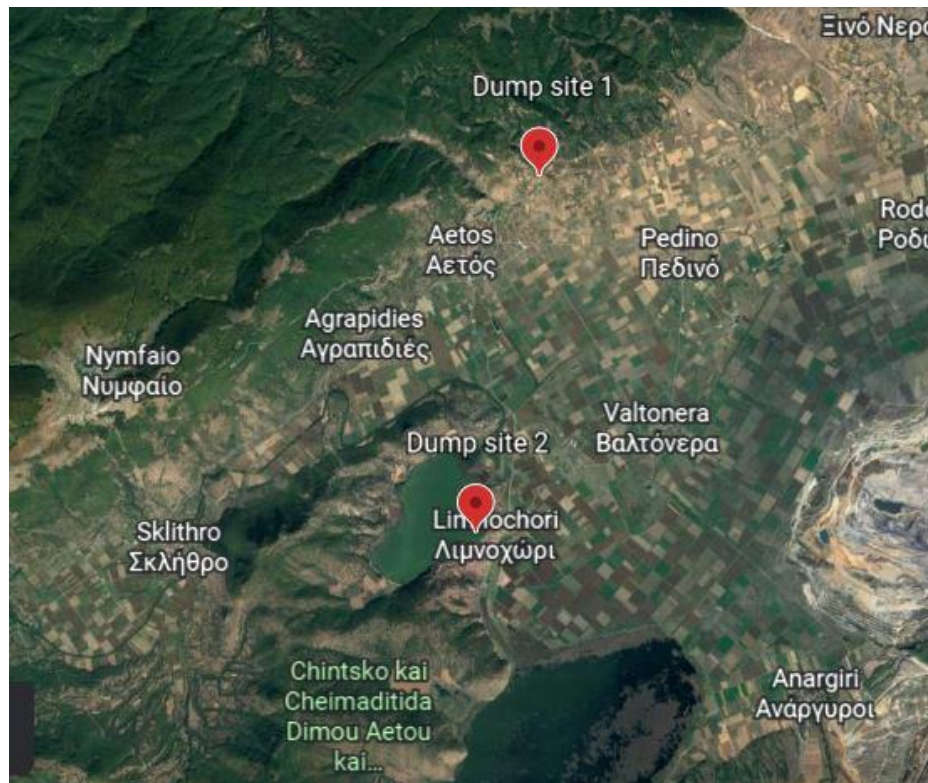


Figure 13. Position of the 2 unfenced dump sites.