

IMPROVING THE CONDITIONS FOR LARGE CARNIVORE CONSERVATION: A TRANSFER OF BEST PRACTICES



FINAL REPORT

Annex XXVI

After-LIFE conservation plan





LIFE07NAT/IT/000502

AFTER-LIFE CONSERVATION PLAN

LIFE EX-TRA

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Data Beneficiary

Name Beneficiary	Ente Parco Nazionale Gran Sasso e Monti della Laga
Contact person	Ms. Annette Mertens
Postal address	Via del Convento, 67010, Assergi, L'Aquila
Telephone	+39 862 6052219
Fax:	+39 862 606675
E-mail	mertens.annette@gmail.com
Project Website	www.lifextra.it

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1. INTRODUCTION

Damage caused to livestock is one of the main reasons why persecution of large carnivores has persisted for centuries, extirpating them in parts of their historical range or, at the best case, reducing them to small, remnant populations. Unprotected agricultural facilities are vulnerable to attacks from wild predators. The consequence is a high incidence of damage on livestock and crops, which results in a decrease of the public acceptance of these species among the rural populations. This turns many aspects of carnivore management into emotional issues rather than economic ones. Reducing such levels of conflicts is a prerequisite for successful conservation of wolves and bears.

The LIFE EX-TRA project aimed to address the conflicts between wolf and bear conservation and human activities. The project involved seven partners and took place in four different countries: Italy, Greece, Romania and Bulgaria. The project's coordinating beneficiary was Gran Sasso e Monti della Laga National Park.

Based on the expertise gained in the framework of the previous life project "Improving Coexistence of Large Carnivores and Agriculture in Southern Europe" (LIFE04NAT/IT/000144-COEX), of which the Gran Sasso e Monti della Laga National Park was a partner, the LIFE EX-TRA project has been a tool to transfer expertise and good practice to new sites.

The international character of the project has been an important added value since it allowed to exchange experience and to compare solutions to solve similar problems posed by large carnivores.

The LIFE EX-TRA Project has aimed at the following objectives:

- To transfer the best practice and lessons learned previously onto new areas
- To strengthen the cooperation with stakeholders in large carnivore conservation measures
- To strengthen the use of well-working damage prevention tools in the target areas
- To provide the relevant authorities with necessary knowledge about conflict management
- To acquire the necessary capacity for the management of conflicts caused by habituated bears
- To provide know-how for the control of stray dogs
- To ensure capacities for the management of wild prey for maintaining the present wolf populations
- To improve the attitudes of the local interest groups towards the conservation of wolves and bears

This report constitutes the last deliverable of the LIFE EX-TRA project and aims at describing the continuation of the conservation needs for wolves and bears and the planned activities after the project end.

The report has been prepared according to the relevant requirements of the EU Commission as shown on the formal site of the Commission. It describes the current situation of the area, including an assessment of it, as well as future conservation and management needs in the area.

2. ASSESSMENT OF THE SITUATION AT THE END OF THE PROJECT

What activities have been successful, which have presented problems and what problems?

Often large carnivores are used as “scape goats” by local interest groups to express their frustrations about other issues such as hard working conditions, restrictions in protected areas etc. Improving the relationships between local interest groups and authorities is also a tool to improve the image of wolves and bear among the general public.

This has been done through several important steps:

- the encouragement of the use of effective damage prevention tools
- the start-off of an important communication and consultation process
- the creation of expertise for the assessment and management of conflicts

But the most significant value of the project was that it has set the basis for long-term effects of these actions. Further to the LIFE COEX Project, which has encouraged the use of damage prevention tools by giving them to farmers, the LIFE EX-TRA Project has made it possible that these tools will be further used in the future.

In general all activities were successfully implemented, achieving all project objectives: best practices and experience have been transferred to all involved parties. The capacities of all participants about essential aspects of carnivore conservation have been improved. The attitudes of the local interest groups towards the conservation of bears and cooperation with stakeholders in bear conservation measures have been improved substantially.

The human dimensions studies (A5) proved to be very useful and are also a novelty in all the project areas. The findings about attitudes of local communities provided important information on what should be done to achieve or maintain tolerance of stakeholders towards carnivore conservation. The investigations about the legislation and institutional functioning have identified the weaknesses of the actual legal and institutional framework on large carnivore conservation.

The consequent stakeholder involvement and negotiation meetings (C2) have provided a lot of important practical results and in general these activities have led to a significant improvement of the relationships between the local authorities, nature conservation actors and local stakeholders. Another really important result is that the authorities have gained an understanding of the importance of the Human Dimensions as an effective conflict resolution tool.

The training of veterinaries and technicians (C1) in the assessment of the damage caused by wolves and bears on livestock has been greatly appreciated by all the participants because these activities provided important tools for the management and mitigation of conflicts. In combination with the revised damage monitoring procedures (C5) the whole compensation management systems will greatly improve: the payments will be more equally distributed among livestock raisers who have suffered damage, the bureaucratic procedures will be easier and timing for payments will be shortened. Only in Greece the implementation of Action C5 was delayed due to the fact that the National Insurance Company ELGA did not manage to provide an official commitment to the proposed monitoring plan, which was essentially caused by problems caused by the financial crisis. .

The demonstration of the use of pure breed specialized shepherd dogs and of electric fences (C3) has proved to be efficient and important in raising awareness on efficiency and advantages of using damage prevention tools. In the places where electric fences were distributed (PNMS and Bulgaria) this has had a great success and in fact the local authorities

got aware of the importance of these tools and continued promoting them with own initiatives.

Also the developed livestock guarding dog networks (C4) have had a significant importance on the one hand because several dogs have been delivered to livestock breeders, on the other hand because these activities have had an important demonstration function. The networks are now working autonomously and in the future many livestock breeders will benefit from the protection of efficient dogs thanks to this action.

Unfortunately in Romania low number of donated dogs (12), short period of time since donation (i.e. dogs are becoming reproductive and also efficient in terms of livestock protection only now), unexpected loss of some of the donated dogs (3 died) and puppies resulting from the donated dogs (all from the one pair which has bred) has impaired the increase of positive effects of this action. Moreover, acquisition price (i.e. 300 euro per piece) is still prohibitive.

The development of Bear Emergency Teams (BET) (C6) has also be extremely successful. Many different conflict situation have been managed by these teams throughout the project, leading to the saving of a significant number of bears. These teams are now fully active and will be very important for the future management of bears in the target areas.

The project has also been very important for the transfer of expertise between participants (C1) in many fields of carnivores conservation: the assessment of damage on livestock, the use of damage prevention tools, the management and handling of problem bears and the use of stakeholder analysis and involvement tools for the management of conflicts. In this sense the multi-partner approach has allowed the achievement of the foreseen goal of the project.

How is the outlook for the targeted habitat type and/or species?

From the results achieved by the monitoring of large carnivores populations implemented during the project, we acquired relevant information about the outlook of wolf and bear in the project areas.

The populations of the two species seem to be substantially stable in the four project countries, as witnessed by the estimates of population size.

In Italy wolf population remained relatively stable during the last four years. The number of reproductive packs present in 2012 in the 3 National Parks is around 30, indicating that the environmental conditions are favourable in terms of prey abundance and vegetation cover. As stated below the major threats to the species are still represented by humans in particular in the territory outside these protected area. For this reason it should be a priority to transfer the best practices of wolf management acquired in the EX-TRA project to neighbouring areas, because here we can expect an higher level of conflict. Generally outside the protected areas regional and provincial administrations are not well prepared to face possible conflict resulting from wolf presence.

In the territory of PNGSL and PNMS also bears were targeted, but no evidence has been found of the presence of bears in the PNGSL. In PNMS only one animal was present in the Park territory from 2006 to 2010 but the last sign of its presence was registered in May 2010 by one of the installed photo traps. The problem is that in the central Appennine bear presence is substantially restricted to the area of Abruzzo Lazio e Molise National Park, thus the future conservation efforts must focus to favour the expansion of the species. Anyway the activities implemented in the LIFE EX-TRA project were useful to prepare the ground for a potential reappearance of the bear.

In Romania the large carnivore species populations seem to be constant at national level (according to the official numbers provided by the national authority for environment). However, not only official numbers but also high level of conflict is suggesting populations are way above carrying capacity of habitat or at least above the level which would ensure low conflict and high human population tolerance (social acceptance capacity). Moreover, it is likely that the populations of these species will increase in the near future as hunting (the former management method) is forbidden now and culling quotas (meant to eliminate animals producing high levels of damage or posing a threat to human safety and health) are half as the natural growth rate and not fully covered (e.g. in the past year only 60% of the bear quota was attained). However, the lack of prompt compensation and prompt intervention to prevent damages could lower the tolerance of local communities towards carnivores, most probably one of the key factors which ensured coexistence of such large carnivore populations with human communities in the Romanian Carpathians.

In Bulgaria The nation wide monitoring of the bear gave an estimate of 540-560 animals in 2012, more or less the same numbers obtained in the previous years. Thus the population seems stable, and it's also important to underline that genetic analysis showed that two of the project areas (Central Balkans and Rodopi Mountains) which were thought to be isolated are actually interconnected because two male bears from Rodopi Mountains were found in Central Balkan. The preliminary analyses also showed that there are two distinct genetic lineages in Rhodopi mountain, which might cause a problem in the future if any isolation occurs. Future conservation efforts must focus to preserve habitat quality, and to continue to link the management of the species to the results of the nation wide monitoring implemented in the framework of Life EX-TRA project. The estimate produced is more reliable than the past ones, and thus allows to develop a better management program.

In Greece on the basis of the monitoring program implemented we may conclude that bear presence and distribution in the surveyed areas, appears to be continuous in time and homogeneous in space especially in the two SCI's located in the mountainous zones of the project area (GR1440001 and GR1440002). Moreover presence in the re-colonization area (GR1440003) (a natural dispersal triggered in the late '90's) shows stabilization tendencies which consists a very positive related attribute regarding population positive trends. Population density was not easy to estimate given the means available, but the use of indirect methods such as IR cameras which helped in the identification of seven (7) different individuals in an area of circa 200km² in one survey period, give an initial indication regarding that aspect. Furthermore identification of three (3) different FWCOY (females with cubs of the year) in the two aforementioned SCI's (GR1440001 and GR1440002) give a minimum estimation of population size at circa thirty (30) individuals (Bunnell & Tait 1981 extrapolation model: $1FWCOY=10-12\%$). A previous population estimation through genetics gave in 2008 a minimum size of nineteen (19) individuals (Karamanlidis, 2011) (this number is underestimated due to the male selective hair-traps protocol). The two adjacent SCI's (GR1440001 & GR1440002) attached to the core part of Pindos range present high suitability levels explaining the highest frequency of bear signs of presence and activity. The SCI GR1440003 plays a key role as a natural green bridge sector in the eastwards expansion of the bear range towards Olympus mountain from the aforementioned source population.

What are the remaining threats?

In large carnivore conservation the main threats are generally represented by conflicts with human activities. As long as there will be an overlap of areas inhabited by wild predators and humans these conflicts will always exist to a more or less severe extent. The only way to completely overcome these issues would be to divide the areas inhabited by humans from those occupied by wolves and bears, but this is not feasible in densely inhabited countries as the project countries.

Therefore the only thing that can be done is to create the tools to minimize these conflicts as much as possible and to promote tools to ease coexistence as much as possible.

This has been done successfully, and the project has created useful tools to minimize several of the existing threats in the future.

On the other hand, since human populations and large carnivore populations continue to expand, and since also the socio-economic of the local communities vary, there will be a continuous evolution of the interactions between wolves and bears, which will constantly have to be faced by adapting the integrated management tool. Especially, there will be a need for the following activities:

- continue to promote modern damage prevention techniques
- develop the stakeholder involvement and consultation processes more widely
- continue training the staff involved in damage assessment and prevention
- continue operating Bear Emergency Teams and create new ones
- continue public information and awareness activities

In Italy a problem that is likely to be gaining importance for wolf conservation is the one of hybridisation with stray dogs. In the past years it has become increasingly evident that there must be a big extent of hybridisation, although precise numbers are not known yet. This problem is likely to become the most serious threat for the Italian wolf population and needs to be addressed urgently. Already some initiatives have been taken, such as the start of the LIFE IBRIWOLF Project (LIFE10NAT/IT/265) and the setup of a specific working group in PNATE, but the hybridization phenomenon will have to be faced thoroughly in the future by several more projects and initiatives.

In PNGSL the most urgent conflicts between wolves and human activities seem to have been strongly mitigated during the LIFE EX-TRA project thanks to its in-depth human dimensions activities and also thanks to the presence in the Park Administration of staff that is specifically trained for the management of problems connected to wolf conservation. In the next years these activities will need further maintenance but an important basis was set to keep control of the most severe threats. Moreover, it would be desirable that the acquired best practices are transferred to neighbouring areas.

In PNMS and PNATE illegal killing is still an important threat. Recently there has been a number of cases of wolf mortality due to illegal killing, but unfortunately a good characterization of this problem is not feasible, which is also one of the most important aspects of this threat. However, this problem is now effectively being addressed by the LIFE ANTIDOTO Project (LIFE07NAT/IT/000436), which has implemented specialized anti-poison dog teams. This project is having a big success at national and international level and it would be desirable to expand its initiative also at European level.

The main reasons for illegal killing in these areas are probably:

- conflicts with hunters due to a competition for wild ungulates, and consequent killing during hunting for Deer and Wild boars
- conflicts with livestock raising

- social conflicts due to land use restrictions in protected areas

For this in the upcoming period it will be necessary to further promote damage prevention tools but also activities to reduce poaching during hunting whereas it is likely that the implemented damage prevention tools and the stakeholder consultation activities will have a positive effect on this problem.

In Romania the wolf and bear populations are consistent and there is no immediate threat of extinction. Also, the conflicts with human activities are still relatively well tolerated by the local communities. Also, the mitigation activities have much reduced these problems in the project area. However, the real threats that remain for large carnivore conservation are mostly bonded to legal shortcomings and institutional threats, such as:

- A lack of common sense at state level (among institutions, NGOs, managers, research institutes) on population size (especially for bear) and management methods (active vs. passive) is one of the most important threats for conservation.
- Existing problems (overlapping tasks, contradicting opinions, top-down management approach, high rate of personnel change especially in management positions, ambiguous legislation) with institutions involved in large carnivore management and control are likely to last and thus are hindering an efficient and prompt management and conservation.

Two more specific technical issues are the following:

- a high acquisition price for pure breed specialized shepherd dogs and low enforcement of legislation regarding dogs at shepherd camps is not stimulating shepherds to use specialized pure breed shepherd dogs instead of ordinary dogs.
- a lack of a GIS database at national level for monitoring damages hinders efficient and fast decision making and identification of hotspots in the bear habitat across the country.

In Bulgaria the two remaining threats for bear conservation are poaching and loss of habitat. Poaching has been thoroughly and significantly addressed with many of the project actions, e.g. the setup of Bear Emergency Teams, the distribution of 180 electric fences, the decrease of timing for compensation payments, the frequent discussion with local inhabitants. Typically for poaching the numbers are not known, therefore a clear result cannot be pointed out, but surely the implemented activities will be very helpful to mitigate this threat in the future if the planned continuation activities are adequately carried out.

Habitat loss is mainly due to the planned construction or enlargement of four ski resorts in the core bear areas. Balkani Wildlife Society is part of a coalition of over 30 nature conservation NGOs (called *For The Nature*), which is engaged in heavy legal fights about these planned developments.

Greece

Although the techniques for managing conflict situations have been demonstrated and know-how has been transferred to competent services and local authorities, adequate operational capacity has not actually improved due to institutional and political reasons .

Also, although bear habituation to human related food sources has been identified as one of the threats for bear conservation in the Greek project area, further concrete conservation actions should be implemented in the future (e.g. electric fences bear-proof garbage etc.).

The positive and negative aspects, identified in a SWOT analysis, are summarized in table 1.

Table 1. SWOT Analysis

STRENGTHS	OPPORTUNITIES
<p>Better knowledge of conflict situations and stakeholder expectations Improved awareness of the society about conservation issues Improved conditions for conservation Improved capacities and information level of conservation actors Better relations and cooperation between stakeholders and between authorities and stakeholders Improved capacities in the use of innovative techniques (BET, HD etc.) Improved awareness of authorities of the importance of adequate techniques Increased involvement of local communities in management Increased awareness on legal and institutional shortcomings Increased cooperation of conservation actors at national and international level</p>	<p>Extension of project experiences and best practice at country and EU level Enhancement of cooperation between conservation initiatives at national and international level Improvement of regulations (e.g. for damage monitoring) Implementation of Intervention Teams, damage assessment procedures etc. Further training of local actors about innovative techniques (BET, stakeholder involvement etc.) Further use of stakeholder involvement and consultation techniques Further transfer of experience from and between partners Understanding of wolf and bear population trends at transboundary level Improvement of decision making processes through participatory approaches Further awareness raising of authorities about institutional shortcomings and innovative management techniques</p>
WEAKNESSES	THREATS
<p>Lack of human and financial resources and capacities Political changes (Bulgaria) Changes in the project team (Romania) Not sufficient involvement of national authorities and institutions Limited political will to support the project Delays in implementation Strictness of LIFE regulation for adapting activities and budget to changed needs Lack of standardization of methods due to different conditions between countries</p>	<p>Changes in socio-economic and political situation Economic recession Institutional conflicts Legal shortcomings and stiffness of EU regulations on large carnivore conservation Decreased tolerance levels due to socio-economic and political reasons Lack of a common ground between different authorities and interest groups on monitoring and management etc. Lack of anticipated planning Slow reaction of institutions to legal issues and requirements Lack of continuity of funding for the long-term implementation of conservation activities Lack of awareness of institutions about modern management techniques Insufficient capacities in the use of modern management techniques</p>

3. AFTER LIFE OBJECTIVES AND ACTIVITIES

Consequently to what was stated further up the main conservation priorities for large carnivore conservation are the following:

- Urgent action for the management of stray dogs and the dog-wolf hybridisation problem
- Strong enhancement of stakeholder consultation and involvement activities concerning all types of management issues: conflicts with livestock, conflicts with hunting, stray dog issues, policy adaptations, institutional conflicts etc.
- Further development and operation of Bear Emergency Teams and endorsed by local, regional and national authorities
- Further support for the implementation of preventive measures, either through support by the local authorities or by including the provision of relevant measures in the Rural Development Policies
- Large scale implementation of protocols and procedures for the monitoring of damage on livestock and agriculture
- Capacity raising for all the upmentioned issues

Capacity needs

Italy

In PNGSL a trained veterinary was already in the staff and has therefore been involved in the training activities about damage assessment. This Park administration has strongly committed to the adoption of stakeholder consultation techniques, therefore it would be desirable to have adequately trained staff for carrying out these activities autonomously.

In PNMS in the frame of the LIFE EX-TRA project the Park administration has hired permanently a veterinary. This person will be fundamental for carrying on the damage monitoring activities. However, in the Park there is a need to involve in the monitoring activities not only the staff of the park but also volunteers from potential interest groups (e.g. hunters, veterinaries), for the following reasons:

- these persons are constantly in the territory and therefore able to provide important information about the presence of large carnivores;
- this could also, in time, help reduce negative attitudes and false myths regarding wolves and therefore increase their acceptance of the species.

Therefore the Park administration foresees, in the frame of a triennial wolf conservation programme, to involve the hunting associations and other volunteers from park guides, farmers, naturalists and nature lovers.

Both PNMS and PNGSL have trained their staff for the handling of a BET for potential future needs. In the future there will be a need for regular updating training activities in order for the staff not to forget their expertise.

In PNATE there is a need of specialised guard corps for the prevention of illegal killing, which can be active also in training, conflict resolution and public awareness raising activities. Specific teams could be set up, composed by the staff of the Forest Administration, Police corps and volunteer guards.

Although the training activities carried out in the project have been very useful in this area there still is a need for adequately trained veterinaries of the State Veterinary Service. Finally, the general staff of the Park lacks the capacity of coordinated and standardized working. Too often the planning between different professional types and services is insufficient and therefore the work is often scarcely coordinated and not efficient.

Romania:

The most urgent capacity needs in Romania are for promoting and managing communication and negotiation processes between local and national authorities and stakeholders in order to improve the legal background and in order to solve the responsibility conflicts between institutions.

Another important capacity need is for the assessment and monitoring of damage caused by large carnivores on livestock. This is specially important in the perspective of the development of a functioning compensation system.

Since there are strong diverging opinions about the sizes of wolf and bear populations, which also influence the attitudes of local stakeholder groups (e.g. hunters, livestock raisers etc.) adequate capacities would be needed by local forest and park rangers for correct assessment of populations sizes or trends.

Bulgaria:

Also in Bulgaria there is a requirement of capacities in the development of stakeholder involvement and negotiation activities. This is particularly important concerning the direct overlap between bear ranges and local communities, which has in the past caused severe conflicts. It was seen during the LIFE EX-TRA project that the active communication with village inhabitants has been very important for the mitigation of strong negative feelings and fear. Therefore adequately trained personnel for such activities would help maintain low level of conflicts.

Another capacity problem is that in the protected areas there are very few park rangers and they are scarcely equipped. Also, they don't have the legal right to implement the nature protection laws. Therefore there is a need for additional, adequately trained staff on the institutional level, with the power to enforce law.

In Greece there is still a need for:

- Employment of experts dealing with large carnivore/human coexistence by the Forestry Service District Departments and Management Authorities of Protected Areas-National Parks etc.
- Capacity building of permanent personnel working for the local Forestry Service District Departments and Management Authorities of Protected Areas-National Parks (further transfer of experience and best practices).
- Improvement of knowledge and experience on HD techniques for handling conflict situations and for involving actively local people on management measures.

Institutional issues and political problems

The following institutional and political problems concerning large carnivore populations are the most common ones in most of the project areas:

From the stakeholder assessment activities of the project there results to be a chronic lack of clear sharing of responsibilities between different institutions. This can be a problem for instance in the management and compensation of damage caused on livestock, where the single authorities try to push the responsibility on to other ones. The consequence is an lack of clarity of bureaucratic procedures and a lengthening of processes etc.

Also, the lack of clear responsibilities also leads to a lack of clear regulations, since no authority takes over the burden to produce adequate laws and procedures.

A lack of clear guidelines also increases the conflicts between single stakeholder groups, like for instance conflicts between hunters and livestock raisers because of diverging points of view on population sizes, tolerance towards the presence of wolves and bears, damage prevention, compensation etc.

Especially in the countries where bears can be hunted (Romania and Bulgaria) there are conflicts concerning bear management between institutions responsible for hunting and those responsible for wildlife protection.

Another important problem is that often the local authorities do not have adequate expertise and capacities for the application of many important management and monitoring tools. This becomes increasingly problematic as the large carnivore populations spread and gain new territories (like in Italy).

Last but not least, a common issue is the lack of funds available to the local authorities and NGOs for monitoring and management of conflict situations, a problem that was even exacerbated during the recent economic crisis.

The details of the continuation of the project activities, in order to face the aforementioned threats and capacity needs, are described for each project area separately in the following tables.

PARCO NAZIONALE GRAN SASSO E MONTI DELLA LAGA

ACTION	METHODOLOGY/TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Update of GIS database	The implementation of the database will continue after the project	Park administration, internal personnel	Internal funds	From 2013	
Stakeholder consultation and involvement	Stakeholder consultation will continue about different topics: - conflicts with livestock raising activities - development of a new grazing regulation in 9 Park communes - sustainable management of beech forests	Park personnel and external consultants	Livestock conflicts: 8.000 € internal funds Grazing regulations: 52.000 € LIFE PRATERIE 11NAT/IT/234 Sustainable forest management: 10.000 € LIFE FAGUS 11NAT/IT/135	2013-2017	
Implementation of preventative measures (electric fences and LGD)	Distribution of guarding dogs to 6 livestock holdings	Park staff	12.000 € LIFE PRATERIE 11NAT/IT/234	2014-2017	
Network of livestock guarding dog breeders and of livestock breeders	The support to local livestock breeders and LGD network will continue	Park Personnel, Associazione Cane da Gregge	Internal funds	From 2013	
Bear emergency team	Periodic update training of the BET	Park administration LIFE ARCTOS	Internal funds	From 2013	
Actions to increase the availability of wild prey	The monitoring of the effectiveness of implemented actions on the road will continue	Park administration	A fund of 8.000 € is to be confirmed	2013	

ACTION	METHODOLOGY/TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Public information campaigns about large carnivore (e.g. wolf-kit implementation)	The school education activities will be continue as well as the distribution of information material	Part administration through the Park Education Centers	Internal funds (30.000 €) and funds of the LIFE PRATERIE Project (65.000 €) for dissemination materials and information desks	From 2013	
Information campaigns for interest groups about optimal management techniques	Permanent dialogue with local livestock breeders	Park personnel	Institutional duty	From 2013	
Monitoring damage caused by wolves and bears on livestock	Constant monitoring of the damage on livestock by the park veterinary and the forest administration	Park staff, forest administration	Internal funds	From 2013	
Monitoring wild prey abundance	The monitoring of 5 radio-collared Red deer will continue as well as the spring census of Red deer, Roe deer and Wild boars, in case of funding restrictions to be done on sample areas	Park staff, forest administration	Internal funds	From 2013	
Monitoring large carnivores densities	The monitoring through wolf-howling will continue. In case of funding restrictions to be done on sample areas	Park staff, forest administration	Internal funds	From 2013	

PARCO NAZIONALE MONTI SIBILLINI

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Update of GIS database	The damage database will be updated constantly	Park staff	Internal funds	Annual	
Stakeholder consultation and involvement	Participatory management techniques will be applied in the RECANDO programme (see further down)				
Implementation of preventative measures (LGD and e-fences)	Financial contributions for the purchase of electric fences	Park administration	12.000	2013	
Network of livestock guarding dog breeders and of livestock breeders	Distribution of livestock guarding dog pups and tecnica assistance. Development of the LGD network (RECANDO Programme)	Park Administration, Associazione Nazionale Cane da Gregge	12.000	33 months	
Development of a long term damage monitoring action plan	Continuation of data collection about damage from Marche Regional Government	Park Administration, Marche Region, Public Veterinary Service	Internal funds	From 2013	Revision of the regional law.
Bear emergency team	Constant update of the know-how of the BETs	Park Administration, PNGSL, Forest administration, LIFE ARCTOS	Internal funds	From 2013	
Actions to increase the availability of wild prey	Collision prevention with road signs and speed control devices	Park administration, Provinces, communes	2.000	2013-2014	

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Public information campaigns about large carnivore (e.g. wolf-kit implementation)	Training modules for the hunting associations in Macerata-Fermo, environmental education programmes	Park Administration, Hunting administrations, Marche Region, LIFE WOLFNET	Internal funds	2013-2015	
Information campaigns for interest groups about optimal management techniques	Activities foreseen in the RECANDO Programme and the wolf conservation programme of the Marche Regional Government			2013-2104	
Monitoring damage caused by wolves and bears on livestock	See below		Internal funds		
Monitoring wild prey abundance	Triennial ungulate management plan – Red deer census	Park Administration	151.000	2013-2015	
Monitoring large carnivores densities	Triennial carnivore management plan	Park Administration, Marche Regional Government	19.500 + 14.000 + 14.000 + 8000 cofunding of Marche Region	2013-2015	

PARCO NAZIONALE APPENNINO TOSCO-EMILIANO

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Update of GIS database	The database will be implemented as established by the project	Park Administration	Internal funds	From 2013	
Stakeholder consultation and involvement	The dialogue with stakeholders will continue also regarding the Park Regulation and Park Management Plan. In 2013 4 meetings are foreseen concerning wolf/dog hybridisation	Park Administration	Internal funds	From 2013	
Implementation of preventative measures (electric fences and LGD)	Distribution of electric fences and livestock guarding dogs, thus favouring the dialogue exchange between local breeders	Park Administration	Tender of 13.000 € for the cofunding of electric fences for 19 livestock breeders	2013	16 breeders already involved
Wolf Appenine Center (WAC)	Management of conflicts between wolves and economic activities	Park Administration	Internal funds	From 2013	
Public information campaigns about large carnivore (e.g. wolf-kit)	In the frame of the WAC public awareness activities are foreseen with general public and schools. Implementation of the project "il Palalupo", which foresees about 30 public meetings/year	Park Administration	Internal funds and funds of Toscana Regional government	From 2013	

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Information campaigns for interest groups about optimal management techniques	Emergency interventions planned for conflict situations in the frame of the WAC.	Park Administration	Internal funds	From 2013	
Monitoring damage caused by wolves and bears on livestock	Damage monitoring will continue inside the Park. Specific meetings with the local veterinary service to obtain information about the damage cases in all 16 communes of the Park (also outside the Park boundaries)	Park Administration	Internal funds	From 2013	
Monitoring large carnivores densities	Monitoring of wolf distribution will continue with wolf-howling, genetic investigation and snow-tracking	Park Administration	Internal funds and funds of Toscana Regional government	2013-2016	

ROMANIA

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Build a GIS database at national level based on the experience from the EX-TRA	Mapping Large carnivores distribution and damages caused to human activities	Ministry of Environment and Climate Changes, universities, research institutes, other specialized companies	Possible source of funding will be: National funds (state budget for environment; Environmental fund etc.) and European funds	It is not possible to make a time plan	
Stakeholder consultation and involvement	The process of stakeholder consultation and HD research has been a positive experience and its value has been recognized by local authorities but up to now it's not possible to foresee it's prosecution	Ministry of Environment and Climate Changes, all authorities and institutions involved in large carnivore issues	Possible source of funding will be: National funds (State budget for environment; Environmental fund etc.) and European funds (SOP Environment, LIFE+)	It is not possible to make a time plan	
Implementation of preventative measures (electric fences and LGD)	Pups of livestock guarding dogs will be donated to local shepherds, and possible acquisition of new LGD will be possible through the network of LGD breeders and of livestock breeders	Ministry of Agriculture and Rural Development, Ministry of Environment and Climate Changes, Environmental Guard, Regional Inspectorates for Forestry and Game Management Control	Possible source of funding will be: European Agricultural Fund for Rural Development	It is not possible to make a time plan	
Bear emergency team (BET)	The BET should be improved to prevent damage or conflicts occurs (i.e. solving conflicts and prevention). Training for BET members and damage inspectors should be provided.	Ministry of Environment and Climate Changes and the Large Carnivore Working Group	Possible source of funding will be: National funds (State budget for environment; Environmental fund etc.) and European funds (SOP Environment, LIFE+)	It is not possible to make a time plan	

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Monitoring damage caused by wolves and bears on livestock	The procedure implemented in the project will be used and improved and should be linked to the National GIS database (proposed above) but it strongly depend by a new regulation on this issue	Ministry of Environment and Climate Changes, Ministry of Agriculture and Rural Development	Possible source of funding will be: National funds (state budget for environment; state budget for research; Environmental fund etc.) and European funds (SOP Environment, LIFE+)	It is not possible to make a time plan	
Monitoring wild prey abundance	Monitoring program will be implemented by the hunting associations and the Ministry of Environment, using the procedures tested in the life project	Ministry of Environment and Climate Changes, hunting associations	Possible source of funding will be: National funds (state budget for environment; state budget for research; Environmental fund etc.) and European funds (SOP Environment, LIFE+)	It is not possible to make a time plan	
Monitoring large carnivores densities	Monitoring program will be implemented by the hunting associations and the Ministry of Environment, using the procedures tested in the life project	Ministry of Environment and Climate Changes, universities and research institutes, NGOs	Possible source of funding will be: National funds (state budget for environment; state budget for research; Environmental fund etc.) and European funds (SOP Environment, LIFE+)	It is not possible to make a time plan	

BULGARIA

ACTION	METHODOLOGY/TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Update of GIS database	GIS database will be implemented following procedure used in the life project	BWS in collaboration with Ministry of environment	EEA-Norway grants . Local projects Rhodope Mountains – Operational Program	2014-2017 2013-2014	
Stakeholder consultation and involvement	Development of local Consulting comite on local level for bear management	REI Smolian, Ministry of Environment, BALKANI WS	Operational Programme, MOEW own funds	2013 - 2015	
Implementation of preventative measures (electric fences and LGD)	150 electric fences and 30 LGDs	Ministry of Environment. REI Smolian, BALKANI WS	Operational Program.	2013-2014	
Network of livestock guarding dog breeders and of livestock breeders	The established network will continue to operate over the country favouring the donation of puppies of LGD to the local shepherd	Semperviva –Society for conservation of wildlife. National Club for Karakachan Dog.	OWN FUNDS	Next years	
Development of a long term damage monitoring action plan	The plan implemented in the project will be applied in the country. Registry in National Biodiversity Conservation Service MOEW	Ministry of environment	OWN FUNDS	Next years	
Bear emergency team. RIEW Smolian 4 person hired 2013-2015	Protocol developed during EX-TRA, trained team during EX-TRA	Ministry of environment supported by BWS.	OWN FUNDS Operational Program	Next years	

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
D1 Public information campaigns about large carnivore (e.g. wolf-kit implementation)	Materials produced in the life project will be disseminated in the school and public fairs. Educational programs in Large Carnivore Education Centre - Vlaha	BWS , MOEW – local structures	OWN FUNDS	Next years	
Information campaigns for interest groups about optimal management techniques	Materials produced in the life project will be disseminated in public fairs.	BWS	OWN FUNDS	Next years	
Monitoring damage caused by wolves and bears on livestock	Procedure of Damage assessment will be implemented and extended to the whole country. New trainings on local structures.	Ministry supported by BWS	OWN FUNDS	Next years	
Monitoring large carnivores densities	Protocol implemented in the LIFE project will be used in the next years, as well as all the materials purchased (e.g. camera traps, GPS_GSM collars, GPS hand held devices)	BWS in collaboration with Ministry of environment, and Water (MOEW) Local structures of MOEW.	EEA-Norway grants , local funds	2014-2017	

GREECE

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Update of GIS database	Monitoring population of brown bear and mapping. The monitoring will cover Parks, Natura 2000 sites and other important areas for brown bear in Greece	ARCTUROS & CALLISTO	Operational Programme "Environment"	2013-2014	
Stakeholder consultation and involvement	Non formal meetings with stakeholder groups that participated at the project's C2 meetings. Representatives of agriculture professionals and Forestry Services address to CALLISTO every-time they are dealing with a bear conservation issue.	CALLISTO's personnel	CALLISTO's own funds or/and national and international sponsors	2013-2016	
Implementation of preventative measures (electric fences and LGDs)	Pressure for implementing similar measures through the National Rural Development Programme	CALLISTO's personnel	Rural Development Programme	Electric fences: 2013 & 2014 (Measure 216, Action 1.1) LGDs : Inclusion Measure in the RDP 2014-20	Implementation of preventative measures after 2014 is not secured

ACTION	METHODOLOGY/ TECHNIQUES	WHO? (organization, personnel, etc.)	FUNDING	TIMING	COMMENTS
Development of a long term damage monitoring action plan	Implementation of the proposals made by CALLISTO for additional data collection during inspections made for damages caused by bears	ELGA	ELGA	2013-2020	
Bear emergency team	Implementation of BET protocol endorsed by the Ministry of Environment (YPEKA)	YPEKA, Forestry Service, Park Authorities & Environmental NGOs	YPEKA, Forestry Service, Park Authorities & "Green Fund"	2013-2020	Additional support by EU Financial tools may be necessary
Public information campaigns about large carnivore (e.g. wolf-kit implementation)	Dissemination of informational material left (brochure and poster concerning bears) Publication of After LIFE activities through CALLISTO's e-newsletter and website E-banner linking to LIFE EXTRA website will remain at CALLISTO's website (homepage)	KENAKAP Forestry Service Offices CALLISTO CALLISTO	No need for extra funding No need for extra funding No need for extra funding	At least during next 3 years At least during next 3 years	
Information campaigns for interest groups about optimal management	Dissemination of informational material left (brochures and posters concerning damages prevention measures)	KENAKAP and Forestry Service District Departments CALLISTO	No need for extra funding CALLISTO's own funds		

techniques	Participation at the next AGROTICA Fair using material produced through LIFE EXTRA project			On February 2014	
Monitoring damage caused by wolves and bears on livestock	Annual analysis of official data collected during inspections made for damages caused by bears	CALLISTO	CALLISTO's own funds	2013-2020	
E5. Monitoring large carnivores densities	Monitoring population of brown bear and mapping	ARCTUROS & CALLISTO	Operational Programme "Environment"	2013-2014	In Parks, Natura 2000 sites and other important areas for brown bear in Greece