



LIFE15 NAT/GR/001108 - LIFE AMYBEAR

“Improving Human-Bear Coexistence Conditions in Municipality of Amyntaio”



AFTER-LIFE PLAN



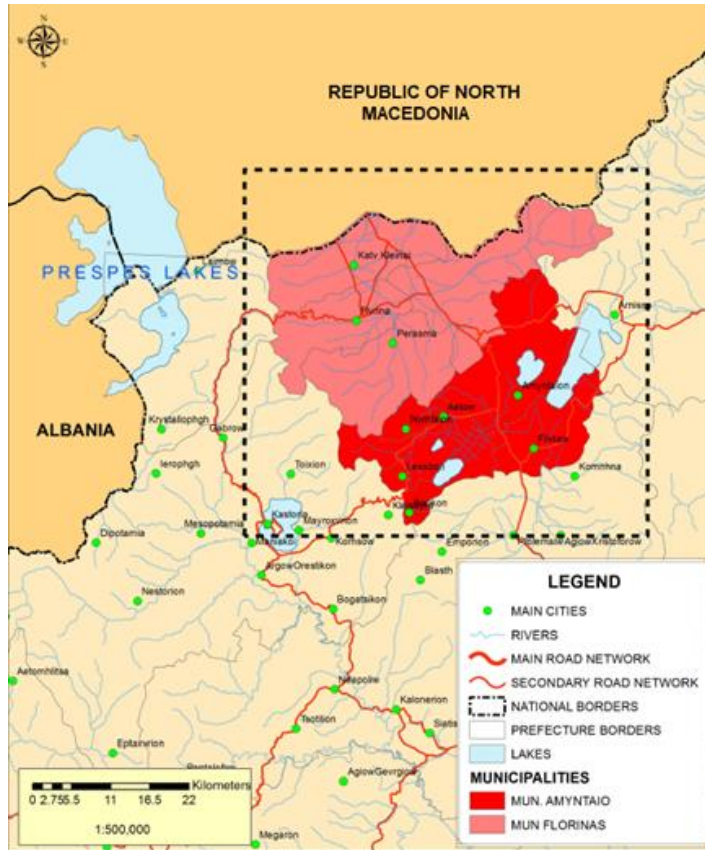
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1. INTRODUCTION

The LIFE AMYBEAR project dealt with the recorded increase of human-bear “interaction” in the Municipalities of Amyntaio and Florina in Greece, Region of Western Macedonia.



This interaction creates problems that have been known for many years, such as damages to rural economic activities, as well as others that have been observed relatively recently, such as the approach of bears to settlements or the increase of the number of road accidents involving bears.

Due to this interaction, the brown bear, *Ursus arctos**, population is under pressure in the project’s area suffering from abnormal losses related to human caused mortality despite the conservation efforts and means deployed in the past years.

In brief, the three main

conservation problems/threats to brown bear population in the project area were the following:

1. Human-caused bear mortality: This major threat can be attributed to the following situations of bear-human interference in the project area: (a) bear-human conflicts due to bear damage on agricultural production, (b) bear-human interference with bears exhibiting a “habituated” behaviour after losing their natural shyness and fear for humans, (c) bear-human interference during legal or illegal hunting activities, and (d) traffic fatalities due to fragmentation of core bear habitat areas and/or habitat and population connectivity corridors

2. Bear habitat degradation & habitat loss due to construction of high speed transportation infrastructure: Apart from the Egnatia highway segment connecting the city of Florina to the national borders between Greece and Republic of North Macedonia, the newly constructed segments of the national road connecting the city of Amyntaio to Florina is also improperly mitigated thus being the cause of frequent bear traffic fatalities.

3. Inadequate level of information and awareness on *Ursus arctos conservation importance and potentialities:** At the level of local communities, there is still an important lack of information and awareness on the concept of “flag species” such as

the brown bear and the importance of its conservation added values in terms of sustainable development of the project area.

Consequently, the overall project objective was the improvement of Ursus arctos* global conservation status by achieving a sustainable management of human-bear co-existence through minimization of bear-human negative interference in the project area.

The project's specific objectives may be summarized as follows:

- Maintain human caused bear mortality at a sustainable level not exceeding 6% of the minimum estimated population in the project area. Maintain the number of the yearly reproductive females at no less than 10-12% of the minimum estimated bear population in the targeted area.
- Improvement of the tolerance level of specific target groups regarding their coexistence with the targeted species.
- Improvement of the awareness level on the added values of the targeted species in relation to the attractiveness of the area targeted by the project.
- Sound acquisition of know-how by the personnel of local competent authorities on specific and concrete management techniques.
- Continuation of operation of auto-sustainable mechanisms supporting on a long term basis certain types of preventive measures.

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

Successful activities and problems presented

The project's actions, although many of them prolonged after a GA amendment, were implemented as planned and their main outputs are as it was expected in the proposal.

The project was implemented as planned despite the problems and obstacles were faced. All the expected results and outputs were achieved with minor exceptions: 1. It was not made possible the signing of a MoU with a National Organization from N. Macedonia, 2. The Bear proof containers although were installed they didn't have the expected effectiveness and 3. The efficiency of the highly specialized bear deterring kit for BET was successfully tested in two cases of BET interventions in the end of the project. There was no further time left due to the delays in its delivery. However, it is worth-noting that such deterrents are used for the first time within a LIFE project in Europe, which, although very effective, had not been used/tested before and under similar circumstances.

The project contributed substantially to the development of the Greek National Action Plan for Brown Bear (NAPBB), as well as to the Greek National Prioritized Action Framework (PAF) for Natura 2000, utilizing the experience of the project actions.

Outlook for the targeted species

From the results obtained through the monitoring of the bear population in the project area (actions A2 and D5 implemented in the beginning and end of the project), the estimated population size of the brown bear in the project area was 154 and 161 individuals, respectively.

The project's actions and especially the Concrete Conservation ones (CCAs) have contributed to maintain the bear human caused mortality at a sustainable rate and even

below the initially fixed value of 6%. The 2% difference leaves a safety margin for the mortality cases that have not been identified and reported (mainly related to poaching which is a totally illegal act).

The number of the reproductive female bears and for almost two consecutive reproductive periods over a 2 years' interval has been calculated a little below 50 individuals for each reproduction period. This gives a percentage of reproductive females in relation to the total estimated population at a value of 33%. This rate deduced on a yearly basis easily meets and even exceeds the threshold value fixed under the project's specific objectives (no less than 10-12% of the minimum estimated bear population).

With regard to human-bear interaction, there were clear signs derived from the analysis of questionnaire data (comparison of pre-intervention data gathered and analysed in Action C1 with post-intervention data gathered and analysed in Action D1) that tolerance towards bears has been increased among key stakeholders and that perceived threat from bears has been decreased (see Action report for Action D1; see also ANNEX I for Action D1)

Remaining threats

In bear conservation the main threats are generally represented by conflicts with human activities. As long as there will be an overlap of areas inhabited by bears and humans (which is the case of the project area) these conflicts will always exist to a more or less severe degree. The solution to that problem is to create and to maintain the tools to minimize these conflicts as much as possible and to promote tools to ease coexistence as much as possible. This has been achieved successfully, and the project has established useful tools to minimize several of the existing threats.

On the other hand, since bear populations continue to expand and to re-colonize more humanized areas and since the socio-economic status of the local communities vary, there will be a continuous evolution of the interactions between bears and humans, which will constantly have to be faced by adapting an integrated management strategy.

In the case of the project area, although the techniques for managing conflict situations have been demonstrated and knowhow has started being transferred to competent services and local authorities with the establishment of the national BET, adequate operational capacity has not yet reached its maximum level due to institutional and financial reasons.

Also, although bear habituation to human related food sources has been identified as one of the main reasons generating human bear conflicts and subsequent poaching, in the project area, further concrete conservation actions should be implemented in the future (e.g. electric fences, bear-proof garbage containers, etc.) but also a more severe control and sanctioning of poaching has to be urgently endorsed by the competent authorities.

New LIFE projects implemented in the project area or adjacent ones

The successful development, application and implementation of new LIFE projects in the project area, which were at least partially inspired by the LIFE AMYBEAR project, has substantially increased the opportunities for exploitation of the solutions applied and the lessons learned from the LIFE AMYBEAR project. The continuation and replication of some of the LIFE AMYBEAR activities (see below: "Activities

that have to be carried on and why”) as well as synergies with other activities that will be implemented by these projects.

It is worth-noting that CALLISTO, which participated as Associated Beneficiary in the LIFE AMYBEAR project, takes part either as Associated or as Coordinating Beneficiary in all three projects listed below. Moreover, the Municipality of Amyntaion, participates also as Associated Beneficiary, in the third of them:



LIFE SAFE-CROSSING (LIFE17 NAT/IT/464): The main objective of this project is to demonstrate best practices that can be used to reduce the negative impacts of road infrastructure on large carnivores across Europe. One of the project areas where the project is implemented in Greece is the Regional Unit

of Florina and therefore its project area partially overlaps with the LIFE AmyBear project area. Through exchange of information and experiences and collaboration in selection of the locations for the installation of the prevention measures, strong synergies between the two projects regarding roadkill prevention have been secured. Moreover, the installation of innovative AVC prevention tools from this project, combined with the “virtual fence” and the special road signs installed by LIFE AMYBEAR, reduce the risk of traffic collisions with brown bear, increase drive awareness to the risk of collisions with the target species and greatly contribute to further decrease in mortality of the target species due to accidents with vehicles.



LIFE ARCPROM (LIFE18 NAT/GR/768): The project, in which CALLISTO is the Coordinating Beneficiary, aims to the improvement of human-bear coexistence in 4 National Parks of South Europe, including the National Park of Prespa Lakes, which has already undertaken the responsibility of managing all Natura 2000 sites in Western Macedonia, including all protected areas in the LIFE AMYBEAR project area. Project actions includes the building of institutional capacities via acquisition of know-

how by personnel of the four National Parks on specific monitoring and management techniques dealing with the conservation of brown bear. The project supports also improved management of anthropogenic food-related resources in the areas where bears exhibited problematic behaviour, cooperation between Livestock Guarding Dog (LGD) owners and livestock breeders, dissemination of anti-poison first aid kits donated to livestock farmers operating in areas of high-risk for poisoning LGD and bears, as well as establishment of 4 Local Platforms for Coexistence between People and Bears (6 stakeholder groups will take part in each platform). Finally, supports bear-friendly labelling for products and services and the utilization of the thematic bear trails developed by LIFE AMYBEAR for Environmental education activities.

LIFE Bear-Smart Corridors (LIFE20 NAT/NL/1107): The new LIFE Bear-Smart Corridors project is expected to improve the conservation status of the brown bear in Italy and Greece in six previously identified bear expansion corridors, by developing 18 Bear Smart Communities. By gaining the support of local communities and key stakeholders, the conservation actions will be implemented in both core and corridor areas for bears, with the main objective to develop measures aiming to improve human-bear coexistence. This will allow bears to migrate into and across critical corridors to substantially increase bear range and population. One of the three Bear

Smart Communities in Greece will be developed in the territory of Amyntaion Municipality, using tools developed in the framework of LIFE AMYBEAR to mitigate human-bear conflicts (such as implementation of damage prevention measures, installation of special aversive means of bear - proof refuse containers, electric fences, in hot-spots of human-bear interference use., operation of a Bear Emergency Team, etc.

Activities that have to be carried on and why

Mitigation/minimization of bear-human interference (Actions A3, C4, C7, C8): The project initiated and demonstrated good practices and applied relevant solutions on the subject. Adoption of good practice, with the Bear Emergency Team as the primary example, should be continued in the future, mainly by the local Forestry District Departments and NECCA Management Units in the area.

Implementation and support of prevention measures, for decreasing damages caused by bears (Actions C5, C6 and C7):

The project supported the use of Livestock Guarding Dogs (LGDs) and of electric fences to decrease the level of damages caused by bears on agricultural holdings. Moreover, created a network of LGD owners, which may continue operating after the end of the project, for exchanging good quality LGDs. They may also use new tools initiated by the project, such as Anti-Poison First Aid Kit, for protecting their dogs by poison baits.



Environmental NGOs like CALLISTO and ARCTUROS will continue their support to the implementation of prevention

measures, however National and European public funds are still necessary for refinement and consolidation of these measures.

Improvement of road safety and reduction of vehicle-animal collisions (Action C3):



The project installed warning signs and deterrents to make safer the local road network for both drivers and bears. These measures are supplemented and strengthened by interventions of another LIFE project (“Safe-Crossing”), which worked in synergy in the same and adjacent areas. Maintenance and monitoring of

the existing infrastructure, as well as installation of more special warning signs, active warning reflectors (virtual fences) and innovative Animal Vehicle Collision Prevention Systems (AVC PS) in segments of the local road network should be continued by national (Ministry of Infrastructure and Transportation, Egnatia Odos SA) and local authorities (Decentralized Administration, Region of W. Macedonia).

Valorization, certification and promotion of bear friendly products and services (Actions A4, D4 and E1): The project created the Local “Brown Bear” Standard which includes specific requirements for the application of specific practices friendly to bear by the local enterprises. The local enterprises should comply with these requirements in order to be awarded by the “Brown Bear” Label.



The standard is an effort for the recognition of the brown bear as a species that has not only environmental but also economic value, adding value to products and / or the services of companies that apply the standard. The Florina’s Chamber of Commerce, the Municipality of Amyntaio, and the local NECCA’s Management Unit should exploit and enrich this labeling scheme adding value to local agricultural products produced with bear-friendly production methods and to tourist bear-friendly activities and services.

Stakeholder consultation and involvement (Actions A1, C1 and D1): Continuation of the project efforts is crucial for improving the conditions for coexistence of people with brown bear in the project area. The expansion of the area under responsibility of the Prespa National Park Management Agency to all Natura 2000 sites of Western Macedonia, will offer the opportunity to continue the stakeholder consultation and involvement, in the framework of the “Management Committees” foreseen in Article 35 of the Law 4685/20.

Awareness Raising and Environmental Education activities (Actions E1-E5):

The project created a website, produced printed and audiovisual information material, organized information, and public awareness campaigns; designed, mapped, and equipped with environmental interpretation signs two thematic paths to be used in environmental education programmes. Environmental NGOs, the local NECCA's Management Unit, Municipality of Amyntaio, the Region of Western Macedonia, and the local Environmental Centre, may exploit and replicate the existing guides, material and structures. The created thematic trails, can be used for organized visits of schools and other groups.



Monitoring of brown bear population and distribution status and trends (Actions A2, D5) and of the project performance indicators (Action D6): Innovative technics and methods used during the implementation period of the project (camera-trapping, genetics, etc.) should be adopted and continued by the competent authorities (Forestry Service, NECCA's local Management Unit), scientific institutions and specialized Environmental NGOs (CALLISTO, ARCTUROS), in order to monitor regularly specific population indicators (reproductive success, reproductive interval, mortality, etc.) as well as changes on bear habitats.

Strengths, Weaknesses, Opportunities, Threats after the project end

The positive and negative aspects, identified in a SWOT analysis, are summarized below:

Table 1. SWOT Analysis

	HELPFUL STRENGTHS	HARMFUL WEAKNESSES
INTERNAL ORIGIN	<ul style="list-style-type: none"> ▪ Improved background knowledge of human-bear conflict triggers, stakeholder needs, desires and expectations; Increased awareness on legal and institutional shortcomings ▪ Improved conditions for bear conservation and management as well as mitigation of human-bear conflicts as reflected in the significant decrease in the number of bear-related traffic accidents ▪ Improved operational capacity of stakeholders, including local actors and authorities, in adopting good practice in bear conservation and management, with the Bear Emergency Team as the primary example ▪ Improved working conditions, collaboration and trust between stakeholders, including local actors and authorities and environmental non-governmental organizations ▪ For local actors and authorities, especially, improved awareness about conservation issues, tolerance towards bears, involvement in bear conservation and management and readiness to uptake innovation ▪ Recognition of brown bear by the local companies as a species that has not only environmental but also economic value, 	<ul style="list-style-type: none"> ▪ More room for involving and better coordinating local and national authorities and institutions; political will to support bear conservation should be better communicated ▪ The implementation of several project actions has been delayed, which has not allowed for the full potential of all innovation introduced in the project area to be manifested and recognized ▪ Crucial prevention measures still not integrated in the Rural Development Programme; the later does not cover those who are not registered as professional farmers ▪ Bear-proof containers not yet effectively integrated in waste management systems and fully endorsed by local communities; substantial margins for improvement in this direction ▪ Bear conservation and management measures implemented separately by individual users without any further coordination; an integrated planning at the landscape level is missing
EXTERNAL ORIGIN	<ul style="list-style-type: none"> ▪ Improved working conditions and trust between stakeholders increases the odds of continued training and awareness raising of local actors, know-how transfer and experience exchange between partners ▪ Stakeholder networking may capitalize on analogous networks in other areas in Greece and Europe to improve regulations and extend project experiences and good practice at country and EU level ▪ Stakeholder involvement and consultation can feed in the new LIFE project to be launched in the project area (LBSC), especially within the frame of the Bear Smart Community to be established ▪ The Local Management Unit of NECCA can adopt good practice and solutions applied, build on lessons learnt and secure the long-term sustainability of several project actions ▪ Local actors and communities endorsed developmental opportunities based on bear presence; these can be exploited for enriching the tourist product and increasing the added value of local agricultural products 	<ul style="list-style-type: none"> ▪ Any shortage of human and financial resources due to socio-economic and political reasons may decrease tolerance levels again and refuel human-bear and human-human conflicts ▪ Discontinuity of funding for a subset of project actions may compromise the long-term implementation of conservation objectives ▪ Persistent incompatibilities and lack of a common ground between different authorities and stakeholders may augment institutional and stakeholder conflict ▪ The rather slow response of some institutions in aligning with legal requirements and policy change may threaten the success accomplished by several project actions ▪ An almost unanimous rejection of illegal poisoned baits coexists with latent social norms still tolerating that practice, which jeopardizes the local network for livestock guarding dogs

3. “AFTER LIFE” OBJECTIVES AND ACTIONS

Methodology

The Greek National Action Plan for Brown Bear¹ (NAPBB) has identified six specific objectives, which are expected to contribute to the overall objective of the Action Plan: “Maintaining a sustainable brown bear population in Greece and improving the conditions for the normal coexistence of the species with humans”:

- 1) *Stabilization / improvement of the population status and maintenance of the upward population trend of the species;*
- 2) *Improve / maintain bear habitats in favourable condition;*
- 3) *Maintain and/or increase the geographical distribution and range of the species / Halt the fragmentation of habitats, distribution and sub-populations of the species;*
- 4) *Maintain critical connectivity zones / ensure connectivity at national and cross-border scale;*
- 5) *Improve the attitudes and perceptions of the public and special target groups;*
- 6) *Strengthen the operational capacity of competent managing authorities and bodies.*

Having identified the After LIFE needs, strengths, weaknesses, opportunities and threats in the project area, the LIFE AmyBear project team built its After LIFE strategy adapting the specific objectives of the NAPBB to the local needs and priorities, in relation with the scopes and goals of the LIFE AmyBear project, the actions and solutions implemented and the lessons learnt during the implementation period of the project.

All specific objectives above have been considered as relevant to the After LIFE project goals, with the exception of the third one, considered as non-relevant to the project scope.

At a second stage, all measures and actions proposed in the NAPBB for achieving the corresponding objectives were examined by the project team. The measures and actions that considered as relevant (that should be carried out in the next five years in the project area) were adapted to the particularities of the project area.

All proposed actions were matched to the actions of the LIFE AmyBear project: Twenty-six (26) of the totally 73 NAPBB actions were selected as relevant to the needs of the LIFE AmyBear project area. Some of the 26 selected actions correspond to more than one LIFE AmyBear actions, constituting continuation of the specific actions.

It is worth-noting that twelve (12) of the proposed measures have been included in the new Greek National Prioritized Action Framework for Natura 2000 (multiannual financing period 2021-2027). The implementation of the LIFE AmyBear contributed substantially to the adoption of these proposals by the Greek Ministry of Environment

¹ “Mertzanis G., Psaroudas Sp., Karamanlidis A.A. 2021. National Action Plan for the brown bear (*Ursus arctos*). LIFE-IP 4 NATURA Project: Integrated actions for the conservation and management of Natura 2000 sites, species, habitats and ecosystems in Greece (LIFE16 IPE/GR/000002). Deliverable Action A.1. CALLISTO/ARCTUROS. Thessaloniki, 142 pp. & VII Annexes. Final version”.

and Energy. Together with other LIFE Projects implemented either earlier (e.g. LIFE PINGRE or LIFE ARCTOS/KASTORIA) or in parallel with the LIFE AmyBear project (e.g., LIFE Safe Crossing or LIFE ARCPROM) implemented successfully some of the proposed actions and demonstrated the value of these action on improving human-bear coexistence conditions.

Contents of the “After LIFE Plan”

The After LIFE Plan is presented at the form of tables, one for each Objective: As explained above, objectives correspond to one of the six Specific Objectives defined in the NAPBB.

In each table, details regarding the proposed “After LIFE” measures and actions are presented.

The codes mentioned in the first column of each table correspond to the code of the proposed measure (two digits, the first one corresponding to the code of the relevant objective), or of the proposed action (three digits, the second one corresponding to the measure code and the third one corresponding to the action code, set out in the NAPBB).

In the next column, the title of the Measure-Action is included:

Measure: Each measure is directly related to the achievement of a specific objective. Usually, there are more than one measures targeting the same specific objective, with the exception of the Special Objective “2. Improve / maintain bear habitats in favourable condition”

Actions: Distinctive activities - programs of activities, interventions and initiatives, with distinct content, implementation body/bodies and cost budget. Each action is part of one of the Measures that aim to achieve the relevant specific objective.

AmyBear Actions: In the third column, the code(s) of the LIFE AmyBear project corresponding to each proposed action is (are) mentioned.

Implementing Bodies: In the fourth column, the bodies that can undertake the implementation of the proposed action are identified. During its implementation, cooperation with other bodies (also mentioned) may be required.

Significance assessment: The importance of each action / measure in terms of its implementation is prioritized. The following categorization is used (tailored to the needs of the area):

- *Critical*: Immediate action required, necessary for the success of the “After LIFE Plan”
- *High*: Very important action, necessary for the success of the “After LIFE Plan”
- *Medium*: Important action, particularly beneficial for the success of the “After LIFE Plan”
- *Low*: Useful action, helpful for the success of the “After LIFE Plan”

Application priority: The time horizon in which the proposed action must be implemented is determined, according to the following categorization:

- *Immediate*: implementation horizon 1st-2nd year, however, this includes also actions that must be started immediately, but their implementation has a time horizon throughout the project.

- *Medium-term*: implementation horizon 3rd-4th year
- *Long-term*: implementation horizon 5th year and beyond.

Time-planning: The planned / estimated implementation schedule (with reference to the 5 years after the end of the project LIFE AmyBear and beyond the fifth year) of the specific proposed action is given.

Total cost: The estimated cost (including personnel, travel, equipment, etc.) for the full implementation of the specific proposed action that should be carried out in the next five years in the project area is noted. The calculations made for the cost estimation are available as an annex (F2.2).

Source of funding: The source(s) of funding for this action is (are) identified.

Notice please that the total cost in the next five years after the end of the project (namely, 2022-2026) is estimated to approximately 1.570.000 euro, close to the total cost of the LIFE AmyBear (approx. 1.520.000 euro).

Abbreviations used in the table

Most of the names of the Implementing Bodies or of the source(s) of funding, are given in their full length. However, in some cases, abbreviations are used:

- NECCA: Natural Environment & Climate Change Agency
- NECCA MU: The local NECCA Management Unit of the Western Macedonia Protected Areas (including all Natura 2000 sites in the project area).
- LIFE IP4Natura: The “LIFE-IP 4 NATURA” project is the first LIFE Integrated Project ever approved for Greece and the largest nature conservation project ever to be undertaken by the country, at the initiative of the Ministry of Environment & Energy.
- OP TIESD: Operational Programme “Transport Infrastructure, Environment and Sustainable Development”
- DAoE-WM: Decentralized Administration of Epirus and Western Macedonia
- W. Macedonia ROP: Regional Operation Programme of Western Macedonia
- MoEE: Ministry of Environment and Energy
- Ministry of RD & Food: Greek Ministry of Rural Development and Food
- CAP 2023-2027: The National Strategic Plan for implementation of the Common Agricultural Policy in Greece (2023-2027). It will combine a wide range of targeted interventions addressing the specific needs of Greece in relation to EU-level objectives, while contributing to the ambitions of the European Green Deal.
- ELGA: Hellenic Agricultural Insurance Organisation
- CALLISTO, ARCTUROS, HOS: Specialised Environmental NGOs, which are active in the project area
- GREEN FUND: A public-law entity reporting to the Ministry of Environment and Energy. It is funding actions to protect, upgrade and enhance the environment implemented by third parties. Usually, funding is in the form of subsidies.

- Hellenic Institute of Transport (HIT): Part of the Centre for Research and Technology Hellas (CERTH). HIT's main objective is the conduct and support of applied research activities in the field of transportation in Greece.
- Balkan Prespa Park: The Prespa Park is the first transboundary protected area in the Balkans. It was established in February 2000 with a joint Declaration by the Prime Ministers of Greece, Albania and Northern Macedonia.

Table 2. After-Life Plan

Objective 1: Stabilization / improvement of the population status and maintenance of the upward population trend of the species

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
1.1	Reduction of damages caused by bears on agricultural holdings							
1.1.1	Promotion of systematic use of electric fences by beekeepers, stockbreeders and growers to reduce losses in the rural economy.	C7	Ministry of RD & Food, DAoE-WM, Agricultural Cooperatives, NECCA MU, CALLISTO/ARCTUROS	HIGH	IMMEDIATE	2023-2026	300.000 €	CAP 2023-2027
1.1.4	Systematization of the use of LGDs by utilization / expansion of existing networks of LGD owners	C5	Universities & Research Institutions CALLISTO/ARCTUROS NECCA MU	CRITICAL	IMMEDIATE	2022-2026	50.000 €	LIFE IP4Natura
1.1.7	Subsidy for the purchase and maintenance of LGDs by stock-breeders	C5	Ministry of RD & Food DAoE-WM, Municipality of Amyntaio	CRITICAL	LONG-TERM	2023-2026	100.000 €	CAP 2023-2027
1.3	Confrontation of the intentional human-caused mortality							
1.3.4	Creating / maintaining a database of bear mortality / correlation with production losses and human-human interaction	D3	Forestry Service CALLISTO/ARCTUROS NECCA MU	HIGH	IMMEDIATE	2022-2026	14.000 €	GREEN FUND
1.4	Management of bear-human interaction incidents in residential areas							
1.4.1	Improving the implementation of Joint Ministerial Decision Nr. 104180/433, Government Gazette 272/07-02-2014, for the management of human bear interactions in residential areas (review of the institutional framework, capacity building, acquisition and use of specialized deterrents, etc.)	C4	NECCA MU Forestry Service CALLISTO/ARCTUROS Universities & Research Institutions	HIGH	IMMEDIATE	2022-2026	75.000 €	GREEN FUND NECCA
1.4.4	Dissemination of systematic use of e-fences to prevent bears from approaching settlements and anthropogenic food sources	C7	Municipality of Amyntaio NECCA MU CALLISTO/ARCTUROS	CRITICAL	IMMEDIATE	2022-2026	150.750 €	W. Macedonia ROP OP TIESD (in PAs)
1.4.5	Use of bear-proof garbage bins/containers in settlements (modification of existing bins or their incorporation in metal shells)	C7	Municipality of Amyntaio NECCA MU CALLISTO/ARCTUROS	MEDIUM	IMMEDIATE	2022-2026	75.000 €	W. Macedonia ROP NECCA
1.4.6	Supply and installation of special devices / deterrents to prevent bears from approaching settlements	C4	Municipality of Amyntaio NECCA MU CALLISTO/ARCTUROS	MEDIUM	MEDIUM-TERM	2022-2026	80.000 €	W. Macedonia ROP NECCA
1.5	Addressing the problem of illegal use of poisoned baits							
1.5.4	Installation / operation of permanent stations for dissemination of first aid kits to poisoned LGDs, hunting dogs, wildlife animals - Training seminars on the use of kits	C6	Municipality of Amyntaio Universities & Research Institutions, NECCA MU, CALLISTO/ARCTUROS	MEDIUM	IMMEDIATE	2022-2026	22.500 €	W. Macedonia ROP NECCA

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
1.8	Reduction of anthropogenic mortality from road accidents							
1.8.2	Installation of warning signs, deterrents and Animal-Vehicle Collision Prevention Systems (AVC-PS) on non-fenced roads	C3	Ministry of Infrastructure & Transport DAoE-WM Region of W. Macedonia CALLISTO	HIGH	LONG-TERM	2025-2026	130.000 €	OP TIESD

Objective 2. Improve / maintain bear habitats in favourable condition

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
2.3	Interventions in Spatial Planning							
2.3.3	Establishment of exclusion zones for the installation of Wind Turbine Stations (WTS): Preparation of a special study to determine the impact of WTS on the habitat and population of bears - mapping of exclusion zones	D5	Ministry of Environment Universities & Research Institutions CALLISTO/ARCTUROS	HIGH	IMMEDIATE	2022-2023	25.200 €	LIFE IP4Natura GREEN FUND

Objective 4. Maintain critical connectivity zones / ensure connectivity at national and cross-border scale

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
4.2	Ensuring / optimizing biogeographical and population parameters in cross-border populations of the species							
4.2.2	Update and implementation of a Joint Action Plan for the Bear in the cross-border area of the Balkan Prespa Park	E1.5, E3	Balkan Prespa Park NECCA MU CALLISTO/ARCTUROS	MEDIUM	MEDIUM-TERM	2022-2026	170.000 €	LIFE IP4Natura GREEN FUND INTERREG
4.2.4	Re-establishment and operation of the Balkan Bear Network (regular meetings for the exchange of knowledge and experience and development of collaborations for the conservation of the populations and habitats of the species in the cross-border areas).	E1.5, E3	Forestry Service NECCA MU Balkan Prespa Park CALLISTO/ARCTUROS	MEDIUM	LONG-TERM	2022-2026	25.000 €	Min. of Foreign Affairs NECCA INTERREG

Objective 5. Improve the attitudes and perceptions of the public and of special target groups

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
5.1	Dissemination and Awareness Raising Campaigns							
5.1.1	General information and awareness campaign for the coexistence of people with bears (events, workshops, publications, audio-visual material, electronic applications, media and social media, etc.)	E1, E2	Municipality of Amyntaio, CALLISTO/ARCTUROS, Ministry of Environment, ELGA, NECCA MU	CRITICAL	IMMEDIATE	2022-2026	12.800 €	LIFE IP4Natura OP TIESD (in PAs)
5.1.2	Actions to inform farmers, stockbreeders, beekeepers and other agricultural professionals about measures of the CAP that support coexistence with bears (events, workshops, publications, guides, audio-visual material, seminars, promotion in professional exhibitions and publications, consulting services, etc.)	E1	Ministry of RD & Food, ELGA, Municipality of Amyntaio, CALLISTO/ARCTUROS, NECCA MU	HIGH	MEDIUM-TERM	2022-2026	23.800 €	LIFE IP4Natura CAP 2023-2027
5.2	Environmental Education Programmes							
5.2.1	Development and implementation of Environmental Education programmes in schools, Environmental Education Centres, libraries, countryside, etc.	E5	Environ. Educ. Centres CALLISTO/ARCTUROS NECCA MU Universities & Research Institutions	MEDIUM	IMMEDIATE	2022-2026	12.500 €	LIFE IP4Natura Ministry of Education
5.2.2	Development of thematic trails for the implementation of Environmental Education programmes	E5	CALLISTO/ARCTUROS NECCA MU Municipality of Amyntaio	MEDIUM	MEDIUM-TERM	2022-2026	17.100 €	GREEN FUND NECCA
5.3	Support to eco-volunteering and internship							
5.3.1	Design and support of Eco-volunteer mobilization programmes to support information and awareness actions, participation in stewardship or conservation actions and practical assistance to Management Bodies and environmental NGOs	A5, C6, E1, E5	CALLISTO/ARCTUROS NECCA MU Universities & Research Institutions	LOW	MEDIUM-TERM	2022-2026	61.500 €	LIFE IP4Natura GREEN FUND
5.3.2	Support-guidance-employment of students doing their internship (undergraduate or postgraduate studies) on issues related to the conservation of the species and its coexistence with humans	D1-D6	CALLISTO/ARCTUROS Universities & Research Institutions NECCA MU	LOW	MEDIUM-TERM	2024-2026	17.700 €	Ministry of Education
5.4	Adding economic value to the presence and conservation of brown bear							
5.4.2	Labelling and promotion of products and services friendly to the bear and the environment	A4, A5, E1	Ministry of RD & Food, Universities & Research Institutions, NECCA MU, Municipality of Amyntaio, Florina's Chamber of Commerce	HIGH	MEDIUM-TERM	2023-2025	50.000 €	CAP 2023-2027
5.4.3	Support for the development of mild tourism and ecotourism activities (training seminars to add	E1, E5	NECCA MU, Municipality of Amyntaio, Balkan Prespa	MEDIUM	MEDIUM-TERM	2023-2025	4.690 €	Ministry of Tourism CAP 2023-2027

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
	financial value to products / services through the presence of bears, workshops and organized guided tours for tourism professionals on the paths of Coexistence)		Park, Florina's Chamber of Commerce, Florina Hoteliers Association, CALLISTO, ARCTUROS					
5.5	Establishment and operation of permanent consultation structures							
5.5.2	Establishment of regional platforms for the regular consultation of stakeholders	C1, D1	NECCA MU CALLISTO Balkan Prespa Park	MEDIUM	IMMEDIATE	2022-2026	25.000 €	OP TIESD NECCA

Objective 6. Strengthen the operational capacity of competent managing authorities and bodies

Code	Measures-Actions	AmyBear Actions	Implementing Bodies	Significance assessment	Application priority	Time-planning	Total cost	Source of funding
6.2	Training of personnel of managing authorities, bodies and Emergency Response Teams							
6.2.1	Exchange of experience, theoretical and practical training of Forest Service staff, National Parks, Bear Emergency Teams, etc., in the implementation of management practices	C2	CALLISTO/ARCTUROS Universities & Research Institutions, Municipality of Amyntaio, NECCA MU	CRITICAL	MEDIUM-TERM	2024-2026	35.000 €	LIFE IP4Natura
6.2.2	Networking and exchange of experience between managing authorities and institutions or beneficiaries of LIFE projects in Greece and the rest of Europe	E3	NECCA MU, CALLISTO, ARCTUROS, LIFE Project Partners, Universities & Research Institutions, Forestry Service, Hellenic Institute of Transport	MEDIUM	MEDIUM-TERM	2023-2026	30.000 €	OP TIESD NECCA LIFE
6.3	Creation of monitoring structures for important parameters and indicators of the biology and ecology of the species							
6.3.1	Creation and operation of a central data base for: [1] Record data on the spatio-temporal presence and status of sub-populations and habitat of the species and monitor related changes. [2] Monitoring of specific population indicators (reproductive success, reproductive interval, mortality, etc.)	D1-D6	Ministry of Environment Forestry Service Universities & Research Institutions CALLISTO/ARCTUROS Balkan Prespa Park	MEDIUM	IMMEDIATE		30.000 €	LIFE IP4Natura
6.3.2	Update-utilization of the "National Bear Register": Genetic monitoring and analysis of the total population with emphasis on meta-populations (re-colonization areas), as well as the most isolated population nuclei and cross-border distribution areas of the species (preparation of a relevant report).	D1-D6	Ministry of Environment Forestry Service CALLISTO/ARCTUROS	MEDIUM	IMMEDIATE		33.750 €	GREEN FUND

Total calculated costs: 1.571.290 €