



BIOPROSPECT

Conservation and sustainable capitalization of biodiversity in forested areas



The Project

BIOPROSPECT: Conservation and sustainable capitalization of biodiversity in forested areas

“INTERREG Balkan-Mediterranean 2014-2020”

Priority axis 2. Environment

Thematic objective 6. Preserving and protecting the environment and promoting resource efficiency

Budget 1,104,565 euros

Implementation period: 2017-2020

Seven partners across BalkanMed area



Partnership



Democritus University of Thrace -
Department of Forestry and Management of
the Environment and Natural Resources-
Special Account for Research Funds (DUTH)-
Greece



Municipality of Vrapcisht- Republic
of North Macedonia



ARISTOTLE
UNIVERSITY OF
THESSALONIKI

Aristotle University of Thessaloniki-Special
Account for Research Funds - Department of
Economics (AUTH)-Greece



Cyprus University of Technology
(CUT/TEPAK)-Cyprus



Business and Exhibition Researches and
Development Institute (IEE)-Greece



AGROBIOINSTITUTE (ABI)-
Bulgaria



Institute of Applied Biosciences – Centre
for Research & Technology Hellas
(INAB/CERTH)-Greece



Maliq Municipality-Albania



co-funded by the European Union and national funds of the participating countries

Background of the project

Bioprospecting → exploration of biodiversity → resources of social and economic value

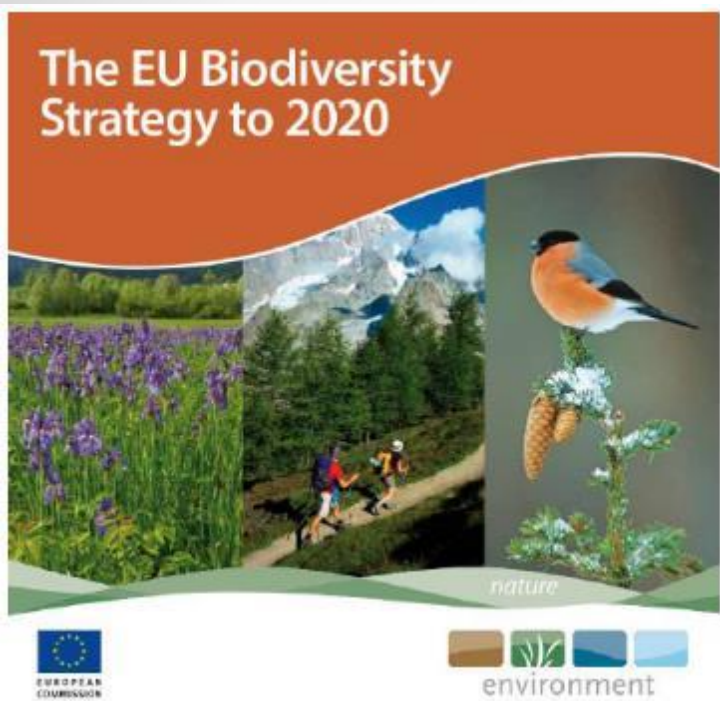
Assessing of the value of forest biodiversity and services can provide powerful and much-needed arguments to leverage additional protection for natural ecosystems which are important for sustainable development. In the decision making process related to the forest resources management, two key-aspects must be taken into account:

- **the economic value of the benefits provided by ES (provisioning, regulating and cultural services) and**
- **the spatial distribution of these benefits.**

Economic valuation is one of the main priorities of “EU Biodiversity Strategy to 2020” (Act. 5) that stresses the importance of mapping ecosystems and their services, assessing the economic value of such services, and promote the integration of these values into accounting and reporting systems at EU and national level by 2020.

Forests and woodland cover around 40% of EU’s land area and are home to much of the European biodiversity

Biodiversity Strategy 2020



The European Commission and Council adopted in 2011 the **EU Biodiversity Strategy to 2020** (European Commission, 2011), which also implies the time lines to meet the Aichi targets of the Convention of Biodiversity (CBD, 2010).

Halt the loss of biodiversity and ecosystem services in the EU and globally

Target 2

Maintain ecosystem services and restore ecosystems

Action 5

Map and **Assess Ecosystems** and their **Services (MAES)** in the entire EU territory; economic valuation; develop natural capital accounts



This knowledge base will support the Green Infrastructure Strategy (European Commission, 2013b), and the establishment of ecosystem capital accounting.



The present EU Forest Strategy was adopted in 2013 (European Commission, 2013a). In common with the previous EU Forestry Strategy (European Commission, 1998) and EU Forest Action Plan 2007–2011 (European Commission, 2007), the Forest Strategy focusses strongly on sustainable forest management and the multifunctional nature of forests delivering multiple ecosystem services.

The role of ecosystem services from forests is recognised for overall economic and social development, especially in rural areas.

Priority 2 (forests and climate change) and 4 (forests and environment) emphasize the role of forests in these sectors. "Protection efforts should aim to maintain, enhance and restore forest ecosystems' resilience and multi-functionality as a core part of the EU's green infrastructure, providing key environmental services as well as raw materials."

Nature legislation

The EU Nature policy comprises the Birds Directive and the Habitats Directive, indicating the EU target species and habitats that are to be protected while establishing the EU-wide Natura 2000 network under the 1992 Habitats Directive. The aim of the network is to assure the long-term survival of Europe's most valuable and threatened species and habitats, and combines both the areas designated under the Birds Directive as the ones designated under the Habitat Directive. Member States have a legal obligation to manage Natura 2000 sites and achieve favourable conservation status for those habitats and species within their borders

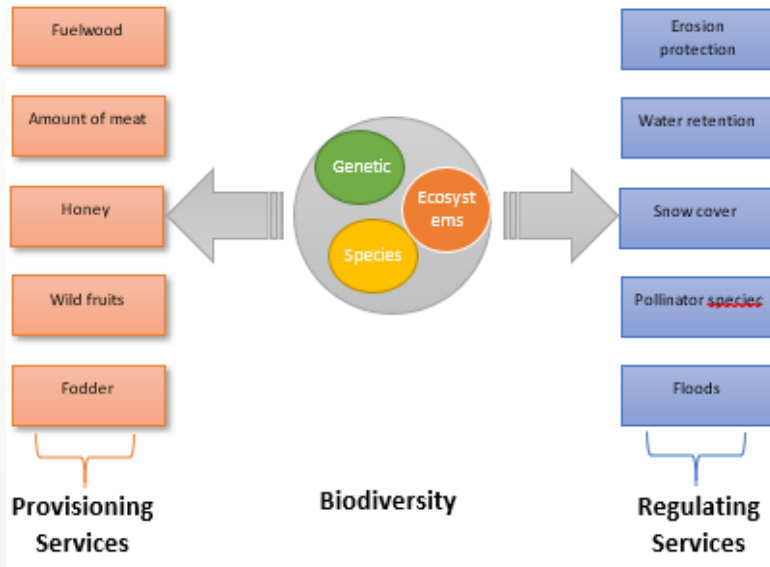
- Sites of Community Importance (SCI)
- Special Areas of Conservation (SAC).
- Special Protection Areas (SPAs).

26 000 protected sites that make up one fifth of the EU's land area

Biodiversity and Ecosystem services

Biodiversity is essentially the variety of life on earth

Biodiversity can be defined as the variability among living organisms from all sources, including inter alia terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part, this includes diversity within species, between species, and of ecosystems (United Nations Convention on Biological Diversity-CBD- 1992: Article 2).

[illegible][illegible][illegible]

Ecosystem services?

“The conditions and processes through which natural ecosystems and the species that make them up, sustain and fulfil human life”

(Daily 1997, Natures services)

“The benefits human populations derive directly or indirectly from ecosystem functions”

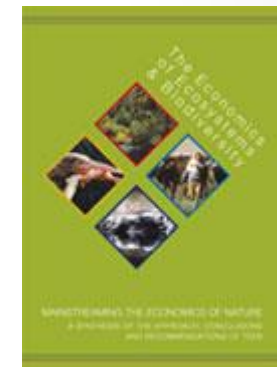
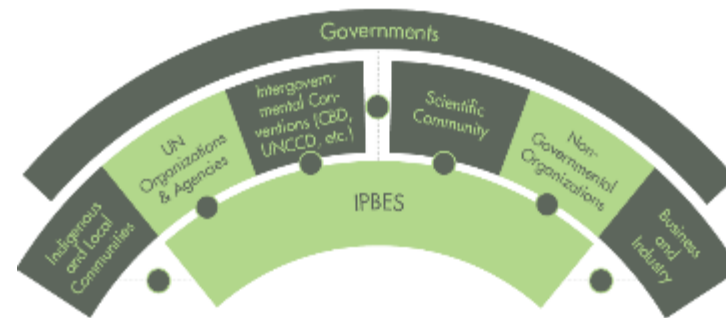
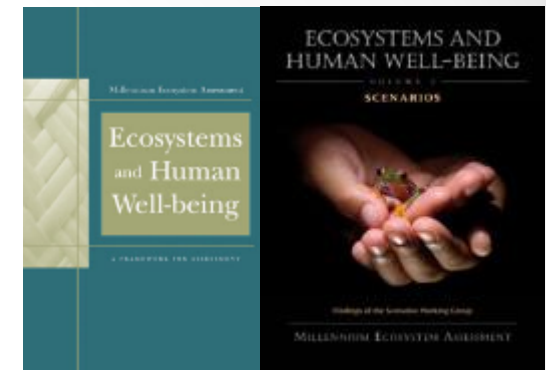
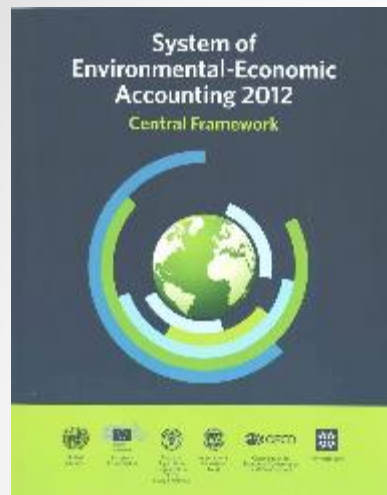
(Costanza et al. 1997)

“The contribution that ecosystems make to human well-being”

(CICES)



Local to Global



Ecosystem services are the relative contribution of natural capital to human well-being, they do not flow directly. It is therefore essential to adopt a broad, transdisciplinary perspective in order to address ecosystem services.

Forest Provisioning services



- Reared animals and their outputs
- Wild plants, algae and their outputs
- Wild animals and their outputs
- Water Surface water for drinking
- Ground water for drinking
- Materials Biomass
- Fibres and other materials from plants, algae and animals for direct use or processing
- Materials from plants, algae and animals for agricultural use
- Genetic materials from all biota
- Water Surface water for non-drinking purposes
- Ground water for non-drinking purposes
- Plant-based resources



Forest Regulation and Maintenance service

Maintain production under climate variability and protect crops against extremes
Local shade cover, soil fertility and moisture, wind breaks, water infiltration

Regulate base flows (dry seasons), peak flows (intense rainfall), and stabilize soil (landslide risks)

Cooling effect through increased evaporation and cloud cover
Influence on precipitation: water pumping and rainfall recycling

Regulate temperature and water for resilient urban settlements
Services: Shading, evaporative cooling, rainwater interception, storage and infiltration



Forest Cultural services



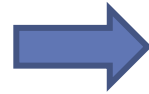
- Experiential use of plants, animals and landscapes in different environmental settings. And physical use of landscapes in different environmental settings
- Scientific, educational, heritage, cultural, entertainment and aesthetic
- Symbolic and sacred and/or religious
- Existence and bequest



Overall concept

ECOSYSTEM SERVICES-BIODIVERSITY-ECONOMIC VALUATION-MANAGEMENT

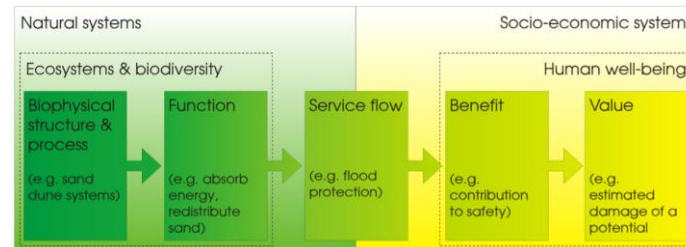
Review current situation on various ecosystem services supported by biodiversity over forest protected areas



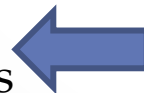
Develop manual and guidelines for capitalization and dissemination



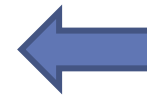
Develop operational economic models for valuation of forest protected areas



Develop actions plans and roadmaps



Demonstrate with specific interventions, i.e. *improve forest-river interconnection and water flow regulation in peri-urban forest*



Apply the ecosystem-related methods and tools in all participating countries

Aim and objectives

Aim of the project is to explore and document the bioprosects of forested protected areas and the ways of sustainable capitalization as a mean for their wise management and conservation

SO1. Provide operational tools for the conservation of forest biodiversity through economic valuation and sustainable capitalization



SO2. Demonstrate the operational application forest economic valuation and capitalization benefits

SO3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area

Pindos National Park



Northern Pindos National Park was established in 1966 and is considered one of the most important protected areas for the conservation of mountain biodiversity and ecosystem integrity on a national level. Pindos is located on the Northwestern part of Greece. It extends in an area of 1,969,741 m² and is the largest protected forested region in Greece.

The protected area includes two National Forests eleven areas listed in the European Network of Protected Areas as “NATURA 2000” sites.

The Park is managed as “Environmental Park” and “Wildlife Resource” since it is home to a large number of interesting species of flora and fauna that display high diversity.

A total of 68 villages exist within the area of the Northern Pindos National Park and 14 on its boundaries.

Municipality of Vrapcist



Vrapcisht Municipality is located in the northwest of the Republic of North Macedonia, on the slopes of the Shar Mountains, 580 meters above sea level and is a rural municipality bordering the north with Municipality of Bogovinje, east and southeast of the Municipalities of Gostivar and Municipality Brvenica, while from west to the municipality of Restelica (Republic of Kosovo).

The municipality consists of fifteen villages. Most of the villages are in boundaries with the forest but the access to the forest is limited. The forest consists of very attractive tourist sites and picnic areas where tourism can be developed.

Troodos National Forest Park, Cyprus



The National Forest Park (NFP) of Troodos is located at the center of Troodos range that extends from the northwest to the southeast part of Cyprus and covers an area of 9,009 ha. The lowest part of NFP of Troodos with an altitude of 700 m and the highest is Chionistra (or mount Olympos) peak at 1951 m. The area of the NFP of Troodos is dominated by forest ecosystems in pure or mixed formations. Troodos N.F.P. hosts the largest number of plants, compared to any other area of Cyprus, but also the largest number of endemic plants. It has been designated as one of the 13 «Plant Diversity Hot Spots» in the Mediterranean.

Protected Area of Rodopi-Zapadni, Bulgaria



Rodopi – Zapadni is the largest Sites of Community Importance (SCI) in Bulgaria and one of the largest in Europe. The SCI includes immense coniferous and mixed forests. The area is almost unpopulated. Around Trigrad, interesting rock formations are found. The SCI also includes some valleys with significant Mediterranean climatic influence (Eurocontinental Upper Meso-Mediterranean climate according to Rivas-Martinez): rivers Vucha, Kanina, Bistritza, Dospatska.

Pilot areas

Maliq Municipality, Albania



Maliq's mixed forest is located in the village of Drithas of the commune of Libonik, Korça district, near Maliq town, 813.5 m above sea level. It has 45 ha. A semi-natural mixed forest, consisting of poplar, willow, lime tree, pine and spruce. It is a remnant of the former forest that covered the swampy and temperate northern part of the Korça hills. The maximum tree height is 22.7 m, the maximum diameter is 80 cm. There are scientific, educational, biological, aesthetic, didactic and tourist values. To go to the monument you have to follow the road from Libonik to Drithas and hence to the Maliqi forest.

Project outputs

SPECIFIC OBJECTIVE 1. Provide operational tools for the conservation of forest biodiversity through economic valuation and sustainable capitalization

Manuals and guidelines for:

1. Map and Assess Ecosystems and their Services
2. Map and Assess genetic pools
3. Economic valuation of ecosystem services
4. Sustainable capitalization of provisioning, regulative and cultural services
5. Stakeholders engagement and public participation in the economic valuation of biodiversity

Project co-funded by the European Union and national funds of the participating countries



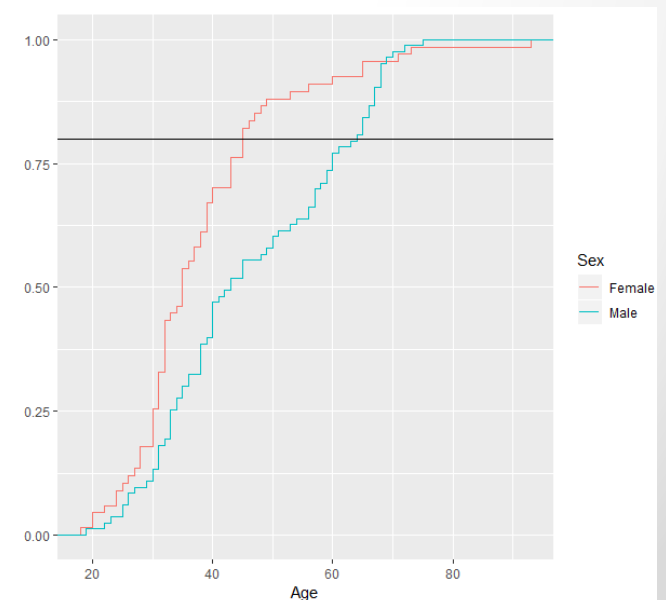
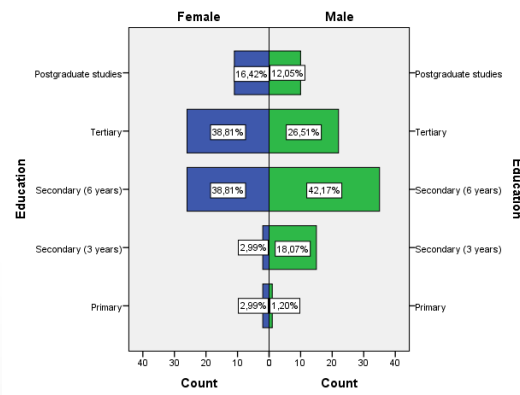
Deliverable 3.0.1 Stakeholders engagement and public participation in the economic valuation of biodiversity

BIOPROSPECT: Conservation and sustainable capitalization of biodiversity in forested areas

Project outputs

SPECIFIC OBJECTIVE 1. Provide operational tools for the conservation of forest biodiversity through economic valuation and sustainable capitalization

- Officially monetary valuation guidelines (i.e. Official Government Gazette FEK B 2980).
- Willingness to pay (WTP) for the services associated with biodiversity and for the genetic resources in the National Park of Northern Pindos and to quantify their importance.
- Socioeconomic characteristics of 250 visitors and 150 residents and the econometric tool of interval regression
- The same approach in other countries as well



Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



27th International Exhibition KAVALAEXPO 2019
:presenting the project goals and results as well as
distributing BIOPROSPECT branded memorabilia.



84th Thessaloniki International Fair:presenting the
project goals and results as well as distributing
BIOPROSPECT branded memorabilia

Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Info-day in Limassol, Cyprus by the Cyprus University of Technology



Municipality of Vrapcisht, Republic of North Macedonia: Reaching out to stakeholders through workshops and mobilizations

Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Municipality of Vrapcisht, Republic of North Macedonia: «Informing and mobilizing stakeholders and social partners in the forested area of Municipality of Vrapcisht with the aim of optimally supporting the ecosystem and the value of its services»



Stakeholders mobilization, Municipality of Maliq, Albania

Project outputs

SPECIFIC OBJECTINE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



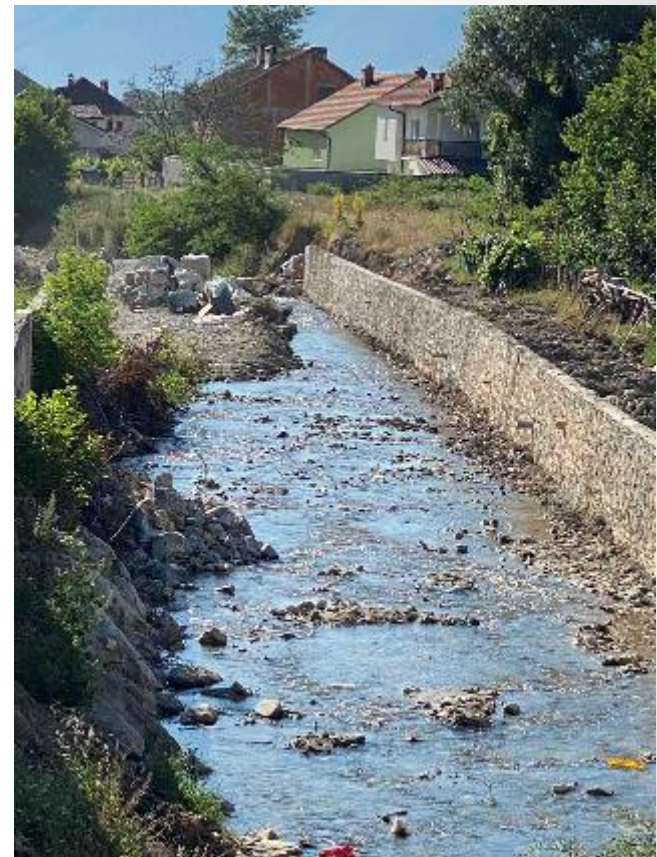
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



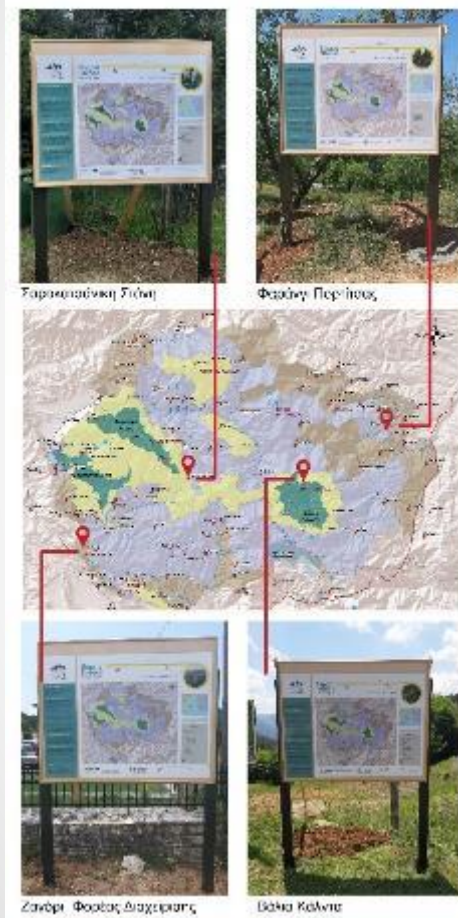
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



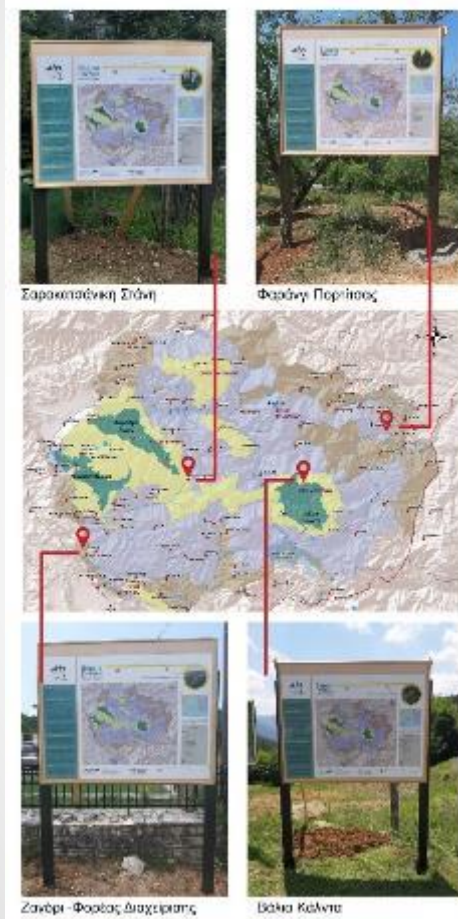
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



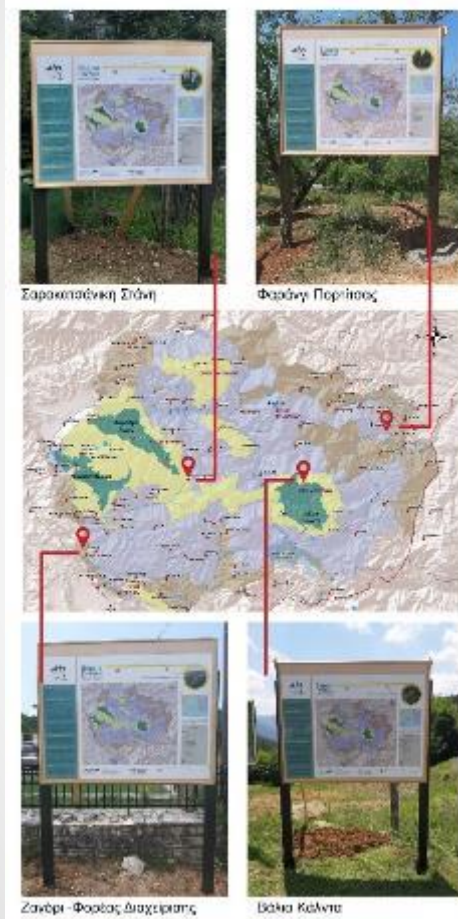
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



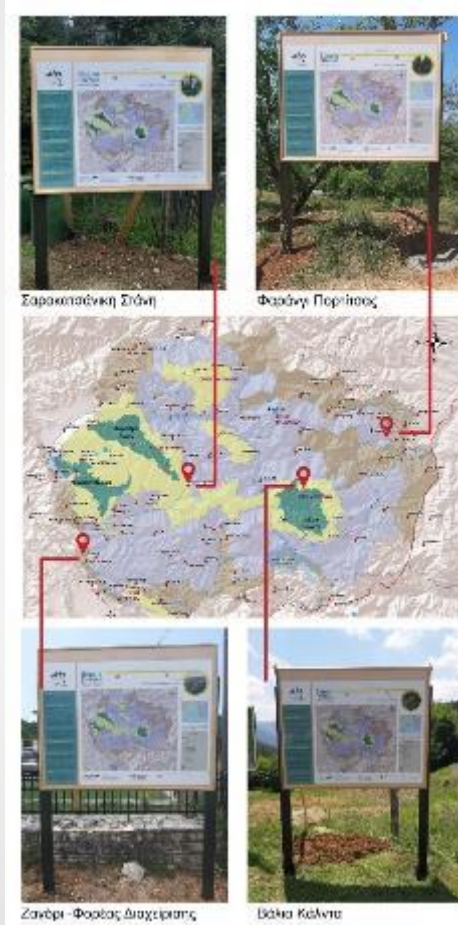
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Project outputs

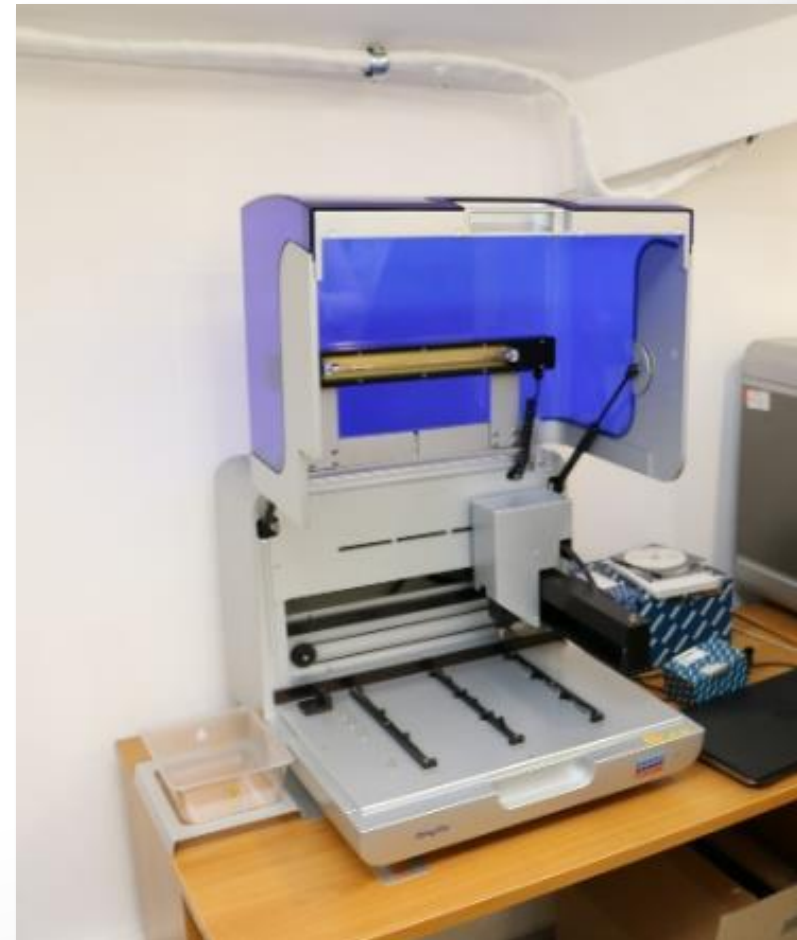
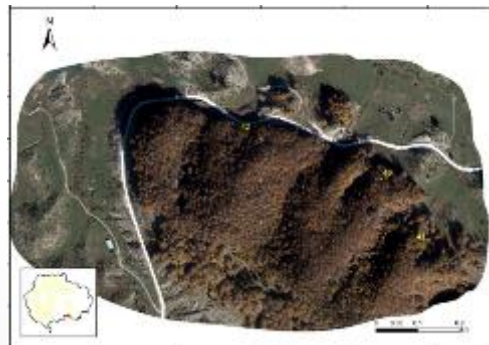
SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Project outputs

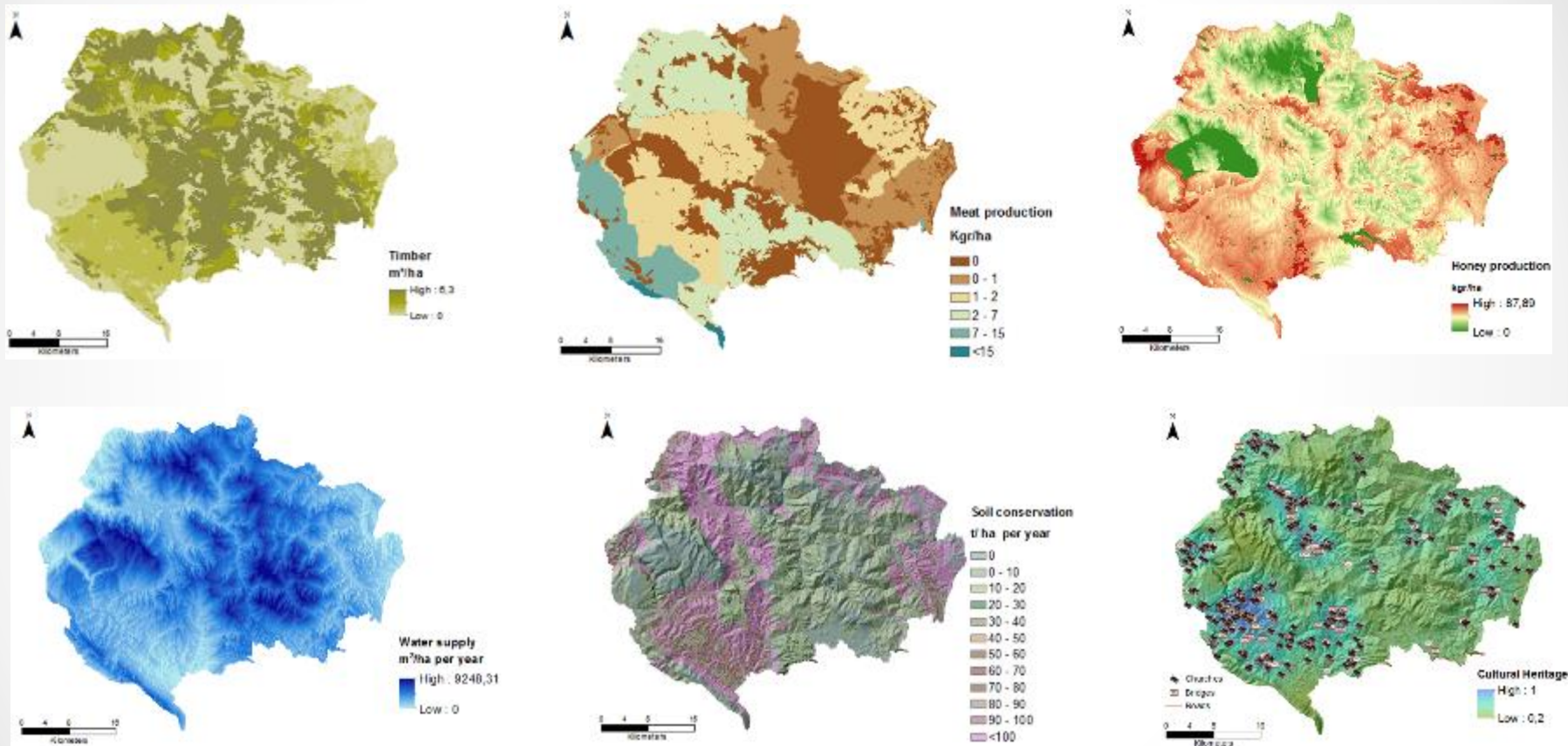
SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits

Approx. 20% of
the budget for
equipment!!!



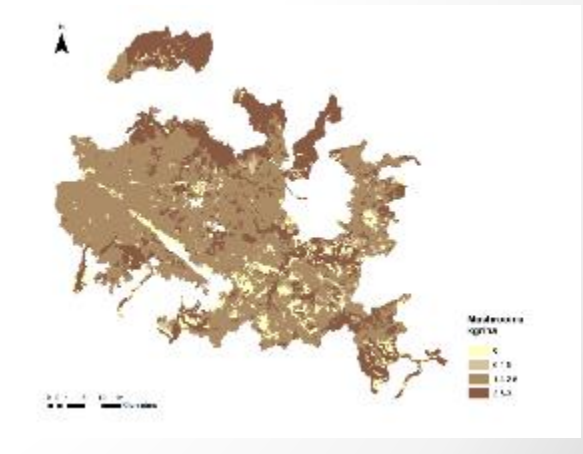
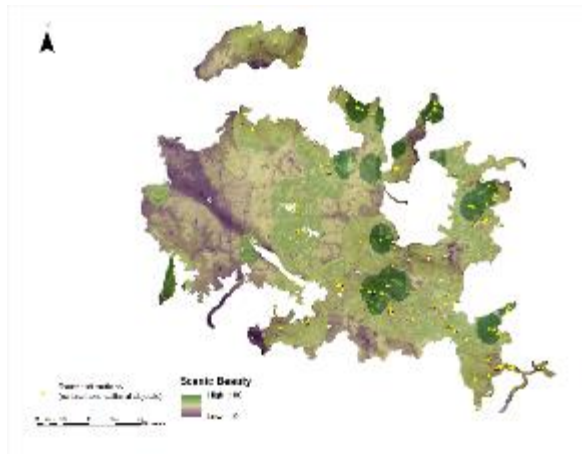
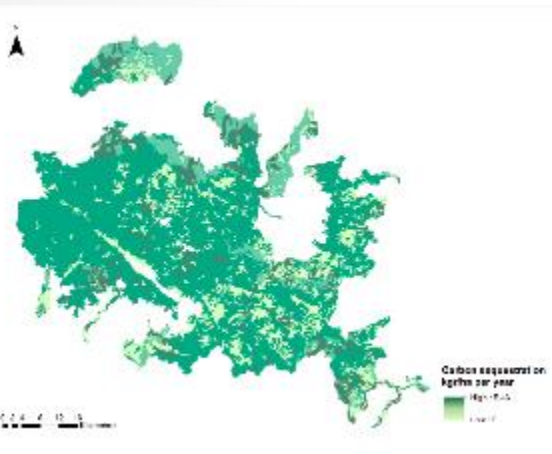
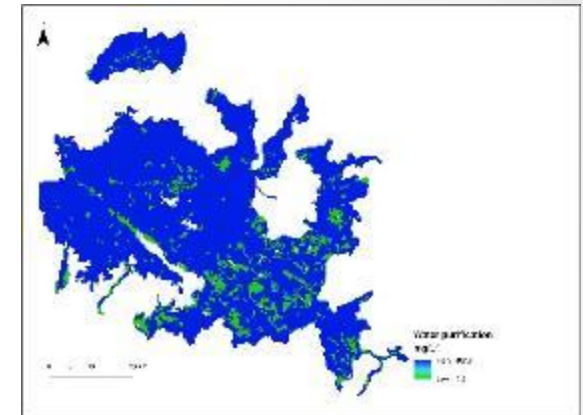
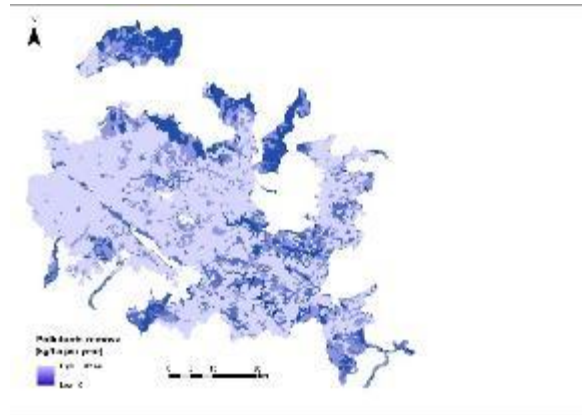
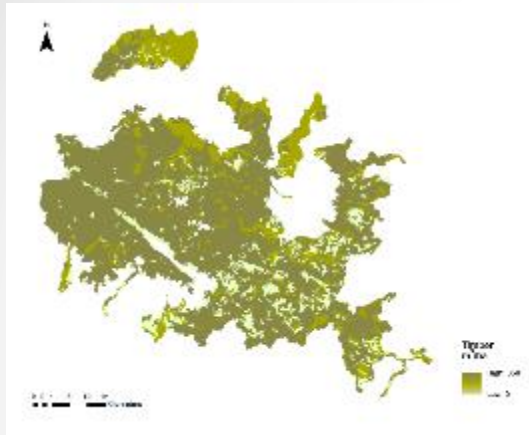
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



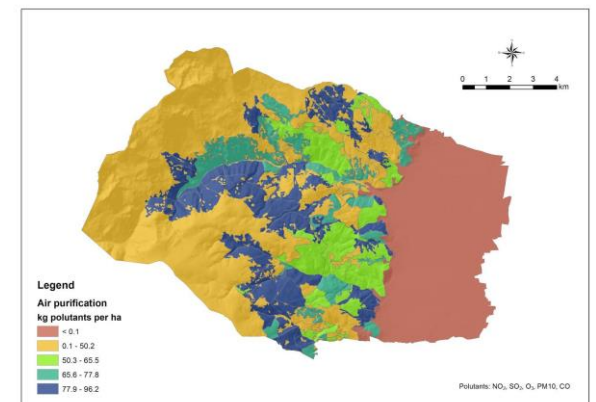
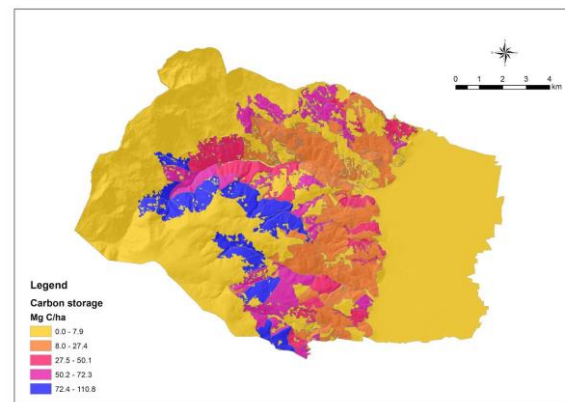
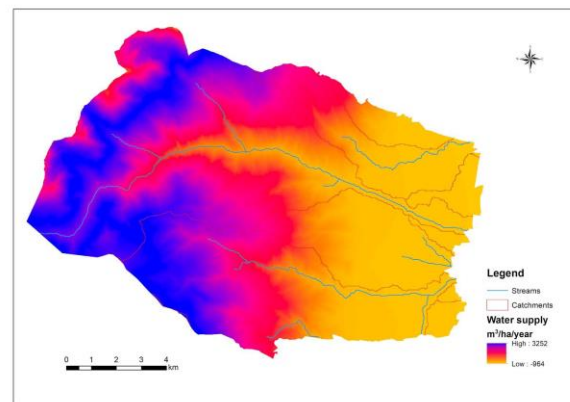
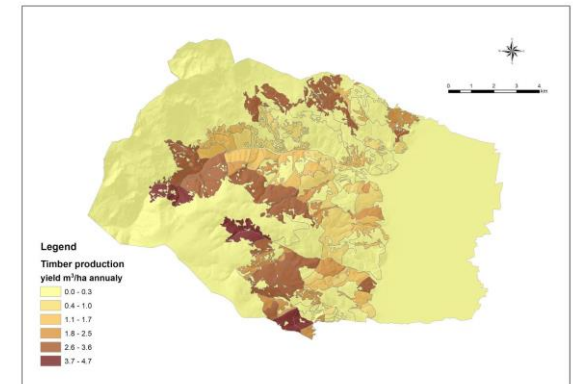
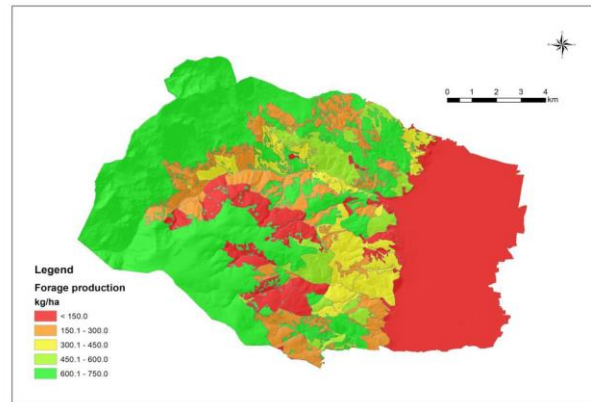
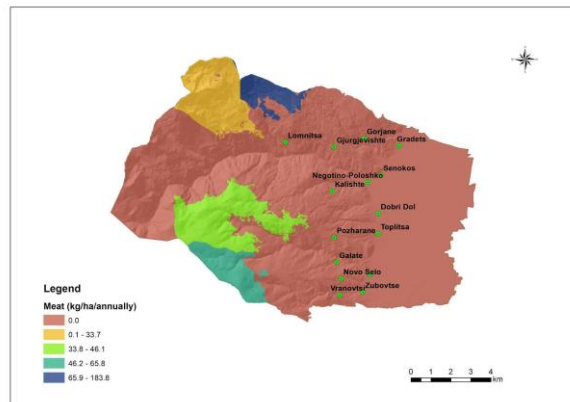
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



Project outputs

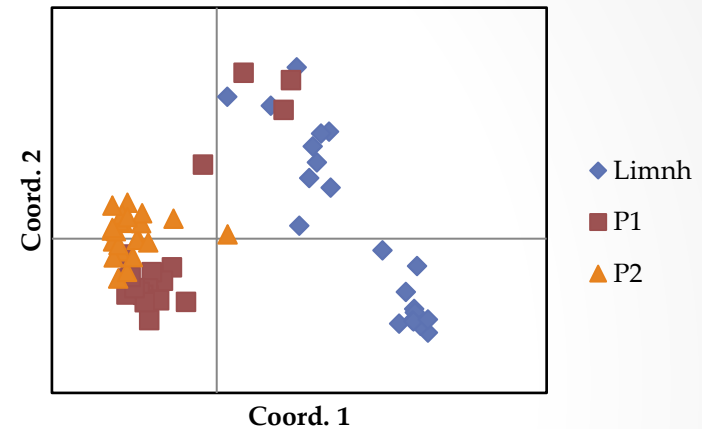
SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits



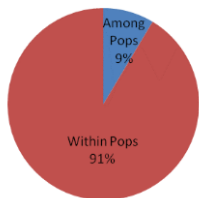
Project outputs

SPECIFIC OBJECTIVE 2. Demonstrate the operational application forest economic valuation and capitalization benefits

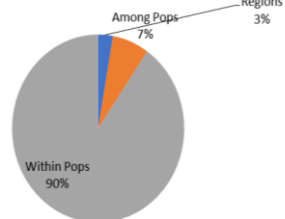
Principal Coordinates (PCoA)



Percentages of Molecular Variance



Percentages of Molecular Variance



Pinus heldreichii

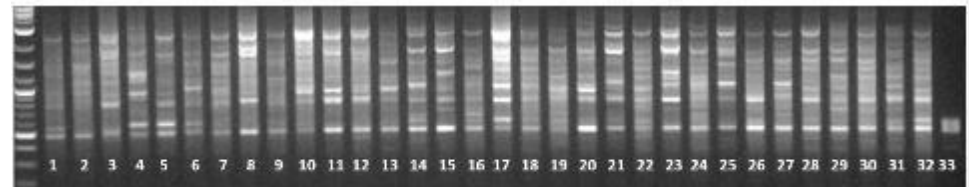


Figure 9. ISSR analysis of *Pinus heldreichii* (UBC 807)

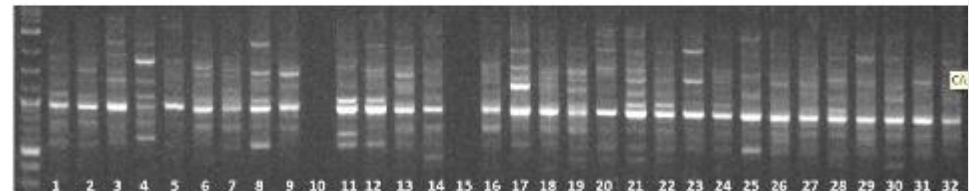


Figure 10. ISSR analysis of *Pinus heldreichii* (UBC 811)

Project outputs







SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area



“Live” demonstrations of application of DNA marker technologies for evaluation of genetic diversity in forested areas

Project outputs

SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area




[E-learning](#)[WebGIS](#)[E-calculator](#)[Login](#)[Register](#)

For existing users. Create new account.

BIOPROSPECT: Conservation and Sustainable Capitalization of Biodiversity in Forested Areas

Interreg V-B "Balkan-Mediterranean 2014 –2020"




The purpose of the project is its contribution in the research and documentation of the value of biodiversity of protected forest areas in the Balkans and the Mediterranean. This will be achieved by assessing trends, mapping, modeling and economic evaluation of ecosystem services and of the biodiversity of forest ecosystems.


Through the BIOPROSPECT actions, the project partners shared scientific knowledge, existing forest management practices, policies and regulations, and developed common tools for the economic evaluation of ecosystem services and forest biodiversity. With a focus on transboundary forest biodiversity, they have contributed to the development of a roadmap for the governance of areas, prioritizing in conservation and sustainable development.

In conclusion, the BIOPROSPECT program aims to give new impetus to the management, conservation and sustainable capitalization of forest biodiversity and ecosystem services in the Balkans and the Mediterranean region.


Subsystem 1
E-learning



Subsystem 2
WebGIS



Subsystem 3
E-calculator



Project outputs

SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area



BIOPROSPECT

Conservation and sustainable capitalization of biodiversity in forested areas



BIOPROSPECT

Conservation and sustainable capitalization of biodiversity in forested areas



Project co-funded by the European Union and national funds of the participating countries





Conservation and sustainable capitalization of biodiversity in forested areas (BIOPROSPECT)
Interreg V-B "Balkan-Mediterranean 2014-2020" Transnational Cooperation Programme

Biodiversity and Ecosystem Services valuation

Dr. Ioannis Kyritsis
Aristotle University of Thessaloniki (PP2)




Project co-funded by the European Union and national funds of the participating countries



Conservation and sustainable capitalization of biodiversity in forested areas (BIOPROSPECT)
Interreg V-B "Balkan-Mediterranean 2014-2020" Transnational Cooperation Programme

Ecosystem Services Mapping and Assessment

Dr. Giorgos Mallinis
Democritus University of Thrace (LP1)



Project co-funded by the European Union and national funds of the participating countries



Conservation and sustainable capitalization of biodiversity in forested areas (BIOPROSPECT)
Interreg V-B "Balkan-Mediterranean 2014-2020" Transnational Cooperation Programme

Ecosystem Services key terms and typology

Dr. Giorgos Mallinis
Democritus University of Thrace (LP1)



Project outputs

SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area

Economic valuation of ecosystem services

The economic value of an ecosystem is essentially a measure of how important its services and goods are to humans.

Biophysical Valuation - Indicators



In valuing environmental goods and services, economists often employ the Total Economic Value framework, which consists of use value and non-use value.
Use values arise from an actual use made of a given resource

Willingness Valuation



Economists estimate the relevant values by calculating the monetary amount that people are willing to pay for preserving or increasing the flow of the valued goods and services.
Alternatively, this amount reflects what people are willing to accept as compensation for going without the valued goods and services.

Project outputs

SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area


Πίνακας Περιεχομένων

Κατάλογος πινάκων	8	3.2.8 «Κεντρικό Ζαγόρι και Ανατολικό Τμήμα Όρους Μιτσικέλι» GR2130011	45	5.3.7 GR2130004 Κεντρικό Τμήμα Ζαγορίου	87
Κατάλογος εικόνων	9	3.2.9 «Όρος Τύμφη (Γκαμήλα)» GR2130009	46	5.3.8 GR2130002 Κορυφές Όρους Σμόλικα	89
1 Εισαγωγή	10	3.2.10 «Όροι Ορλιακας και Τσούργιακας» GR1310004	46	5.3.9 Πίνακας μέτρων για τη διατήρηση της ορνιθοπανίδας στις Ζώνες Ειδικής Προστασίας του Εθνικού Πάρκου Βόρειας Πίνδου (GR2130011 Κεντρικό Ζαγόρι και Ανατολικό Τμήμα Όρους Μιτσικέλι/GR2130009 Όρος Τύμφη (Γκαμήλα) /GR1310004 Όροι Ορλιακας και Τσούργιακας/GR1310002 Βάλια Κάλντα και Τεχνητή Λίμνη Αώου)	91
2 Περιγραφή της περιοχής μελέτης	11	3.2.11 «Βάλια Κάλντα και Τεχνητή Λίμνη Αώου» GR1310002	46	5.4 Πρόσθετα ειδικά ανά είδος μέτρα που δεν συνδέονται με συγκεκριμένα οικοσυστήματα ή οικοτόπους	92
2.1 Γενικά	11	3.3 Επίτοπια καταγραφή κυριότερων πιέσεων μετά τις συναντήσεις με τους κυριότερους ενδιαφερόμενους φορείς	47	5.4.1 Αναμενόμενα αποτελέσματα για τα στοχευόμενα είδη του Εθνικού Πάρκου	92
2.2 Αβιοτικό Περιβάλλον για το σύνολο του Πάρκου	15	3.3.1 Υλοποίηση και χρήση θαρέως τύπου μηχανημάτων εντός της προστατευόμενης περιοχής 47	47	6 Επίδραση του Σχεδίου Δράσης στη βελτιωμένη κεφαλαιοποίηση της βιοποικιλότητας	95
2.2.1 Γεωλογία	15	3.3.2 Παράνομη ρίψη απορριμμάτων	48	6.1 Επίδραση των οριζόντιων μέτρων στη βελτιωμένη κεφαλαιοποίηση της βιοποικιλότητας και στις οικοσυστημικές υπηρεσίες στο σύνολο της Περιοχής του Εθνικού Πάρκου Βόρειας Πίνδου	95
2.2.2 Κλίμα και υδρολογία	15	3.3.3 Ανθρωπογενείς δραστηριότητες	50	6.2 Επίδραση στη βελτιωμένη κεφαλαιοποίηση της βιοποικιλότητας και τις οικοσυστημικές υπηρεσίες ανά περιοχή Natura 2000	104
2.3 Βιοτικό Περιβάλλον για το σύνολο του Πάρκου	18	3.3.4 Έλλειψη σχεδίου ορθολογικής διαχείρισης της θόασης-Αλλαγές στις παραδοσιακές πρακτικές κτηνοτροφίας	51	6.2.1 «Βασιλίτσα» GR1310001	104
2.4 Πανίδα	21	3.3.5 Πιέσεις από τουριστικές δραστηριότητες	52	6.2.2 «Εθνικός Δρυμός Πίνδου (Βάλια Κάλντα - Ευρύτερη Περιοχή» GR1310003	106
2.5 Κοινωνικά και οικονομικά στοιχεία για το σύνολο του Πάρκου	23	3.3.6 Αγροτικές δραστηριότητες	53	6.2.3 «Όρος Μιτσικέλι» (GR2130008)	109
2.6 Περιγραφή ανά NATURA σύμφωνα με το τρέχον τεύχος των Ειδικών Περιβαλλοντικών Μελετών που εκπονούνται στη χώρα	28	4 Άξονες δράσεων	54	6.2.4 «Περιοχή Μετσόθου (Ανίλιο - Κατάρτα)» GR2130006	111
2.6.1 «Βασιλίτσα» (GR1310001)	29	4.1 Προστασία και ανάπτυξη στο Εθνικό Πάρκο Βόρειας Πίνδου μέσω της βελτιωμένης κεφαλαιοποίησης της οικοσυστημικών υπηρεσιών και της βιοποικιλότητας	54	6.2.5 «Εθνικός Δρυμός Βίκου - Αώου» GR2130001	114
2.6.2 «Εθνικός Δρυμός Πίνδου (Βάλια Κάλντα - Ευρύτερη Περιοχή» (GR1310003)	30	4.2 Υφιστάμενα χρηματοδοτικά εργαλεία για τη βελτιωμένη, αειφόρο κεφαλαιοποίηση της οικοσυστημικών υπηρεσιών και της βιοποικιλότητας	55	6.2.6 «Κεντρικό Τμήμα Ζαγορίου» GR2130004	118
2.6.3 «Όρος Μιτσικέλι» (GR2130008)	31	4.2.1 Πράσινο Ταμείο	56	6.2.7 «Κορυφές Όρους Σμόλικα» GR2130002	121
2.6.4 Περιοχή Μετσόθου (Ανίλιο - Κατάρτα)» (GR2130006)	32	4.2.2 Πρόγραμμα Δημοσίων Επενδύσεων 2014 – 2020	57	6.2.8 Κεντρικό Ζαγόρι και Ανατολικό Τμήμα Όρους Μιτσικέλι GR2130011 /GR2130009 Όρος Τύμφη (Γκαμήλα) /GR1310004 Όροι Ορλιακας και Τσούργιακας/GR1310002 Βάλια Κάλντα και Τεχνητή Λίμνη Αώου)	124
2.6.5 «Εθνικός Δρυμός Βίκου - Αώου» (GR2130001)	32	4.2.3 Πλαίσιο Δράσεων Προτεραιότητας για το Δίκτυο Natura 2000	58	6.3 Επίδραση στη βελτιωμένη κεφαλαιοποίηση ειδών που δεν συνδέονται με συγκεκριμένα οικοσυστήματα ή οικοτόπους	125
2.6.6 «Κεντρικό Τμήμα Ζαγορίου» (GR2130004)	33	4.2.4 Προγράμματα ΕΣΠΑ Προγραμματικής Περιόδου 2014 – 2020	60	7 Οδικός χάρτης για την κατάρτιση ενός καθεστώτος πληρωμών για τους υδατικούς πόρους	129
2.6.7 «Κορυφές Όρους Σμόλικα» (GR2130002)	34	4.2.5 ΠΕΡΙΦΕΡΕΙΑΚΑ ΕΠΙΧΕΙΡΗΣΙΑΚΑ ΠΡΟΓΡΑΜΜΑΤΑ (ΠΕΠ)	65	7.1 Γενικά	129
2.6.8 «Κεντρικό Ζαγόρι και Ανατολικό Τμήμα Όρους Μιτσικέλι» (GR2130011)	35	4.2.6 Προγράμματα Εδαφικής Συνεργασίας προγραμματικής περιόδου 2014 – 2020	65	7.2 Τα συστατικά των καθεστώτων πληρωμών	130
2.6.9 «Όρος Τύμφη (Γκαμήλα)» (GR2130009)	36	4.2.7 Προγράμματα CLLD / LEADER: Τοπική Ανάπτυξη με Πρωτοβουλία Τοπικών Κοινοτήτων	66	7.3 Λίστα ελέγχου: δημιουργία δομής πληρωμών στο Εθνικό Πάρκο Βόρειας Πίνδου	131
2.6.10 «Όροι Ορλιακας και Τσούργιακας» (GR1310004)	36	4.2.8 Το Χρηματοδοτικό Μέσο για το Περιβάλλον LIFE	67	8 Μεθοδολογία παρακολούθησης της καταστάσεως της βιοποικιλότητας μέσω βιοφυσικής μεταβλητής και μεθόδων τηλεπισκόπησης	132
2.6.11 «Βάλια Κάλντα και Τεχνητή Λίμνη Αώου» (GR1310002)	37	4.2.9 HORIZON 2020 – Το Πρόγραμμα Πλαίσιο της ΕΕ για την Έρευνα και την Καινοτομία	68	9 Μεθοδολογία παρακολούθησης εφαρμογής μέσω δεικτών	136
3 Κίνδυνοι που υφίστανται για τη βιοποικιλότητα και τις οικοσυστημικές υπηρεσίες 38	38	4.2.10 Δυνατότητες χρηματοδότησης από ιδιωτικές πηγές	69	BIBΛΙΟΓΡΑΦΙΚΕΣ Αναφορές	137
3.1 Γενικά	38	5 Σχέδιο δράσης για την βελτιωμένη, αειφόρο κεφαλαιοποίηση της βιοποικιλότητας και των οικοσυστημικών υπηρεσιών	70	ΠΑΡΑΡΤΗΜΑ	139
3.1.1 Απειλές για τα είδη προτεραιότητας διατήρησης της πανίδας	40	5.1 Άξονες και προτεινόμενα μέτρα	70	Ανάπτυξη ερωτηματολογίου για την συλλογή απόψεων για τις τοπικές ανάγκες από τους εμπλεκόμενους φορείς διαχείρισης των περιοχών	139
3.2 Περιγραφή πιέσεων και απειλών ανά NATURA	43	5.2 Οριζόντια μέτρα και διοικητικές δαπάνες για το σύνολο της περιοχής του Εθνικού Πάρκου Βόρειας Πίνδου	70		
3.2.1 «Βασιλίτσα» GR1310001	43	5.3 Μέτρα και διοικητικές δαπάνες για κάθε περιοχή Natura	78		
3.2.2 «Εθνικός Δρυμός Πίνδου (Βάλια Κάλντα - Ευρύτερη Περιοχή» GR1310003	44	5.3.1 Αναμενόμενα αποτελέσματα	78		
3.2.3 «Όρος Μιτσικέλι» (GR2130008)	44	5.3.2 GR 1310001 Βασιλίτσα	79		
3.2.4 «Περιοχή Μετσόθου (Ανίλιο - Κατάρτα)» GR2130006	44	5.3.3 GR1310003 Εθνικός Δρυμός Πίνδου (Βάλια Κάλντα - Ευρύτερη Περιοχή)	81		
3.2.5 «Εθνικός Δρυμός Βίκου - Αώου» GR2130001	44	5.3.4 GR2130008 Όρος Μιτσικέλι	82		
3.2.6 «Κεντρικό Τμήμα Ζαγορίου» GR2130004	44	5.3.5 GR2130006 Περιοχή Μετσόθου (Ανίλιο - Κατάρτα)	83		
3.2.7 «Κορυφές Όρους Σμόλικα» GR2130002	45	5.3.6 GR2130001 Εθνικός Δρυμός Βίκου - Αώου	85		

Project outputs

SPECIFIC OBJECTIVE 3. Integrate economic valuation in operational management of forested areas and policy initiatives of Balkan Mediterranean area

- 4 different Action Plans / Country
- 2 different Roadmaps / scale

	
Project co-funded by the European Union and national funds of the participating countries BMP1/2_1/2336/2017	
Table of Contents	
List of diagrams.....	8
Foreword	9
Executive Summary	10
1 Ecosystem services	12
2 Methodology and methods	16
3 Municipalities and biodiversity capitalization	18
3.1 The study area - Municipality of Vrapchisht	20
3.2 Description of the natural and man-made environment	22
3.3 Aim and specific objectives of the Action plan	27
4 Institutional framework for biodiversity conservation	28
4.1 National legal framework for biodiversity protection	29
4.2 International legal framework for biodiversity protection	33
5 Strategy and Action plan for sustainable capitalization of biological diversity in peri-urban forest in Municipality of Vrapchisht	33
5.1 Importance of the Action plan	33
5.2 Description of activities for realization of the Strategic goals	34
5.3 Valuation of the economic dimension of the project using BIOPROSPECT tools and comparative value assessment (existing-after the implementation of interventions) – Process of Operationalization	41
6 Process for monitoring the implementation	43
7 Literature	45
8 Annexes	49
8.1 Annex 1 LIST OF NATIONAL POLICIES	49
8.2 Annex 2 LIST OF NATIONAL STRATEGIES, PROGRAMS AND PLANS	50
8.3 Annex 3 RATIFIED CONVENTIONS	51
8.4 Annex 4: Meetings with stakeholders	52
8.4.1 Meeting on knowledge transfer from project "Mapping and valuation of ecosystem services" towards effective and efficient project "Action plan development for the improved biodiversity capitalization in the peri-urban forest of Vrapchisht"	52
8.4.2 Meeting on Stakeholders' information and consultation process on Action plan development for the improved biodiversity capitalization in the peri-urban forest of Vrapchisht	54
8.4.3 Meeting on consultation process with the representative of the Municipality of Vrapchisht for the process of Monitoring and implementation of the Action plan development for the improved biodiversity capitalization in the peri-urban forest of Vrapchisht	57
8.4.4 Meeting on stakeholders' final consultation for the proposed activated framed in the Action plan development for the improved biodiversity capitalization in the peri-urban forest of Vrapchisht	59



Acknowledgments

- ✓ All Project Partners
- ✓ The Scientific Committee-Prof. Kyritsis (AUTH) and Prof. Madesis (CERTH/INAB & Univ. Thessaly)
- ✓ Project Officer and JS
- ✓ DUTH's team
 - Irene Chrysafis (Msc)
 - Eleanna Pana (Msc)
 - Ass. Prof Giorgos Korakis
 - Ass. Prof. Apostolos Kyriazopoulos
 - Konstantinos Tsapnidis
 - Alexandros Evangelou



Thank you for your attention!