



BIORGEST



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LIFE BIORGEST 2018-2023

INNOVATIVE FOREST MANAGEMENT STRATEGIES TO ENHANCE BIODIVERSITY
IN MEDITERRANEAN FORESTS. INCENTIVES AND MANAGEMENT TOOLS.

LIFE17 NAT/ES/000568

LAYMAN'S REPORT



Context

Catalonia has a forest area of 1,318,000 ha (42% of the territory), of which 50% corresponds to the formations in which the project is carried out (holm oak forests, Aleppo pine forests, sub-Mediterranean oak forests and cork oak forests). These formations are also of great relevance in Occitania, where they occupy 527,000 ha (88% of the forest area).

There is a general consensus that, in the context of abandonment of forest uses and abundance of young, even aged and coppice stands, sustainable forest management, in addition to being a key tool to increase the resilience of forests to climate change, can also significantly impact the conservation and improvement of biodiversity.



Photo: Jordi Camprodon

Within the scope of the project, there are widely known and used models of sustainable and multifunctional management of forests, such as ORGEST models in Catalonia, close to nature silviculture models, French Management Guidelines, etc. These management models and orientations usually have as their main objective the production of wood or other non-timber forest products, soil protection, improvement of vitality and wildfire prevention. In addition, these management models also

integrate some biodiversity conservation criteria and good practices codes for the correct implementation of management. However, they usually do not have biodiversity conservation as their primary objective. Therefore, there is room for improvement in these management models to increase the capacity to host forest biodiversity.



Indicators of maturity and structural complexity related to biodiversity, and especially, to forest specialist flora and fauna are needed to develop Mediterranean forest management criteria that also contemplate the improvement of biodiversity. And for this, reference forests in which the natural dynamics are known are needed to help determine what the target values may be for different indicators (standing and ground deadwood, presence of large trees, cavities, etc.) and serve as a basis for decision-making at management level.

In this sense, LIFE BIORGEST has taken on the challenge of generating much more complete and integrative technical prescriptions for the incorporation of biodiversity conservation in multifunctional management and natural dynamics as a management option in a way that has not been addressed until the date in the region. In addition, it has included the implementation of new financing and compensation mechanisms to encourage the adoption of the proposed techniques and models.



Photo: CTFC



Life Biorgest Project

Project objectives

The main objective of the project is to improve the biodiversity of the Mediterranean forest by integrating specific measures and innovative practices into forest planning and management tools, and through new financing and compensation mechanisms. It is therefore intended to reconcile the improvement of biodiversity with the economic sustainability of forest management, ensuring forest persistence and their adaptation to climate change.

The specific objectives of the project are:

- **To improve the biodiversity of the most representative Mediterranean forests** by incorporating innovative practices into forest management, **balancing these forests' environmental, social, and economic assets**, and guaranteeing their adaptation to climate change.
- **To demonstrate the applicability** of the measures proposed with on-field implementation.
- To create a revised, accepted version of the **Biodiversity Potential Index** for Catalonia (PBI_Cat) to be used as a diagnostic and forest management and planning support tool.
- To develop new **funding mechanisms** to provide private forest owners with incentives to apply biodiversity improvement measures.
- **To incorporate the measures developed into the regional policies and standards** which govern Mediterranean forest management.
- **To transfer the results to all parties involved** in forest management (property, managers, forest administration and companies).
- **To raise societal awareness** of the importance of improving biodiversity through sustainable and multifunctional forest management that avoids rural abandonment and promotes healthy forests capable of generating ecosystem services and hosting a resilient and diverse ecosystem.

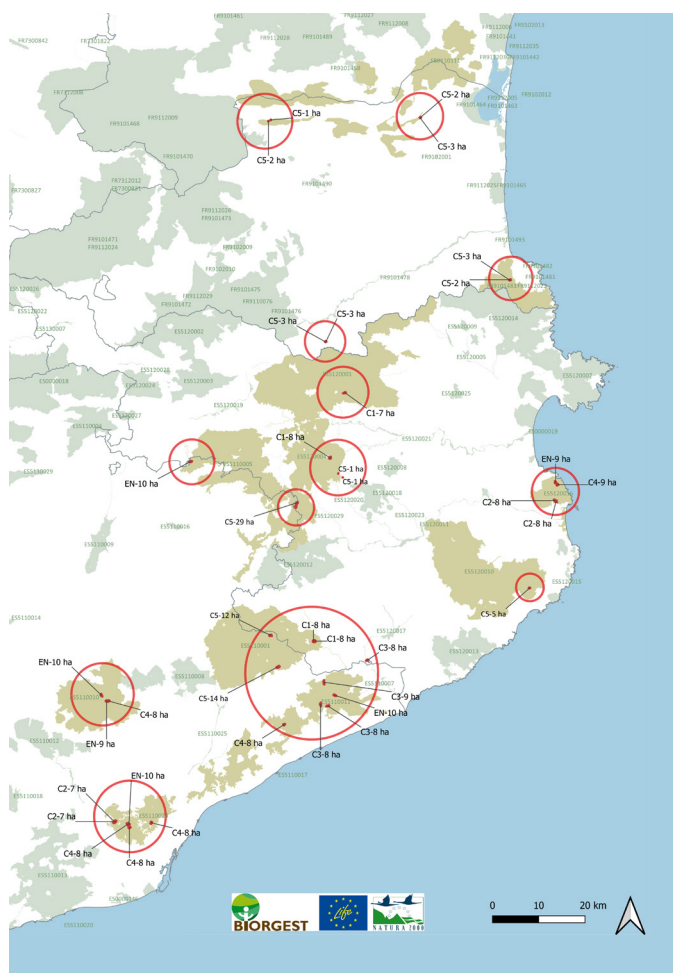


Photo: Life Biorgest Project

Action areas

The project is developed in Mediterranean forests, both in pure stands (>80% of the same species) and mixed stands of pine forests (*Pinus halepensis*), holm oaks (*Quercus ilex*) and Mediterranean region oak forests (*Quercus humilis*, *Quercus canariensis* and/or *Quercus petraea*), collected as Habitats of Community Interest (HCI) according to Annex I of the Habitats Directive.

In these formations, different demonstration stands have been chosen, most of them included in Natura 2000 Network, in which innovative measures to improve biodiversity have been implemented. Each action stand has an area of 8 hectares and a control plot of 1 hectare in which no action is taken and which serves as a control area.



Partners

The project has brought together different actors, experts from the sphere of conservation and forest management, under the premise of joining efforts to improve the biodiversity of our forests. It represents forest property (Forestry Consortium of Catalonia), project coordinator; administration (Forest Ownership Centre and National Centre for Forest Owners of France); research centres (Forest Sciences and Technology Centre of Catalonia and Ecological and Forestry Applications Research Centre); and conservation entities (Nature Conservation Network).



CONSORCI
FORESTAL DE
CATALUNYA

CTFC



Generalitat de Catalunya
Departament d'Acció Climàtica,
Alimentació i Agenda Rural



Centre de la Propietat
Forestal



CREAF



XCN
XARXA PER A LA
CONSERVACIÓ DE
LA NATURA

In addition, the two following public entities participate as co-financiers:



Generalitat de Catalunya



Diputació de Girona
221 municipis



Applied silviculture for biodiversity improvement

Applied types of silviculture

In the project, three forest management approaches have been applied based on:

- Reference silvicultural models of the region
- Close-to-nature silviculture
- Preparation to natural dynamics

The silvicultural treatments were carried out during the 2020-2021 dormant period in 22 stands, representing a total of 163 hectares.

In addition, 6 stands managed for natural dynamics have been included, with a total area of 57 hectares. These are stands with certain characteristics of mature forest in which no silvicultural intervention has been carried out.

Integrated measures for biodiversity conservation and restoration

The medium-long term objective is to improve the conservation status of forest biodiversity by favouring the different key elements for biodiversity, while maintaining the periodic management of the stand for other purposes (productive, fire prevention or adaptation to climate change).

This purpose is hardly achieved in a single intervention, especially if the stands are part of young or very simplified forests, so management must be developed in at least three steps:

1. **To preserve** the key elements for biodiversity existing in the stand.
2. **To improve or restore** key elements (micro and mesohabitats) that are in a more critical state and those that offer the best opportunities in the first interventions.
3. **To achieve a favourable status** for all habitats in the long term.



Photo: Life Biorgest Project

Key element retention measures

The minimum condition required for sustainable forest management in terms of biodiversity is **to identify and maintain the structural elements that are relevant** for the biodiversity existing in the stand, such as:

- Protected species, prioritizing threatened ones
- Companion or sporadic tree species
- Fruit-producing species
- Floricultural species
- Various vegetation strata, and in particular the shrub layer
- Large living trees
- Live trees with tree related microhabitats (TreMs), especially those with large and/or rare TreMs in the stand
- Large standing and ground deadwood.



Photo: Jordi Camprodon

Medium-term target structures for the main Mediterranean formations studied

- **Holm oak forests:** Irregular multi-stratified structure, dominated by holm oaks and with a tendency to capitalization, where various secondary or accompanying species of broadleaf trees develop.
- **Aleppo pine forests:** Homogeneous upper canopy of conifers and multi-stratified undergrowth of broadleaves that, progressively and in the long term, reach the dominant canopy.
- **Sub-Mediterranean oak forests:** Diversified and multi-stratified structure, with a tendency towards capitalization, where various species of broadleaves develop according to local conditions, always avoiding high competition situations.

Measures to restore key elements and enhance biodiversity

It is considered that the measures that actively restore key elements and promote forest diversification should:

- Favour the permanence and accelerate the development of the key elements that already exist in the stand.
- Favour the presence of open spaces with flower species or regenerated trees and shrubs.
- Generate large deadwood.
- Recover or generate new aquatic and rocky environments.



Photo Jordi Camprodon



Monitoring of conservation integration measures

Monitoring and assessment of the intervened areas has been done based on:

Forest inventories: Throughout the project, three inventories have been carried out to describe and quantify the structure and composition of the stand (before and after the interventions, and at the end of the project) and two surveys of the Potential Biodiversity Index (PBI) have been taken (before the interventions and at the end of the project).

Sampling of bioindicator organisms and organisms with special interest: Bryophytes, fungi, protected, threatened, or restricted distribution vascular plants, saproxylic beetles, birds and chiropters have been evaluated.

Socioeconomic impact evaluation: The implemented measures have been analysed and proposals have been made for the financing mechanisms necessary to make them economically viable.



Photo: CFC



Photo: Jordi Camprodon



Photo: CPF



Photo: Lluís Comas



Results of implemented actions (I): forest structure

Life Biorgest project has shown that forest management can preserve and improve biodiversity and accelerate and incorporate processes associated to natural dynamics.

Forestry actions developed allow progression towards the defined objective, although it should be noted that this is not achieved with a single intervention. Thus, long-term commitment is required for the application of the proposed forestry.

Furthermore, technical direction of the labours and training of all people involved are essential.

For more details, the documents developed within the framework of the project can be consulted at:

<https://lifebiorgest.eu/en/documents-and-products/>

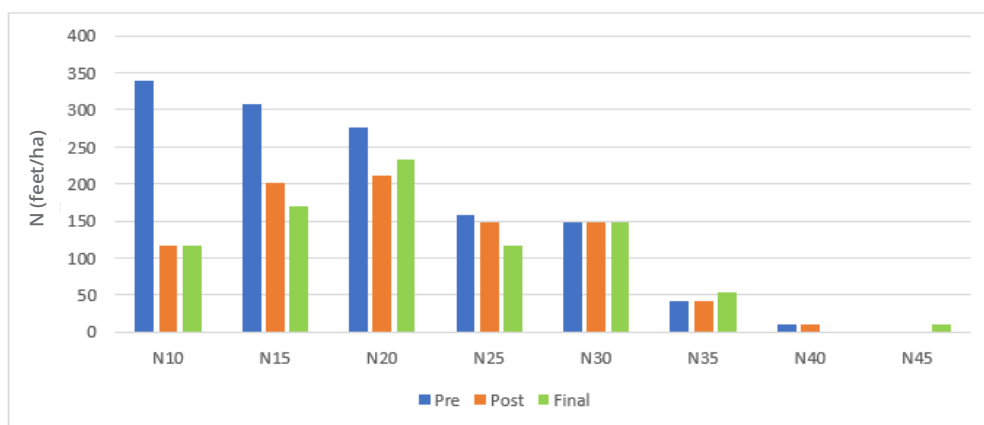
Effect of the interventions on dasometric variables

The actions have a **moderate intensity** (with an average extraction of the basal area 'BA' of around 20%) and competition has generally been reduced. The cuttings have

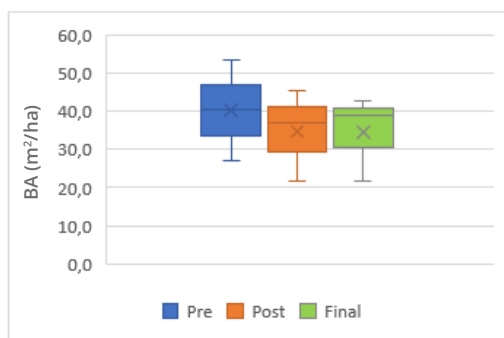
focused on small and medium-sized trees, increasing the proportion of large trees in most stands.

In addition, tree diversity has been maintained and favoured, releasing accompanying tree species, which as a result improved their proportion and vitality.

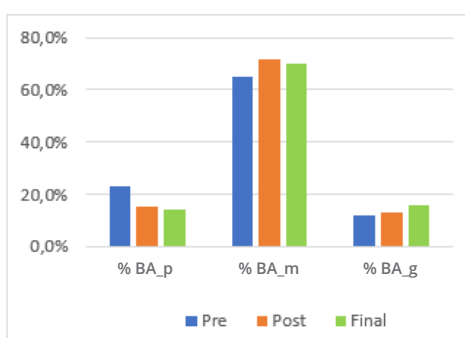
A - Diametric distribution



B - BA Inventory Feet



C - % BA for CD groups



Example of the effects of the actions on the structural characteristics of a mixed stand of Aleppo pine and holm oak. Inventoriable trees (B) are those whose diameter at breast height is greater than 7.5 cm; The DC groups (C) correspond to: BA_p (DC10-15), BA_m (DC20-30) and BA_g (DC>35). "Pre" is before the intervention, "Post" just after and "Final" after two and a half years.

The amount of lying deadwood has increased in most stands because of the cutting without removal of some trees, except for some stands in which the executing company has removed all the wood.

On the other hand, in some stands, deadwood has been produced naturally due to a strong storm.



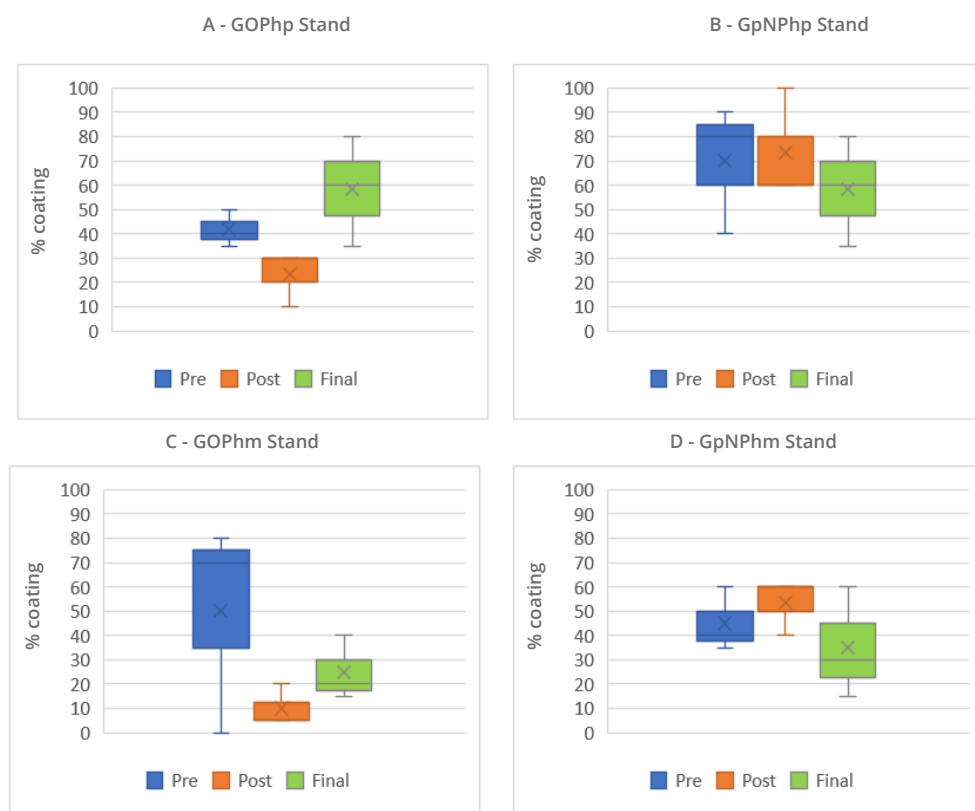
Photo: CPF

Effect of the interventions on the understorey

Selective clearings of undergrowth have been applied as a fire prevention measure in some stands, aiming at reducing understorey coverage to 30% with a maximum height of 1.3 m. In selection, maintaining underrepresented or slow-growing species have been prioritised. In the stands where close-to-nature silviculture has been applied and in those prepared for natural dynamics, no undergrowth clearings have been carried out.

The recovery of the understorey two and a half years after the interventions has been variable depending, among other things, on the dynamics of the tree layer.

On the other hand, in the stands without undergrowth clearings, the understorey has decreased (to a greater or lesser extent) due to the labours carried out and the subsequent removal of whole trees.



Effects of the interventions on the understorey cover in pine forests ("Php" corresponds to pure ones; "Phm" to mixed ones). Selective undergrowth clearing have been done in stands A and C. The applied silviculture is based on the reference models (GO) and in close-to-nature silviculture (GpN). "Pre" is before the intervention, "Post" just after and "Final" after two and a half years.



Photo: CTFC

Effect of the interventions on vulnerability to forest fire

Vulnerability to crown fire (TVFoC; Piqué *et al.*, 2011)¹ is an indicator of the risk that a fire has to reach the canopy and to spread virulently through it. Applied silviculture aims to create less vulnerable structures by reducing the vertical and horizontal continuity of fuel.

Although applied silviculture seeks to create more complex structures, implemented actions have reduced crown fire risk in almost all formations.

¹ Piqué, M.; Castellnou, M.; Valor, T.; Pagés, J.; Larrañaga, A.; Miralles, M.; Cervera, T. (2011) Integració del risc de grans incendis forestals (GIF) en la gestió forestal: Incendis tipus i vulnerabilitat de les estructures forestals al foc de capçades. Sèrie: Orientacions de gestió forestal sostenible per a Catalunya (ORGEST). Centre de la Propietat Forestal. Departament d'Agricultura, Ramaderia, Pesca, Alimentació i Medi Natural. Generalitat de Catalunya, Barcelona. 122 p.



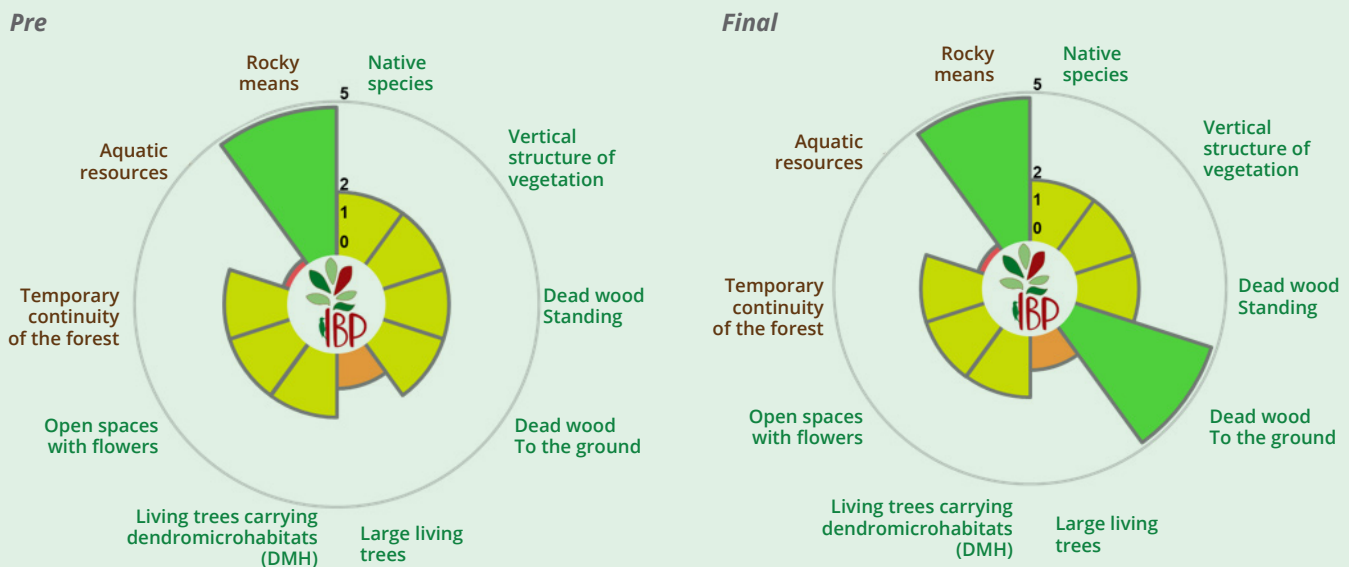
Change in vulnerability to crown fire (TVFoC; Piqué *et al.*, 2011) in Catalonia's stands depending on whether the applied forestry is based on reference models (GO), on close-to-nature forestry (GpN) or on preparation to natural dynamics (ND). "Pre" is before the intervention, "Post" just after and "Final" after two and a half years.

Effects of the interventions on the capacity to host biodiversity

The capacity to host biodiversity has been analysed using the Potential Biodiversity Index (PBI), adapted to the Mediterranean context within the framework of the project (PBI v.3; Baiges *et al.* 2022)². The PBI assess the capacity

of a stand to host different species of animals, plants and fungi, and it is considered an indirect diagnostic tool for forest biodiversity.

² Baiges, T., Cervera, T., Palero, N., Gonin, P., Larrieu, L. (2022). El Índice de Biodiversidad Potencial (IBP) como herramienta de apoyo a la gestión forestal: fundamentos y aplicaciones en Catalunya. CFE. Sociedad Española de Ciencias Forestales.



Evolution of PBI in a pure pine forest stand managed under the principles of close to nature forestry.

The capacity to host biodiversity has been maintained in 40% of the stands and has improved in 40% of them, mainly through the generation of deadwood and the retention of structural elements that are important for biodiversity.

However, in the remaining 20% it has been reduced due to the decrease in vertical strata and the reduction of deadwood and/or large trees.

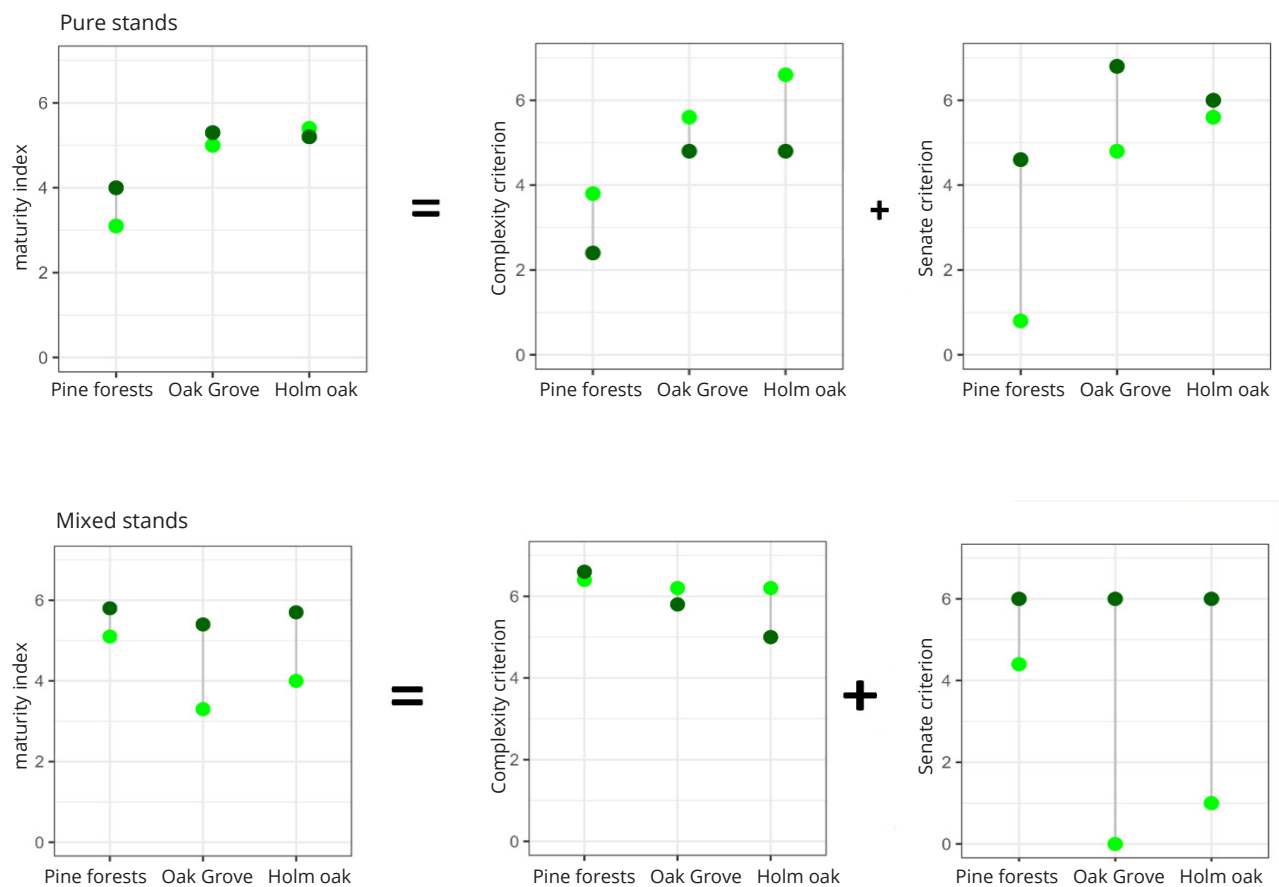




Effect of interventions on maturity indicators

Maturity of most stands has been slightly improved by the implemented management, especially in mixed stands. The decrease in structural complexity values derived from

the actions have been compensated by the increase in senescence (mainly due to the generation of deadwood), which has improved the overall maturity value of the forest.



Changes in the maturity index and complexity and senescence criteria (Redbosques,2020) in the stands prepared for natural dynamics. Light green: inventory before the intervention, dark green: final inventory.

Effects on girdled trees

Girdling a tree is to completely remove a band of bark and cambium to cause death and generate standing deadwood. The percentage of girdled trees that were dead 2.5 years after the action has been high: around 70% of

the girdled coniferous trees and 50% of the broadleaves. Although the objective for the ringed stems was to remain standing as long as possible, a non-negligible percentage of stems broke, especially those of Aleppo pine (27%) and holm oak (6%).



Photo: CTFC



Photo: Life Biorgest Project



Photo: Jordi Camprodón



Results of implemented actions (II): Direct biodiversity indicators



Effects of interventions on biodiversity

No significant differences have been found before and after the treatments in any of the taxonomic groups analysed, since the actions have low intensity and therefore the structural change in a single intervention is low. Only pine forests show a tendency to increase in heliophilous vascular plants, attributable to the opening of the canopy. However, a positive response in the medium term from beetles and saproxylic fungi is expected, due to the increase in deadwood, and from birds and bats, due to the increase in the number and variety of cavities.

No significant differences have been detected between habitats, except for bryophytes, which prefer broadleaves due to the stability of the bark and because they have greater environmental humidity conditions.

The relationship between direct indicators and physical variables depending on the location (environmental humidity, aspect) may be more important than forest structure when there is a low structural change gradient.

As for threatened species, there is proven presence of forest bat (*Barbastella barbastellus*), which takes refuge in tree cavities. Shelter boxes are a medium-term resource to provide shelter for arboreal bats when there are not enough natural cavities.

Some correlations between direct indicators and key structural variables have been found despite not having very explicit structural gradients in BIORGEST stands: basal area (BA), large trees, deadwood, canopy cover (CC), shrubs cover, and coniferous/broadleaves proportion.

Summary table of selection of significant structural variables in the set of models by taxonomic group.

Taxon / Variable	CC	BA	Large trees	Dead wood	Shrub strata	Conifer BA
Bryophytes		+			-	-
Vascular plants	+	-	+	-	+	-
Saproxylic fungi				+	+	
Birds		-	+	+*		
Chiropters		-	+	+		

*Climbing birds

is considered that the best indicators at the stand level are saproxylic beetles, bryophytes and climbing birds (those that nest in tree cavities and feed on trunks and thick branches), and the vascular flora associated with clearings.

Saproxylic Coleoptera

The main results for saproxylic beetles are shown below as an example, since they have a special relevance in the project due to their direct relationship with deadwood and, in many cases, with openness with flowering species.

The flight interception traps have allowed the identification of 20,074 specimens of 390 species of beetles, of which 288 are saproxylic, belonging to 61 families of beetles.

Few species are abundant and recurrent in different stands. Most of them, more than 40%, are species that only appear in one of them. Very often these are species from microhabitat or ecological niches related to deadwood that are very specific and not very abundant. Oak forests and holm oak forests have more common species than pine forests. Only 20% of the species are common to all three forest types.



Richness and abundance of saproxylic beetles by functional group according to their ecological role in BIORGEST intervened stands.

Incidence of Scolytidae

Monitoring Aleppo pine mixed stands during the 3 years after the interventions, 245 saproxylic species have been detected, of which only 7 species entail a high or medium risk of proliferating as a pest (2.8% of the species observed; 1.2% of the population). No impact by Scolytidae has been detected, so it can be concluded that **generated deadwood has not increased the risk of pests.**



Lucanus cervus, oak and holm oak cerambycids.
Photo: Jordi Baucells

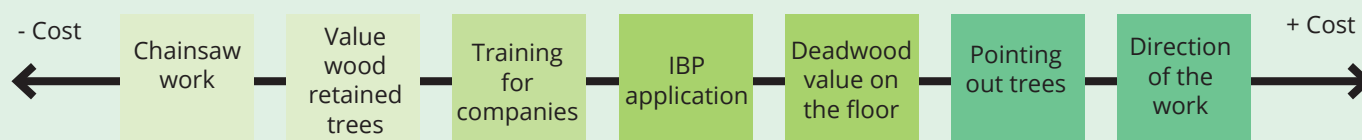


Results of implemented actions (III): economy

Effects on the economic balance

The project has analysed opportunity costs derived from the implementation of management itineraries to improve biodiversity. As direct costs, those associated with the application of the PBI have been taken into account: field marking of additional actions (which are not exclusively for wood extraction, understorey clearings...), field workers training, project management, and silvicultural actions

themselves: girdling of trees to create standing deadwood and cuttings to create lying deadwood. As indirect costs, wood value that is no longer extracted (income forgone by the property) and it is left to create deadwood, to maintain large trees and/or to maintain trees with tree related microhabitats, has been considered.



Distribution of actions based on costs

It should be noted that the costs were analysed in isolation, that is, without considering the usual forestry interventions. To improve efficiency in the process, therefore, it is suggested to find synergies in the implementation of these activities together with the usual silvicultural ones, especially adjusting the PBI survey to dasometric measures and tree marking, training, or project management for the planned intervention.

Contract models

Complementarity of Forest planning and Management Tools with other models of collaboration between forest ownership or forest users and land stewardship entities has been confirmed. These are forest stewardship tools that allow the conservation or improvement of forest biodiversity through transparent and flexible contracts, as well as legally secure. Especially relevant are stewardship contracts, logging right waiver contract, and administration agreements.





Results of implemented actions (IV): integration in regulatory and forest policy framework

Some regulatory changes that affect Catalonia's forests planning at stand level have been proposed, based on a review of European, state, and regional regulations with an impact on forest planning, management, and biodiversity. Specifically:

1. A working group has been established in the forest administration to agree on the best measures for integrating biodiversity in forest management in the approval process of the different Forest Management Tools.
2. A set of improvements has been specified to be incorporated into the Sustainable Forest Management Guidelines of Catalonia (ORGEST), based on a report on its current use and the conduction of two working meetings with partners, a committee of experts and a workshop with forestry sector.
3. Biodiversity integration criteria has been proposed to be included in the modification proposal of Order ARP/122/2017, of June 13, which regulates Forest Management Tools. This process will result in an adaptation of the instructions and applications for writing the corresponding Forest Management Tools.
4. The management criteria provided by the project are being integrated into planning and management tools of the protected natural areas in Catalonia, at the moment, both in the PEIN Alta Garrotxa and in Cadí-Moixeró Natural Park.
5. In addition, the regulatory bases for the financing of measures to integrate biodiversity in forest management and for the creation of forest reserves based on the technical information worked on in the project, have been published



Photo: CTFC



Guía completa
para la evaluación de la madurez
y la biodiversidad en rodales
forestales mediterráneos





**Guía de recomendaciones
y medidas técnicas
para la mejora de la biodiversidad
de los bosques mediterráneos**

INTEGRACIÓN EN LA PLANIFICACIÓN
Y LA GESTIÓN FORESTAL

The cover features a photograph of a forest scene. In the foreground, the back of a person with long dark hair and a purple hair tie is visible, looking towards a large tree trunk. The tree has a white vertical mark on its bark. In the background, another person wearing a white cap is partially visible. The top of the cover contains three logos: 'BIORGEST' with a green tree icon, the European Union flag, and the 'EUROPEAN COMMISSION' logo with a blue and white graphic. The title of the guide is printed in white text over the forest image.

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INICIO EL PROYECTO PROGRAMA LIFE PROGRESO DOCUMENTACIÓN Y PRODUCTOS NETWORKING NOTÍCIAS CONTACTO

Prensa

2023

- 22/09/2023. Canal Tarona TV. Presentat l'índex de Biodiversitat Potencial (LINK)
- 21/09/2023. El Periódico. Extraer madera y preservar el ecosistema es posible: un proyecto europeo dibuja el futuro del bosque mediterráneo (PDF)
- 20/09/2023. Ecoticias. Proyecto Life Biorgest: La gestión forestal mejora la biodiversidad (LINK)
- 26/05/2023. El sector forestal, compromès amb la conservació i millora de la biodiversitat (LINK)

2022

- 14/11/2022. Ràdio Capital. Es duen a terme noves mostres de flora i fauna per avaluar la millora de la biodiversitat (LINK)
- 15/11/2022. Diari de Girona. Mostreig de flora i fauna a la Selva (LINK)
- 15/11/2022. Diari de Manresa. Es fan nous mostrejos de fauna i flora per avaluar la millora de la biodiversitat (LINK)
- 07/10/2022. L'Indépendant. Formation sur la biodiversité dans les forêts. (JPG) (LINK)
- Septembre 2022. Revista Forêts d'Occitanie - N°18 (PDF)
- Juliol 2022. Revista Silvicultura N°86. Especial Congreso Forestal 2022. Life Biorgest. Objectius i resultats esperats. Pàg. 39 (PDF)
- Juny 2022. Revista L'Aulet N° 21. L'index de biodiversitat potencial (IBP), una eina per al diagnòstic ràpid de la biodiversitat forestal. Exemple d'aplicació a finques del Montnegre i el Corredor. Pàg. 2 (PDF)
- Junio 2022. Revista Foresta N° 83. Especial 8º Congreso Forestal Español. Gestión multifuncional. Pàg 95 (LINK)
- Primavera 2022. Revista Silvicultura N° 85. Es publica la versió 3 de l'index de biodiversitat potencial, que tanca l'elaboració d'aquest index de mesurament ràpid de la biodiversitat potencial d'un bosc. Pàg. 72 (PDF)

2021

- Setembre 2021. Revista Forêts d'Occitanie - N° 15 (LINK)
- Primavera 2021. Revista Silvicultura N° 83. Desembosc de productes fusters mitjançant canals amb la integració de la biodiversitat en la gestió forestal. Pàg. 34 (PDF).
- Junio 2021. Lessons from LIFE on ecological connectivity towards a coherent, functional and resilient network of protected areas. Virtual Life Platform Meeting 2-4 March 2021 (PDF)
- 01/02/2021. Cugat Media: Boscos de Sant Cugat participen en un projecte per a la conservació de la biodiversitat (LINK)
- 29/01/2021. La Selva 360: El Life Biorgest finalitza els treballs de millora de la biodiversitat de la Selva (LINK)
- 28/01/2021. Món Rural: S'enllesteixen els treballs silvícoles als 22 rodals demostratius del projecte Life Biorgest, que han de permetre una millora de la seva biodiversitat (LINK)
- 27/01/2021. La Vanguardia: Life Biorgest interviene 22 rodals mediterrànies para mejorar biodiversidad (LINK)
- 27/01/2021. Nació Digital: El Life Biorgest inverteix en la millora de la biodiversitat al Bages (LINK)
- 27/01/2021. Nació Digital: Finalitzen els treballs de regeneració forestal a Sant Cugat per millorar la biodiversitat de Collserola (LINK)
- 27/01/2021. Nació Digital: El Life Biorgest finalitza els treballs demostratius en la millora de la biodiversitat dels boscos de la Garrotxa (LINK)
- 27/01/2021. Nació Digital: El Life Biorgest inverteix en la millora de la biodiversitat en boscos de Sant Celoni (LINK)
- 27/01/2021. El Garrotxa: El Life Biorgest inverteix en la millora de la biodiversitat a la Garrotxa i finalitza els treballs demostratius, dels quals se n'estudià la seva evolució durant els propers mesos (LINK)
- 27/01/2021. Ràdio Capital: Life Biorgest inverteix en la millora de la biodiversitat al Baix Empordà i finalitza els treballs demostratius (LINK)
- 27/01/2021. Diari de Girona: Finalitzen els treballs demostratius en la millora de la biodiversitat a la Selva (LINK)

2020

- Noviembre-Diciembre 2020. Revista Forêt-entreprise - N° 255 (LINK)
- 01/12/2020. TV3, Life Biorgest al TN comarques de TV3 (LINK)
- 13/11/2020. PODCAST MASEUROPA. El canvi climàtic i la biodiversitat. (LINK / LINK)
- Tardor 2020. Revista Silvicultura N° 82. Jornades de desembosc de productes fusters per mitjà de canals i integració de mesures de conservació de la biodiversitat en la gestió forestal. Pàg. 58 (PDF)
- Primavera 2020. Revista Silvicultura N°81. Fitxa pràctica. Diagnòstic IBP i aplicació de mesures de conservació de la biodiversitat en una sureda productiva (PDF)
- Abril 2020. REVISTA RESSO. El Consorci forestal impulsa un projecte per millorar la biodiversitat als boscos mediterranis. (PDF)
- 11/03/2020. EL PUNT AVUI. La sostenibilitat del Montgrí. (PDF)
- 10/03/2020. La Vanguardia. Torroella de Montgrí col·labora en un projecte europeu de diversitat forestal. (LINK)
- 10/03/2020. CCMA. L'Ajuntament de Torroella de Montgrí col·labora en un projecte europeu per millorar la biodiversitat forestal. (LINK)
- 10/03/2020. TV COSTA BRAVA. Torroella col·labora en un projecte europeu per millorar la biodiversitat forestal. (LINK)
- 10/03/2020. LLACOSTERA RÀDIO. Torroella de Montgrí col·labora en un projecte europeu, el «Life Biorgest» per millorar la biodiversitat forestal. (LINK)
- 10/03/2020. ALDIA.CAT. L'Ajuntament de Torroella de Montgrí col·labora en un projecte europeu per millorar la biodiversitat forestal. (LINK)
- 21/01/2020. TV3. Life Biorgest a Els Matins TV3. (LINK)

2019

- 29/11/2019. Olot TV. 'El projecte 'Life Biorgest' inicia les actuacions en una finca a Santa Pau'. (LINK)
- 25/11/19. Cadena SER. Propietaris forestals participen a un projecte europeu per millorar la gestió dels boscos. (LINK)
- Septembre 2019. Revista Catalunya Forestal N° 141. 'El Life Biorgest com instrument de consens per a la millora de la biodiversitat als boscos' y 'Maduresa del bosc i biodiversitat' (LINK)
- Tardor 2019. Revista Silvicultura N°80. Rosada a punt de l'index de Biodiversitat Potencial (IBP): un termòmetre per a mesurar la capacitat d'allotjar biodiversitat dels boscos (gestionats) de Catalunya. Pàg 26-36. (LINK)
- 30/05/2019. Ràdio Sant Celoni. Entrevista. (LINK)
- 30/05/2019. El 9nou. Sant Celoni reuneix experts per la biodiversitat dels boscos (PDF)
- 20/02/2019. Distrito Forestal. Comienza un nuevo proyecto que quiere integrar la gestión de la biodiversidad en la gestión forestal sostenible (LINK)
- 09/02/2019. Diari de Girona. El Consorci Forestal inicia un projecte per millorar la biodiversitat dels boscos (LINK / PDF)
- 06/02/2019. Ecoticias. Conoce el proyecto que quiere integrar la gestión de la biodiversidad en la gestión forestal sostenible (LINK)
- 05/02/2019. El Periódico. Conservación y gestión del bosque se integran a través de un proyecto europeo (LINK)
- 05/02/2019. La Vanguardia. Conservación y gestión del bosque se integran a través de un proyecto europeo (LINK)
- 05/02/2019. CREA. Comença un nou projecte que vol integrar la gestió de la biodiversitat en la gestió forestal sostenible (LINK)

51 publications in different media (TV, radio, podcast, written press, digital press, web platforms and YouTube)

L'Indice de Biodiversité Potentielle (IBP) : la nouvelle version v3.0

L'IBP est un outil pour évaluer l'impact de la biodiversité dans la gestion courante. Depuis sa création en 2004, l'IBP a évolué et continue d'être amélioré. La version 3.0 est une évolution majeure mais cohérente avec les versions antérieures.

Les objectifs de l'IBP

L'IBP permet d'évaluer la capacité d'un territoire à accueillir les espèces faune et flore, les plantes, les insectes, les oiseaux, les mammifères, les reptiles et les amphibiens. La version 3.0 est une évolution majeure mais cohérente avec les versions antérieures.

Plus à jour de la documentation

Les données de l'IBP sont mises à jour régulièrement. La version 3.0 est une évolution majeure mais cohérente avec les versions antérieures.

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ESPECIAL CONGRÉS FORESTAL 2022

La investigación forestal muestra en el 8CFF las sevas aportaciones als ODS

PROYECTOS INNOVADORES LIFE BIORGEST

Objectius i resultats esperats

El projecte LIFE BIORGEST té com a objectiu principal millorar la biodiversitat dels boscos mediterrànies a través de la gestió forestal sostenible. El projecte té com a objectiu principal millorar la biodiversitat dels boscos mediterrànies a través de la gestió forestal sostenible.

21 articles in technical journals and 1 article in a scientific journal

Descubre las singularidades del Life Biorgest en este vídeo. ¡Compártelo!

Os presentamos el vídeo del Life Biorgest, que incorpora subtítulos en castellano, inglés y francés, y que explica cómo la silvicultura es una buena herramienta para la adaptación de los bosques ante el cambio climático global que pone en riesgo nuestro futuro. ¡Compártelo!

Informative video

Newsletter informativo nº 6 – Septiembre 2022

Se publica la versión 3 del IBP, que cierra la elaboración de este índice de medición rápida de la biodiversidad potencial de un bosque

Foto: Jordi Bala

Newsletter informativo nº 5 – Diciembre 2021

Más de medio centenar de participantes en el curso de Especialización en Gestión naturalística y gestión de bosques mixtos para la adaptación al cambio climático

Exchange events with other projects, including technical trips



Italia Exchange trip Life Biorgest - Life GoProFor



France exchange trip Life Biorgest - Life MixForChange



Final seminar



Transfer classrooms in Ribera Salada and Castellfollit

Specialization course in Close-to-Nature Forest Management and Mixed Forest Management for Adaptation to Climate Change



Technical visit of the 8th Spanish Forestry Congress



Specialization course in the integration of biodiversity conservation in forest planning and management

Replication actions

In addition to the 224 hectares of demonstrative treatments, the specific measures developed in the project have been replicated in 135 hectares in Catalonia, all managed with wood production as main objective.



Future challenges

This project has served to lay the foundations for the improvement of biodiversity management in Mediterranean forests through the integration of conservation measures in planning and management at different levels. For effective conservation and promotion of effective conservation and promotion of biodiversity, the main challenges facing the sector are:

- **Abandonment:** the lack of management objectives and their implementation in a large part of the forest area increases the vulnerability of the forest to the effects of climate change, especially in young, simplified, and homogeneous stands.
- **Collaboration:** the success of the Life Biorgest project relies to a large extent on the capacity to bring together different actors in the sector (property, administration, research centres, environmental associations...). To face present and future challenges, it is necessary to continue working together in the same direction.
- **Implementation:** it is necessary to put into practice everything worked on in the project, since only direct action can change reality.
- **Training:** the most appropriate forestry for the biodiversity conservation and improvement must be known and understood by all people involved in forest management, so it is essential to continue transferring knowledge and to invest in training.



Photo: Xavi Florensa - western barbastelle (*Barbastellus barbastella*)



Partners



CTFC



Centre de la Propietat Forestal



Co-financiers



Generalitat de Catalunya



Diputació de Girona
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Dendrocopos major
(Autor: Xavier Florensa)