



OSOS CON FUTURO



The project **LIFE Bears with Future** is being developed between October 2020 and March 2025 in 8 areas of the Natura 2000 Network in the two subpopulations of the Cantabrian bear



General objective

Improve the **adaptability** of the brown bear against climate change in the Cantabrian Mountains

Actions of the project

Plantation of 150,000 fruit trees to increase bear trophic availability

Plantation of 25,000 autochthonous chestnuts varieties and **restoration and treatment of 15 ha** of abandoned chestnuts forests to increase fruit production and climatic resilience

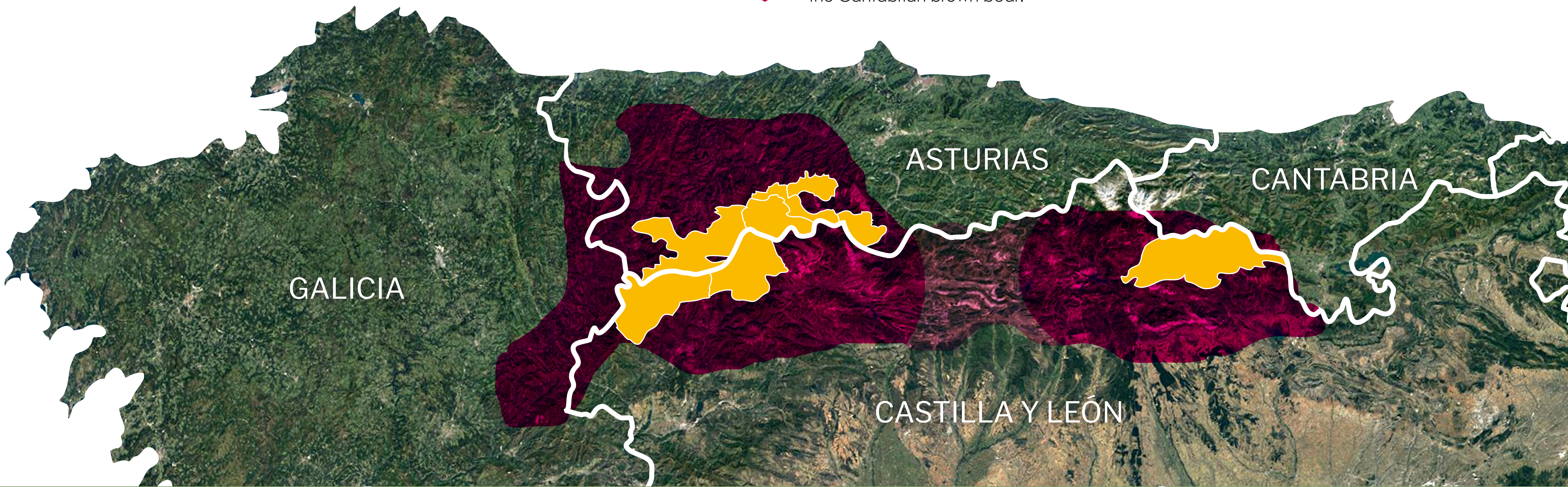
Inform and raise awareness among people involved in potential conflicts with bears less prone to hibernate, providing advice and guidance for the development of winter activities in bear areas.



Project area

Areas of the Natura 2000 Network where forestry work is carried out.

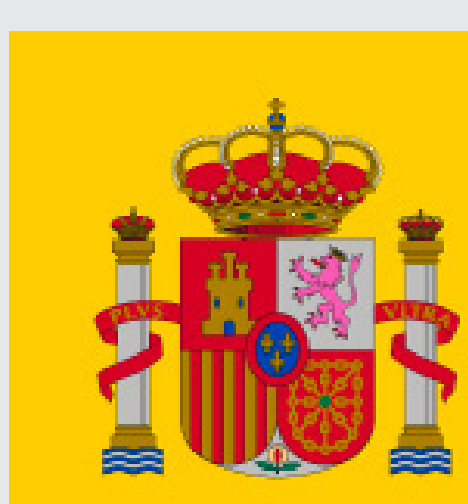
Conflict prevention and dissemination actions reach the entire distribution area of the Cantabrian brown bear.



COORDINATOR



PARTNERS



GOBIERNO DE ESPAÑA

VICEPRESIDENCIA TERCERA DEL GOBIERNO
MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO



Fundación Biodiversidad



patrimonio natural de castilla y león

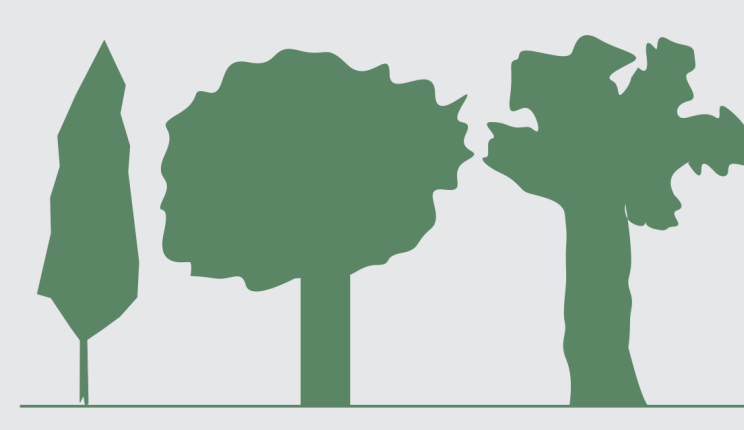


Junta de Castilla y León

WITH THE SUPPORT OF



GOBIERNO DEL PRINCIPADO DE ASTURIAS



FUNDACIÓN TIERRA PURA

CHESTNUT, A KEY SPECIES FOR THE CONSERVATION OF THE CANTABRIAN BROWN BEAR



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Climate change reduces the fruiting of some species that are important as **sources of food** for the brown bear.

To compensate for this loss, the project **LIFE Bears with Future focuses on increasing the availability of food resources for bears**, especially in autumn and winter, by planting fruit species that are more adaptable to different climate change scenarios.

Chestnut trees are of particular interest in this context.



Planting 25,000 autochthonous chestnut trees to increase bear trophic availability



The project counts with the participation of **technical research groups** (from the Universities of Oviedo, Lugo and Santiago de Compostela) with experience in working with native chestnut varieties and how these adapt climate change, to guarantee appropriate selection of varieties and support in collecting and identifying material for grafting.

To advance knowledge of the chestnut varieties currently existing in the bear areas and to collect the plant material for grafting, while guaranteeing the origin and identification, **prior selection, characterization and genetic analysis** of centennial old chestnut trees in the project work areas has been conducted.

To date, **67 old** (100-300 years old) **grafted chestnut trees** have been located and **genetically characterized** in Natura 2000 sites in Asturias.

Molecular study of the samples was carried out using microsatellite (SSR) marker analysis in order to identify the different varieties, detecting both original material and synonyms. Trees of the **Paredes, Chamberga, Galliciana, Naveixa, Palaciana, Panchina, Pelona and Vaquera** varieties have been genetically identified, and an additional 3 trees are unlisted varieties.

This outcome is of **great scientific and practical interest for the conservation of traditional chestnut varieties** in the process of abandonment and loss, as many of the trees sampled are in a poor state of conservation and their viability is not guaranteed in the medium term.



Restoration and treatment of 15 ha abandoned chestnut forests to increase fruit production and resilience to climate change



Traditional chestnut orchards are interesting **examples of socio-ecological productive landscapes**, but have generally suffered from processes of abandonment in the study area. However, there remains a valuable diversity of genetic material of the different varieties of the species that must be conserved and valued.

The recovery of these forest formations has a great potential to **compensate for the loss of other food resources** for bears and facilitate the expansion of the tree species to new areas.

The project actions **seek to make chestnut trees more resistant** to pests and diseases and more **resilient** to climate change. The project also aims to contribute to maintaining landscape, biodiversity, ethnographic and cultural values.



Scientific monitoring

of the actions is being carried out to evaluate the results and propose good management and forest management practices.

Dissemination and replication

of the experimental actions is being carried out through work visits with owners and forestry workers, provision of individualized advice, and development of technical manuals and virtual demonstrative material.