

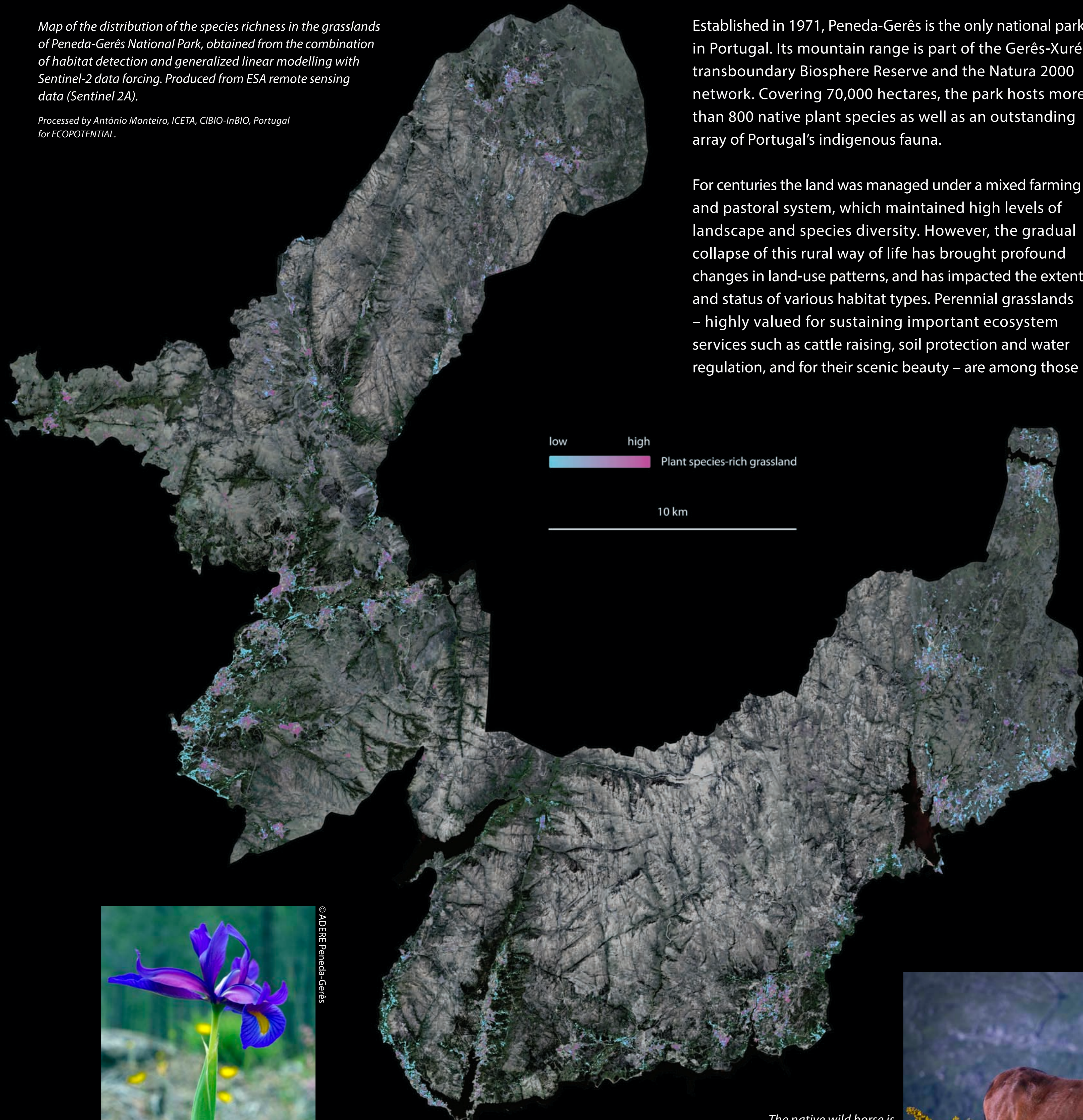
The upper land grasslands have an important provisioning role for wildlife and cattle in Peneda-Gerês National Park. Species-rich grasslands are among the most valued elements of this natural heritage.

Peneda-Gerês National Park

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Map of the distribution of the species richness in the grasslands of Peneda-Gerês National Park, obtained from the combination of habitat detection and generalized linear modelling with Sentinel-2 data forcing. Produced from ESA remote sensing data (Sentinel 2A).

Processed by António Monteiro, ICETA, CIBIO-InBIO, Portugal for ECO-POTENTIAL.



Established in 1971, Peneda-Gerês is the only national park in Portugal. Its mountain range is part of the Gerês-Xurés transboundary Biosphere Reserve and the Natura 2000 network. Covering 70,000 hectares, the park hosts more than 800 native plant species as well as an outstanding array of Portugal's indigenous fauna.

For centuries the land was managed under a mixed farming and pastoral system, which maintained high levels of landscape and species diversity. However, the gradual collapse of this rural way of life has brought profound changes in land-use patterns, and has impacted the extent and status of various habitat types. Perennial grasslands – highly valued for sustaining important ecosystem services such as cattle raising, soil protection and water regulation, and for their scenic beauty – are among those

under highest pressure. High plant diversity in these grasslands is very important to ensure they function adequately. For decades, these grasslands have been gradually abandoned and encroached by scrub and woodland, increasing their susceptibility to fire and invasion by non-native species. To address this decline, park managers need to assess the distribution, status and connectivity of species-rich grasslands, and adapt management strategies accordingly.

The ECO-POTENTIAL project is addressing this challenge based on a dual grassland-detection and biodiversity-modelling approach. Earth Observation products are used to produce a time series of grassland habitat maps based on spectral properties of actively managed grasslands. Data on plant diversity collected in the field are used to develop a biodiversity model that assigns a predicted value of plant-species richness to each mapped grassland. This allows park managers to identify and actively manage biodiverse grasslands, which are afforded the highest conservation priority in the EU (namely under the Habitats Directive). This approach can also track changes over time and anticipate future shifts under global change.



A traditional farming system, with grasslands along terraces, supported by ancient granite walls.



The Gerês lily (*Iris boissieri*) is an Iberian endemic and one of more than 800 native plant species of the Peneda-Gerês National Park.



The native wild horse is commonly known as "Garrano do Gerês" (little horse from Gerês). The Common Gorse plant (*Ulex europaeus*) can be seen in the front.