

Proposal to reintroduce Iberian lynx on abandoned agricultural land

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This is an Iberian lynx. Credit: Miguel Rodríguez / SINC

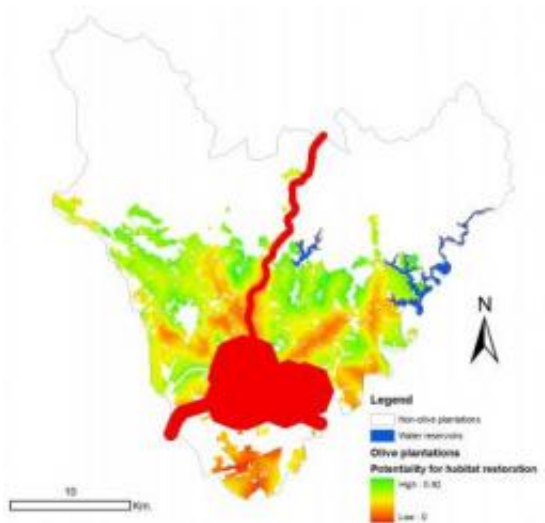
Spanish scientists have developed a model to identify the agricultural areas with the greatest potential for restoring the habitat of the Iberian lynx (*Lynx pardinus*), which is at risk of extinction. The study shows that olive groves with low production close to the Natural Park of the Sierra de Cardena y Montoro, in Córdoba - which is the only place, along with Doñana, where this species lives - are the most appropriate sites for this purpose.

Researchers from the regional government of Andalusia's Institute for *Agricultural and Fishing Research and Training* (IFAPA) have studied

the impact and risk of these mountain olive groves being abandoned, in order to come up with an appropriate management system for them (conventional, mixed or organic), or to suggest they should be reconverted to Mediterranean forest.

The risk of these olive groves being abandoned is "due to their location, which has serious socioeconomic implications (mainly in terms of the population leaving rural areas) and environmental ones (erosion and risk of fires)", Manuel Arriaza, director of the study and a researcher at the IFAPA, tells SINC. "Although the olive groves have low production levels and high production costs, they are areas with great environmental value", adds Arriaza.

The general model of the research study, which has been published recently in the Spanish Journal of Agricultural Research, was developed using various Geographical Information Systems (GISs), and also took into account experts' opinions about the commercial and non-commercial functions of the olive groves, as well as those of 480 people in the province of Córdoba about the importance that society places on these functions in agricultural areas.



This is a map of the most suitable areas for habitat restoration of the Iberian lynx. Credit: Manuel Arriaza et al./ SINC

The scientists evaluated the socioeconomic functions (olive oil production and retention of the rural population), environmental ones (prevention of erosion and fires, conservation and improvement of biodiversity, with special focus on the habitat of the Iberian lynx), and cultural ones.

The results suggest that the most highly-valued function of mountain olive groves is their ability to retain the rural population (24%), followed by production of olive oil (17%) and the prevention of erosion (16%).

On the basis of the interviews and the geographical features of the area, the model's final proposal suggests that 36% of the land should be planted to conventional olive groves, 23% should be reconverted to Mediterranean forest, 22% should be mixed olives and forest, and 19% organic olive groves.

However, once the best areas for restoration of Iberian lynx habitat have been generically identified, "other aspects not covered by the initial land analysis should also be looked at before any action is taken, such as the size of the rabbit population present, or fragmentation of certain areas", points out Arriaza.

More information: Nekhay, O.; Arriaza, M. "Restoration of abandoned agricultural lands toward habitats for umbrella species" Spanish Journal of Agricultural Research 7(2): 375-389, 2009.

Source: FECYT - Spanish Foundation for Science and Technology

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