
Population monitoring and management

Helping each other: *Falco vespertinus* population and ecosystem services in Parma agricultural landscape

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Red-footed falcon (*Falco vespertinus*) is a vulnerable species by IUCN Red List and a globally threatened species of European conservation concern (SPEC 1). Actually over 90% of the Italian population bred in the Parma province of the Emilia-Romagna region. An extensive conservation program started in 2010 providing artificial nests, and the number of boxes has grown from 63 in that year to 190 in 2024. The number of pairs has therefore increased from 21 to 134 in the last year. Reproductive success was from 1.4 to 2.8 in the 2010-2024 period. This conservation and monitoring effort has allowed a notable increase in the population and has completely changed the presence of the species in northern Italy, due to the source effect shown in the progressive increase of the other populations present in the Po Valley.

Considering the findings about the diet of this population, with a strong propensity to consume voles and insects present in the fields and in the marginal areas of crops, the importance of preserving an agricultural landscape mainly dedicated to the cultivation of high-nutritional-value forage to feed dairy cows (supporting the local production of Parmigiano Reggiano cheese) has been verified. In the area, apart from the red-footed falcon populations there are also many pairs of other falcon species (i.e., *Falco tinnunculus* and *Falco naumanni*) as well as nocturnal species with similar niche (e.g. *Tyto alba*, *Strix aluco*, *Athene noctua*). This is largely due to both the effort to provide artificial shelters and to maintain agricultural spaces attentive to these species, having on the other hand the great ecosystem value of controlling rodent species and insects that could cause crop damage.