
(Invasive) alien vertebrates

Wild boar and mouflon on Elba Island: eradication or control? A multidisciplinary and integrated feasibility study as a guiding tool

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In addition to technical evaluations, wildlife management must be based on an integrated approach aimed at assessing the overall feasibility of the intervention from a scientific, regulatory, social, and economic point of view, highlighting threats. This applies even more when the species involved are mammals and when acting in anthropized contexts. Elba is the 3rd largest Italian island in terms of size and resident population and is home to two allochthonous ungulates, wild boar (*Sus scrofa*) and mouflon (*Ovis gmelini musimon*); about half of its territory is included in the Tuscan Archipelago National Park (PNAT). Wild boar and mouflon were introduced to the Island of Elba in the 1960s/70s for hunting and ornamental purposes, but today they represent a pressure factor for about half of the 25 habitats of conservation interest (Annex I Habitats Directive) on the island as well as a threat to road safety and agricultural activities on the island.

A multidisciplinary study was carried out between June 2023 and March 2024. It analysed the regulatory and socio-cultural framework and modelled the trend of the two animal populations under two different management regimes – permanent control and eradication. An estimate of economic costs was also performed. The social context was investigated through a face-to-face questionnaire administered to 268 residents and through thematic workshops addressed to local stakeholders. 77% of the interviewees from Elba considered the presence of wild boar problematic, while only 34% considered mouflon as problematic species. Citizens have shown the need to increase culling, but are wary of the ‘eradication’ scenario; the opposite is recorded among local stakeholders. The population models showed that to achieve eradication it is necessary to increase the culling quotas (last three years: 1078 wild boar/year and 276 mouflon/year, respectively). In the two intermediate scenarios (wild boar population of 3345 individuals and mouflon population of 1500 individuals), to achieve eradication, annual culling quotas for five years should be 1500 wild boar/year and 400 mouflon/year. The cost of eradication is estimated at €10.6 million. For comparison, over the five-year period 2019-2023, more than €1 million was spent on management activities for the two species within the protected area, without taking into account social and ecosystem costs. Analyses showed that the technically most feasible option is eradication. A strong hesitation is, however, linked to the social context. If the implementation of an effective action of involvement and participation of priority stakeholders and residents as well as tourists can foster acceptance at the local level, the overall scenario, at the national level, appears to be out of the control of the PNAT and the other institutions operating on the island.