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ABSTRACT BOOK

maize, grassland, forest and urbanized areas in the surroundings of the field are key factors determining the probability of damage by wild boar, while field-specific variables only played a minor role. For grasslands, both landscape and field-specific variables were important: a higher probability of damage was associated with decreasing distance to nearest forest, increasing distance to nearest road, the use of inorganic fertilization, and increasing grassland age (except when maize was previously cultivated, which makes young grasslands sensitive for the uprooting of maize remains). Predictive models based on landscape-level characteristics allows assessing where risks for agricultural damage are highest. We further demonstrate that wild boar damage risks can potentially be mitigated by changes in agricultural practices that alter field characteristics.

Keywords: boosted regression trees, crop damage, damage probability, risk assessment, species distribution modelling, *Sus scrofa*

FIRST ATTEMPT TO ERADICATE WILD BOAR (*SUS SCROFA*) IN A PROTECTED AREA IN BRAZIL

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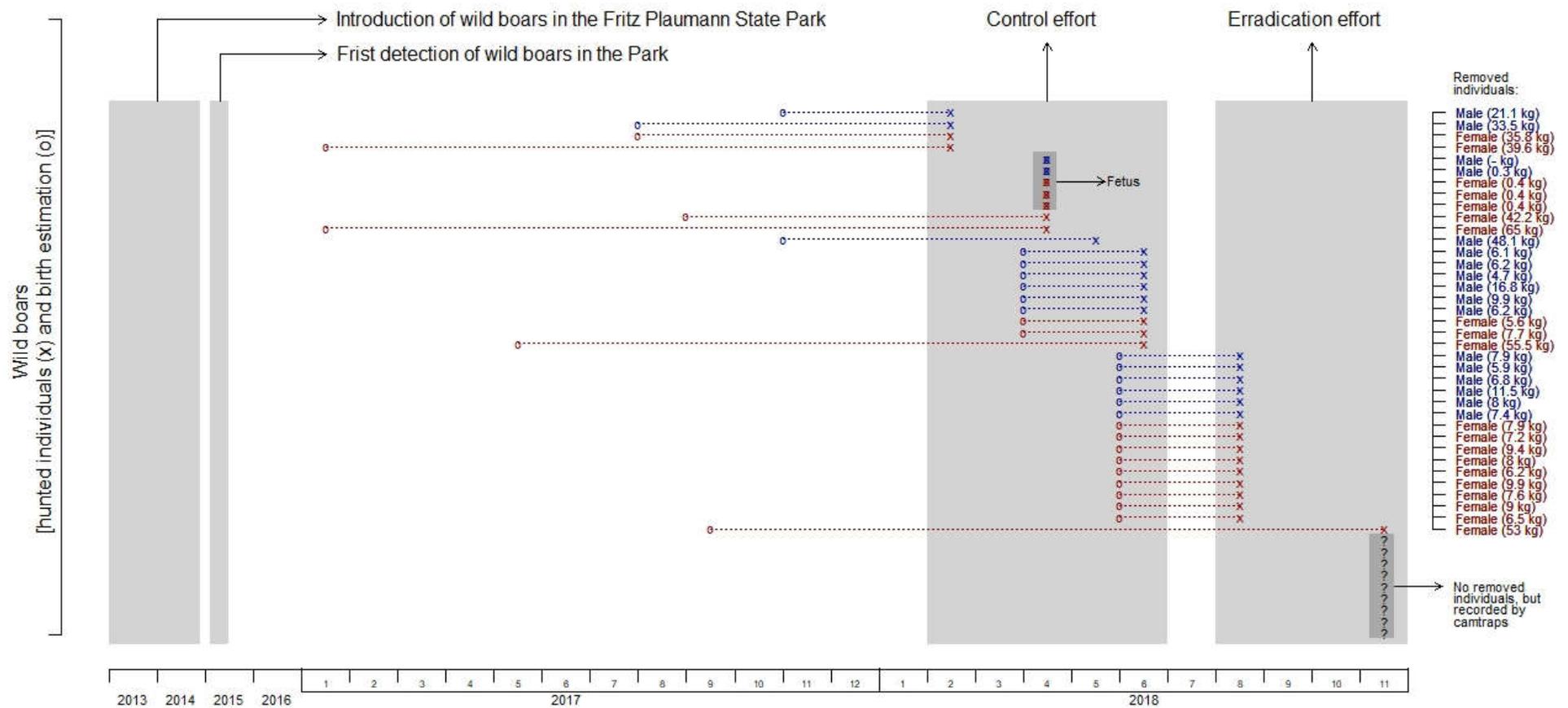
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6.S. Invasive alien species: management and attitudes

Wild boar is one of the most damaging alien species which has invaded at least 41 protected areas (PAs) in Brazil. In 2016 a Brazilian National Action Plan was elaborated to control this invasion throughout the country. However, the Plan has no action for eradication even in PAs. Herein we aimed to describe the first attempt to eradicate a wild boar population at the Fritz Plaumann State Park, Southern Brazil. The park area is 717 ha, the most important remaining of Atlantic Forest in this region, and it has a fluvial island (256 ha) with <200 m distant to the mainland. We performed this project from Nov/2017 to Nov/2018 with four phases: (I) diagnosis (e.g., wild boar's distribution, history of invasion and estimation of

population size and age and sexual structure) with interviews, camtraps, tracks records and live captures in the Park and surroundings; (II) capturing with corral traps; (III) eradication as an extension of phase II; and (IV) elaboration of an action plan to control the invasion in the Park. The phase III had not originally been planned, so we have opted for keeping on capturing only after the phase II to eradicate the few remaining individuals. The first record of wild boars in this region dates from 2015 at the Park's island. The invasion started with local poachers who have illegally introduced a few juveniles between 2013-2014 on the island for game motivation. In 2017, wild boars were spread all over the island. The total hunting effort was 176 traps x night by which we caught 32 wild boars and the majority (76%) have been born during this project according to their age by tooth eruption. The estimation of the initial population size for this study (Nov/2017) was 13 wild boars on the island, with no records in the surrounding areas. We also recorded 2-3 individuals which have dispersed to the closest part outside the island, but they were hunted by landowners right after. At the end of the project (Nov/2018), nine individuals remained but still confined to the island. Thus, we reduced the population density from five to two wild boar/km² on the island and almost all reproductive females were culled, nonetheless the total eradication has failed. The cost of this project was ca. US\$ 750.00/wild boar. The population was probably too small to use only one method (corral trap) and then hard to capture the remaining few individuals. Other methods (e.g., dog-chasing and fire-arms) could be used as the complement to ensure the eradication. On the other hand, the Brazilian PAs have legal restriction to use these methods and it is hard for the park managers to mobilize hunters for this purpose. The eradication was not possible even in a favourable situation, i.e. the invasion was detected at an early stage, the population was small and confined to a small island, the growth rate was dependent only on reproduction without immigration, and the most important stakeholders were involved in the process. The final product was a specific action plan to control this invasion in the Park, but its implementation has been waiting for the financial resource since the project's end, more than six months ago. The number of wild boars will likely reach the initial population size on the island very soon and the invasion of surrounding areas is an imminent risk. Others PAs in Brazil must face worse situation as the wild boars challenge the country wild life management system

Keywords: invasive species, culling, action plan, management, demography, age estimation, population estimation



Chronology synthesis of control and eradication effort (Fev-Nov/2018) of wild boar since its introduction (2013-2014) and first detection (Jan/2015) in the Fritz Plaumann State Park, Southern Brazil. x = Hunted individuals (x) by corral trap; o = birth estimation by tooth eruption.