
Five phases of long-term invasive species management: Lessons from the Amami mongoose eradication project

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Abstract

In recent years, there is growing evidence that invasive species can be eradicated mainly from small islands, which allows us to recognize eradication as a realistic target for invasive species management. If we can feedback the findings obtained to other projects, we could raise the overall success of invasive species management programs. In this presentation, I introduce an outline of the mongoose eradication project on Amami-Oshima Island (712 km²), Japan, since 2000, which is the biggest mongoose management project. The project has now reached the final phase, where the number of captured mongooses has decreased to only one in 2018, under tremendous management efforts such as by about 2.7 million trap-days, mongoose detection dogs, and pinpoint use of poison bait. Based on the findings of the project, I generalize the roadmap for long term and large island invasive species management by dividing it into five phases. I show that it is necessary that tactics should be updated in the course of the project according to the varying population status. I also show that it is important to establish the governance design, which promotes breakthroughs to proceed to the next phases. In order to establish an appropriate governance, a collaborative system between government, researchers, and residents is needed. Finally, I provided a practical checklist for long term and large island invasive species management. The roadmap and checklist presented in this review are expected to be utilized as guidelines for examining the concept and direction of ongoing various invasive species management programs.

Keywords: recovery of native species, eradication, invasive species management, Amami, Oshima island, governance

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