

*Allocation of Research Resources for invasive species with a commercial value:
The case of the Red King Crab in Norway*

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Abstract

The purpose of this paper is to model the allocation of research resources for a species population that has a dual role as a nuisance and as a valuable economic resource. For the purposes of the analysis we are using the Red King Crab (*Paralithodes camtschaticus*) as a case study. The Red King Crab is a well-established invader in the Barents Sea (mainly in Norwegian and Russian coastal waters), that conveys both harvesting benefits and ecosystem damages, which may be spatially differentiated. The damages can be alleviated by harvest, which creates a positive externality. We distinguish the research in different types based on their potential to reveal successfully the marginal external benefits to the environment from commercial harvesting. We illustrate how misallocation of research resources can be reduced when decision-makers are explicitly faced with the allocation dilemma and there is a significant amount of uncertainty on the ecosystem impacts that makes impact studies notoriously difficult to perform. The model highlights how research resource allocation priorities impact the ability to optimally identify and manage the bioeconomic trade-off between commercial and ecosystem benefits in the case of a valuable invader.

Keywords: *Commercial Invasive species, Research Resource Allocation, Bioeconomic Trade-Offs*

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