

**MALIAF  
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**Managing Alien Species for Sustainable  
Development of Aquaculture  
and Fisheries**

**International Conference**

**BOOK OF ABSTRACTS**

Edited by  
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& Laura Aquiloni

*European Commission, 6th  
RTD Framework Programme  
IMPASSE: Environmental  
impacts of alien species in  
aquaculture*



University of Florence, Italy  
Department of Evolutionary Biology  
November 5-7, 2008





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**MANAGING ALIEN SPECIES FOR SUSTAINABLE DEVELOPMENT  
OF AQUACULTURE AND FISHERIES**

IMPASSE Project Final Conference  
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2008

**Impact of the alien Red King Crab (*Paralithodes camtschaticus*) on the shallow water communities of the Barents Sea**

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The Red King Crab was introduced in the Barents Sea in 1961-1969 to establish a fishery. Currently the crab inhabits an area from Kolguyev Island in the east to Sørøya in the west, and the total number of adults exceeds 30 millions. The crab is a large generalist predator, so that its potential impact on native bottom communities is expected to be high. Our goal is to assess the possible impact of this species on the shallow water benthic communities of the Kola Peninsula inlets. More specifically, we studied the diet of the adults and juveniles in the field and analyzed the feeding of the juveniles. We also monitored and assessed the current status of soft and hard bottom communities and the populations of potential prey species. Studies were conducted in the Dalnezelenetskaya, Jarnishnaya, Dolgaya, and Kola Bays in 2002-2007. Crab diet included more than 80 species of invertebrates, algae, and fish remnants. It varied among communities and usually was composed of the most abundant species. Experiments on feeding of the juveniles showed their positive selection for ophiuroids. Not all caught prey was completely consumed. Food losses decreased from 50-60% in crabs with 35-40 mm carapace width (CW) to 25% in crabs with 70-80 mm CW. In the eastern part of the studied area with low density of juveniles ( $<0.10 \text{ m}^{-2}$ ), the structure of soft bottom communities was not modified. On the contrary, in the western part of the area with a relatively high density of juveniles (up to  $5.5 \text{ m}^{-2}$ ), biomass and density of soft bottom invertebrates were negatively correlated with the juvenile crab density. A comparison between our data for the hard bottom communities and the data obtained in the same inlets 40 and 10-12 years ago demonstrates some stability in their structure and distribution patterns. However, the density of the sea urchin *Strongylocentrotus droebahiensis* decreased but the mean size of individuals increased and it started to dominate in some communities.