

determine whether these vessels to the Great Lakes contribute to the introduction and spread of NIS. There are 11 freshwater and 5 estuarine ports on the St Lawrence River used by lakers for ballast operations; some of these ports are also visited by transoceanic vessels, opening the possibility that: (i) species native to the St Lawrence River but not present in the Great Lakes could be introduced to the lakes; (ii) NIS species are delivered to the Great Lakes in secondary transfers. Here we examine the invasion risk St Lawrence River ports pose to the Great Lakes by examining (i) invertebrate community similarity between St Lawrence River and Great Lakes' ports; (ii) the diversity and abundance of NIS in the ballast water of lakers, and (iii) the environmental match between St Lawrence River and Great Lakes' ports.

Keywords: ballast water, colonization pressure, lakers, non-indigenous species, propagule pressure.

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Invasion of the southern bight of the North Sea by the American jackknife clam *Ensis directus*: ecological consequences and fishery perspectives

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The American jackknife clam (*Ensis directus*), first detected in the German Bight of the North Sea in 1978, was observed for the first time in the Belgian sector in 1987. Since then, increasing numbers of specimens wash ashore every year, suggesting that the species forms large nearshore populations likely to significantly alter the local biological communities. A research project was started in 2009 to study this issue, extending the studied area to Dutch waters. On the one hand, the population dynamics will be investigated as well as its impact on the local fauna, making use of pre-1987 macrobenthic datasets; using knowledge acquired since some years on benthos–sediment relationships in this area, optimum habitats for this alien species will tentatively be determined through a modelling exercise (“habitat suitability modelling”) and acoustic seabed mapping. On the other hand, the impact of altered composition of macrobenthic communities on populations of seabirds will be evaluated. These data will further allow us to evaluate the feasibility, sustainability, and ecological impact of a targeted *Ensis* fishery within Belgian waters, incorporating lessons learned from commercial vessels operating in the nearby Dutch waters. In this contribution, our preliminary results are presented and discussed.

Keywords: bioinvasion, *Ensis directus*, fishery, macrobenthos, North Sea, seabirds.

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Non-indigenous faunal species of the intertidal and subtidal hard benthic substrates in the “Abra de Bilbao”

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Non-indigenous fauna are now recognized as one of the most serious threats to the natural ecology of biological systems worldwide. To analyse its abundance in the internal and external areas of the “Abra de Bilbao” we carried out a survey during summer 2009 of nine intertidal and eight subtidal localities. This comprised a visual estimate of the faunal species abundance in 50×50 quadrats. We considered as native species those which are known to be endemic to the Basque biogeographical region. Non-indigenous species are those introduced as a result of human activities. Cryptogenic species are those whose identity as either native or non-indigenous remains ambiguous, whereas indeterminates include specimens that could not be reliably identified to species level. In the intertidal zone, 62 taxa were identified. In terms of abundance, cryptogenic species represent 54.1% of the total cover, natives 40.3%, non-indigenous species 5.3%, and indeterminates 0.3%. In relation