

Invasive alien plants in marine protected areas: the *Spartina anglica* affair in the European Wadden Sea

Stefan Nehring* & Karl-Jürgen Hesse**

*AeT umweltplanung Koblenz, **FTZ Westküste Büsum

[Nehring, S. & Hesse, K.-J. (2008): Invasive alien plants in marine protected areas: the *Spartina anglica* affair in the European Wadden Sea. – Biological Invasions 10: 937-950.]

Abstract

The common cord-grass *Spartina anglica*, a fertile hybrid of *S. maritima* and *S. alterniflora*, was planted in the European Wadden Sea extensively during the late 1920s and 1930s to promote sediment accretion. After establishment, it colonised as a pioneer plant in the upper tidal zone, where it occurs frequently in coherent swards at the seaward front of saltmarshes and in patches on the tidal flats. Often, a conspicuous, almost monotypic, belt of *S. anglica* is formed. Over the last two decades, an increase in abundance and accelerated spread of *S. anglica* was observed, possibly promoted by warmer spring temperatures. This alien species may benefit from global warming, and there is considerable concern about its harmful impacts on the native biocoenoses and native biodiversity of the unique Wadden Sea ecosystem, encompassing effects on hydromorphodynamics and coastal protection. For a definitive assessment, however, an adequate quantification and comparison of documented and potential effects of *S. anglica* is important, but currently unavailable. Consequently, no management strategy exists for the prevention or restoration of the Wadden Sea ecosystem. Thus, the development of an alien species plan on the level of the Trilateral Cooperation on the Protection of the Wadden Sea is essential.

Keywords: Black list, Climate change, Europe, Impacts, North Sea, Protected area, *Spartina anglica*, Wadden Sea

A reprint of the paper can be obtained as pdf by giving the title in an email to info@StefanNehring.de