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Identifying a network of priority areas for conservation in the Arctic seas: Practical lessons from Russia

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Abstract

Copyright © 2017 John Wiley & Sons, Ltd. The natural environment of the Arctic is changing rapidly owing to climate change. At the same time in many countries including Russia the region is attracting growing attention of decision-makers and business communities. In light of the above it is necessary to protect the biodiversity of the regional marine ecosystems in the most effective way possible, namely by establishing a network of marine protected areas. Identifying conservation priority areas is a key step towards this goal. To achieve it, a study based on a systematic conservation planning approach was conducted. An expanded group of experts used the MARXAN algorithm to produce initial results, then discussed and refined them to select 47 conservation priority areas in the Russian Arctic seas. The resulting network covers nearly 25% of the Russian Arctic seas, which guarantees proportional representation of their biodiversity as well as achieving connectivity, sustainability and naturalness. This was largely made possible by the selected methodology, based on the MARXAN decision support tool supplemented by extensive post-analysis that helped fill any gaps inevitable in the formal approach. Although available data were sparse, and of varying quality and a single regionalization scheme could not be used (as is often the case for such areas), the selected approach has proven successful for such a large area that covers both the coastal zone and parts of the High Seas. Such an approach could be used further to identify marine protected areas throughout the Arctic Ocean.

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Keywords

conservation priority areas, large marine ecosystems, marine protected areas, MARXAN, Russian Arctic seas, systematic conservation planning

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