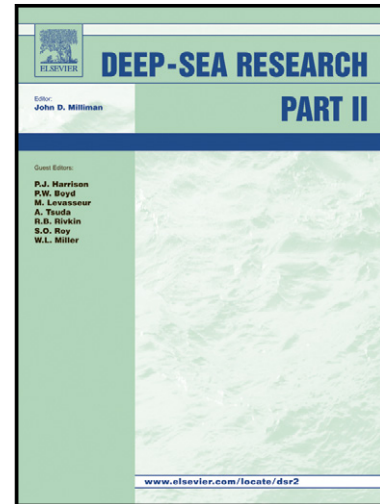


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Investigating the association of fish abundance and biomass with cold-water corals in the deep Northeast Atlantic Ocean using a generalized linear modelling approach

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1 **Investigating the association of fish abundance and biomass with cold-water**
2 **corals in the deep Northeast Atlantic Ocean using a generalized linear**
3 **modelling approach**

4
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12 **Running title: Fish and coral in the NE Atlantic**

13
14 **Abstract**

15 Cold-water corals (CWC) can form complex three-dimensional structures that can support a
16 diverse macro- and megafaunal community. These reef structures provide important biogenic
17 habitats that can act as refuge, feeding, spawning and nursery areas for fish. However,
18 quantitative data assessing the linkage between CWC and fish are scarce. The North Atlantic
19 Ocean is a key region in the worldwide distribution of *Lophelia pertusa*, which is thought to
20 be the most widespread frame-work forming cold-water coral species in the world. This study
21 examined the relationship between fish and CWC reefs in the northeast Atlantic Ocean by
22 means of video and remotely sensed data from three different CWC communities (Rockall
23 Bank, Hatton Bank and the Belgica Mound Province). Using a tethered camera system, 37
24 transects were recorded during a period of 8 years. Fish-coral association was investigated
25 using a generalized linear modelling (GLM) approach. Overall, *Lepidion eques* was the most

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