AN INVESTIGATIVE STUDY ON THE IMPACT OF CLIMATE CHANGE ON THE DISTRIBUTION OF MIGRATORY MARINE SPECIES

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Climate change has emerged as a significant driver altering the distribution patterns of migratory marine species worldwide. Therefore, my objectives in this study are to explore the impacts of climate change on the distribution dynamics of migratory marine species and the associated ecological, economic, and conservation implications. The research method used to conduct this study was secondary sources under qualitative data. As well as secondary data sources like journal articles, research papers, books, and magazines. Rising sea surface temperatures, ocean acidification, and altered currents are key climate change related factors affecting migratory marine species. These factors influence the availability of suitable habitats, primary productivity, food availability, and the timing of important life cycle events such as reproduction and migration. Consequently, migratory marine species exhibit shifting distributions, range contractions or expansions, and alterations in migration routes and timing. The impacts of climate change on migratory marine species vary across taxonomic groups, geographical regions, and species-specific traits. Some species exhibit range contractions due to loss of suitable habitats or changes in prey availability, while others extend their ranges poleward or towards cooler waters. Changes in migratory routes and timing can disrupt crucial ecological interactions and cause mismatches between predators and prey. The ecological consequences of altered distributions of migratory marine species are far-reaching. Changes in species composition and abundance can disrupt food webs, alter community structure, and lead to cascading effects throughout marine ecosystems. Furthermore, shifts in the distribution of economically important species can have significant implications for fisheries, coastal economies, and livelihoods dependent on marine resources. Conservation and management efforts face significant challenges in adapting to the impacts of climate change on migratory marine species. Adaptive management strategies, such as the establishment of protected areas and the implementation of dynamic fisheries management approaches, are increasingly recognized as essential for safeguarding the long-term viability of these species and their habitats. In this study, I concluded several points. I can say that climate change is fundamentally altering the distribution patterns of migratory marine species. The cumulative effects of changing environmental conditions pose substantial challenges for both ecosystems and human societies. Urgent action is required to mitigate climate change and enhance the resilience of migratory marine species, ensuring their survival and the maintenance of critical ecological functions and services in our oceans.

Keywords: shifting, poleward, predators, consequences, viability, taxonomic groups

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