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Tracking Marine Mammals: The Role of Technology in Understanding Ocean Health

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Abstract

Marine mammals are key indicators of ocean health and play vital roles in marine ecosystems. With advances in technology, tracking these species has become increasingly sophisticated, providing valuable insights into their behavior, migration patterns, and the environmental challenges they face. This article explores the various technological tools used for tracking marine mammals, including satellite telemetry, acoustic monitoring, and drone surveillance. It discusses how these technologies contribute to our understanding of ocean health, inform conservation efforts, and enhance management strategies. Furthermore, the implications of this research for marine biodiversity and ecosystem stability are examined. Ultimately, the integration of technology in marine mammal research represents a significant advancement in our ability to monitor and protect ocean environments.

Keywords: Marine mammals; Tracking technology; Ocean health; Conservation; Satellite telemetry; Acoustic monitoring; Drone surveillance

Introduction

Marine mammals, including whales, dolphins, and seals, are integral components of marine ecosystems. They serve as both predators and prey, contributing to the balance of marine food webs. Additionally, marine mammals are sensitive indicators of ocean health, reflecting changes in their environment due to factors such as climate change, pollution, and habitat degradation. Understanding their movements, behaviors, and interactions with their environment is

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