



Various Aspects of Marine Ecology and their Significance

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DESCRIPTION

Marine ecology, which includes species like corals that influence the form of the seafloor, has been the study of organisms in oceans and brackish seas, which includes everything from bacteria and archaea to marine mammals. The impacts of overfishing or fisheries may also be considered as examples of human alterations to ocean life. Diverse living organisms call our coastline, coasts, and estuaries home. The smallest human plankton to the blue whale, the largest mammal on Earth, is all examples of these species. Our knowledge of the life cycles, behaviors, habitats, and relationships among marine species helps us understand the Earth as a whole. Future health of these marine organisms will be influenced by human interactions with and dependence on these animals, as well as by alterations in the environment. Daily dangers to marine life include toxic spills, oxygen-depleted habitat loss, marine debris, rising ocean levels, overfishing, and shoreline development. Because the world depends on fish for protein, it is important to preserve biodiversity and develop sustainable seafood supplies. In this field, there are numerous subfields. The fish population dynamics, reproduction, behavior, food webs, and habitats is included in the field of fisheries ecology. The effects of overfishing, habitat loss, pollution, toxin levels, and methods to boost numbers for sustainable as seafood are all part of fisheries management.

Growth of organisms and their environments is included in aquaculture. Most frequently, the goal is to acquire the information necessary to raise specific species in captivity or in open water in a particular area in order to satisfy market demand. Whoever eats whose in an ecological society is described by food webs. Food webs, which are composed of interwoven food chains the foundation of aquatic food webs is made up of phytoplankton and algae. Secondary consumers like zooplankton, tiny fish, and crabs ingest them. In turn, fish, tiny sharks, reefs, and baleen whales consume the primary consumers. Huge sharks, billfish, dolphin, toothed whales, and huge seals are some of the top ocean predators. All aquatic

species in this food chain is consumed by humans. The ability to examine this mainly unexplored region of the water has been made possible by technological advancements in the equipment used to examine the deep sea. Scientists are very interested in the biological traits and functions found in the deep-sea environment. Coastal marine vents and the thriving biological populations they sustain are among the topics of research, as well as the research of deep ocean gasses as a potential alternative energy source and how deep marine species survive in the gloomy, chilly, high-pressure environment.

There are several varieties of corals; some inhabit warm, shallow tropical waters while others dwell in the chilly, deep depths of the sea. Marine habitats all across the world contain marine mammals. They are a diverse collection of animals with particular physical adaptations that enable them to survive in the harsh marine environment with its tremendous altitudes, pressure, and darkness. Whales, dolphins, and orcas are placed in one taxonomic category, followed by pinnipeds (seals, sea lions, and walruses, sirenians manatees, dugongs, and oceanic fissiped's polar bears, sea otters. To better comprehend the creatures who live on our planet with us, researchers study the behavior of aquatic species. This topic is crucial for knowing how to help animals because habitats are under threat from man or the environment, or how to safeguard endangered species. Since maritime species must typically be studied in their natural habitats, although many marine species are also examined in controlled situations, the studies of marine animal behavior typically falls under the umbrella of ethology for obvious reasons, sharks are most studied widely in their natural environment. For thousands of years, people have been fascinated by life in the ocean. Simply comprehending the environment in which we exist is among the most crucial purposes of studying sea life. Even though the seas make up 71% of total of this planet, our understanding of them is still very limited. Only 5% of the oceans, according to scientists, have been thoroughly investigated. However, we must comprehend how the marine environment contributes to the survival of life on this planet.

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Received: 01-Nov-2022, Manuscript No. JARD-22-19103; **Editor assigned:** 04-Nov-2022, Pre QC No. JARD-22-19103 (PQ); **Reviewed:** 21-Nov-2022, QC No JARD-22-19103; **Revised:** 28-Nov-2022, Manuscript No. JARD-22-19103 (R); **Published:** 05-Dec-2022, DOI: 10.35248/2155-9546.22.13.712

Citation: Elisio D (2022) Various Aspects of Marine Ecology and their Significance. J Aquac Res Dev.13:712.

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