

## Inputs of disinfection by-products to the marine environment from various industrial activities: Comparison to natural production

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### Introduction

Marine environment means the environment of the sea, physical, chemical, geological, biological, genetic elements, interacting, marine ecosystems, sea and sea water, and the production of the above airspace. These sea areas, including seabeds and they include conditions and factors that determine sex, condition, condition, quality [1]. Scientists classify marine ecosystems into several broad categories, but some sources are inconsistent about what counts as marine ecosystems. Although there are some disagreements, there is widespread agreement on several types of marine ecosystems, including estuaries, salt marshes, mangrove forests, coral reefs, open oceans, and deep seas [2]. An estuary is a coastal area where the sea and rivers meet. As a result, the estuary is one of the most productive places on the planet, supporting different types of life. Because the estuary is where the river meets the sea, it has traditionally supported many human communities and activities such as fishing, shipping and transportation [3]. Estuaries are formed where the sea meets the river, while salt marshes occur where the sea meets the land. Swamps are regularly flooded, moistening and salting the surrounding soil [4]. As a result, the soil is low in oxygen and filled with decomposition products.

### Description

Another coastal ecosystem is mangrove forests. Mangrove forests are found in the tropics. These ecosystems are frequently flooded with seawater, submerging the roots of mangrove trees. The mangrove root system sits on the ground to filter salt and access oxygen. These trees provide homes of various species [5]. Animals such as fish, crabs, shrimp, reptiles and amphibians live in the roots of mangroves, and their canopies provide a testing ground for birds. Shortly beyond the tropical seas are coral reefs, a photic zone ecosystem constructed from exoskeletons secreted by coral polyps [3]. These exoskeletons form complex structures

that house many different organisms. Coral reefs are a very diverse ecosystem, home to sponges, shellfish, soft animals, fish, turtles, sharks, dolphins and many other creatures. At some counts, coral reefs can make up a quarter of all marine species. Beyond the coral reefs is the open ocean. In the euphotic zone on the surface of the sea, the ecosystem receives a lot of light and oxygen, is fairly warm, and supports many photosynthetic organisms [4]. Many of the organisms we relate to marine ecosystems, such as whales, dolphins, squids, and sharks, live in the open ocean. As the ocean gets deeper, it gets darker, colder, and less oxygen is available. Organisms that live in deep-sea ecosystems in dysphonia and aphotic zones have anomalous adaptations that help them survive in these difficult environments. Some organisms have very large mouths that can catch nutrients that fall from the depths of shallow waters. Others are adapted to obtain energy by chemically synthesizing chemicals from hydrothermal vents. Marine ecosystems are the largest aquatic ecosystems on the planet and are found in high salinity waters [1]. These systems contrast with freshwater ecosystems, which have low salinity. Ocean water covers more than 70% of the Earth's surface, accounting for more than 97% of the Earth's water supply and 90% of the Earth's habitable space. The average salinity of seawater is 35/1000 of water. The actual salt content depends on the marine ecosystem. Marine ecosystems can be divided into many zones based on water depth and coastline. The oceanic zone is a wide open area of the ocean inhabited by animals such as whale sharks, sharks and tuna [2]. The benthic zone is composed of aquatic substrates that are home to many invertebrates. Other coastal areas include tidal flats, sea grass beds, mangroves, rocky tidal systems, salty wetlands, coral reefs and lagoons. Hydrothermal vents can form in the deep sea, where chemically synthesized sulfur bacteria form the basis of the food web. Marine ecosystems are characterized by the biological communities of the organisms they are

associated with and their physical environment. Classes of organisms found in marine ecosystems include brown algae, flagellates, corals, heads and feet, echinoderms, and sharks.

### **Conclusion**

Marine ecosystems are an important source of ecosystem services, food and work for a significant portion of the world's population. The use of marine ecosystems by humans and the pollution of marine ecosystems pose a significant threat to the stability of these ecosystems. Environmental issues affecting marine ecosystems include unsustainable exploitation of marine resources, marine pollution, climate change, and coastal development. In addition, much of the carbon dioxide that causes global warming and the heat trapped by global warming is absorbed by the ocean, and ocean chemistry is altered by processes such as ocean acidification, which threatens marine ecosystems. Due to the opportunities and human threats of marine ecosystems for humans, the international community has prioritized "underwater life" as a sustainable development goal.

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### **Conflict of Interest**

The author declares there is no conflict of interest in publishing this article.

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