The Definition and Types of Aquatic Ecosystems

Ellis Gray*

Department of Aquaculture, Universidade da Coruña, Spain.

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Introduction

An aquatic ecosystem is one that exists within or around a body of water. Aquatic ecosystems are made up of colonies of creatures that are reliant on one another and their surroundings. Marine ecosystems and freshwater ecosystems constitute the two main types of aquatic ecosystems. An aquatic ecosystem's physicochemical qualities dictate how well it functions and how long it can support living forms. Aquatic ecosystems are divided into two categories: marine ecosystems and freshwater ecosystems. Different aquatic environments are grouped into both marine and freshwater ecosystems.

Marine ecosystems are the largest of the Earth's aquatic ecosystems, and they live in salty waters. Marine ecosystems can be separated into several zones based on the different levels of water and the shoreline features of it. A marine coastal ecology is a type of marine environment that exists where land meets the sea. Estuaries and lagoons, salt marshes and mangrove forests, seagrass meadows and coral reefs, kelp forests, and backwaters are just a few examples of marine coastal ecosystems. Neuston creatures include keystone organisms such as the golden seaweed Sargassum, which makes up the Sargasso Sea, as well as floating barnacles, marine snails, nudibranchs, and cnidarians which constitute the marine surface ecosysytem.

Lake ecosystems, which include ponds, lakes, and wetlands, are a classic example of lentic ecosystems, and much of this page applies to lentic ecosystems in general. River ecosystems are moving streams that drain the landscape, and they involve biotic interactions between plants, animals, and microbes, as well as abiotic physical and chemical interactions among their numerous parts. A wetland is a separate habitat that is continually or seasonally flooded by water.

Aquatic Ecosystems are important because they increase primary production and trap plant nutrients, estuaries are considered productive. A coral reef is an aquatic environment made up of reef-forming corals. Calcium carbonate holds coral polyps together in the creation of reefs. Stony corals make up most of the coral reefs, which have polyps that cluster in groups.

Humans use aquatic habitats for recreation, and the tourism sector, particularly in coastal areas, relies heavily on them. Autotrophic organisms are producers who convert inorganic material into organic substances. Algae are the most important autotrophic organisms in aquatic environments because they use sun energy to build biomass from carbon dioxide. As this autotrophic biomass is turned into fish, birds, amphibians, and other aquatic species, they provide the amazing productivity of estuaries and wetlands. Heterotrophic creatures feed autotrophic species and use the organic molecules in their bodies as a source of energy and raw materials for producing their own biomass.

When an aquatic ecosystem's ability to absorb a stress is exceeded, the ecosystem's health is compromised. Physical, chemical, or biological changes to the environment can cause stress in an aquatic ecosystem. Despite the fact that rivers, lakes, and wetlands hold only 0.01 percent of the world's water, they maintain a disproportionately large share of global biodiversity. Freshwater fishes alone make up almost a fifth of all living vertebrate species, and there are an estimated 44,000 scientifically identified freshwater biota species.

*Correspondence to

Ellis Gray,

Department of Aquaculture,

Universidade da Coruña,

Spain

Email Ellis67@gmail.com