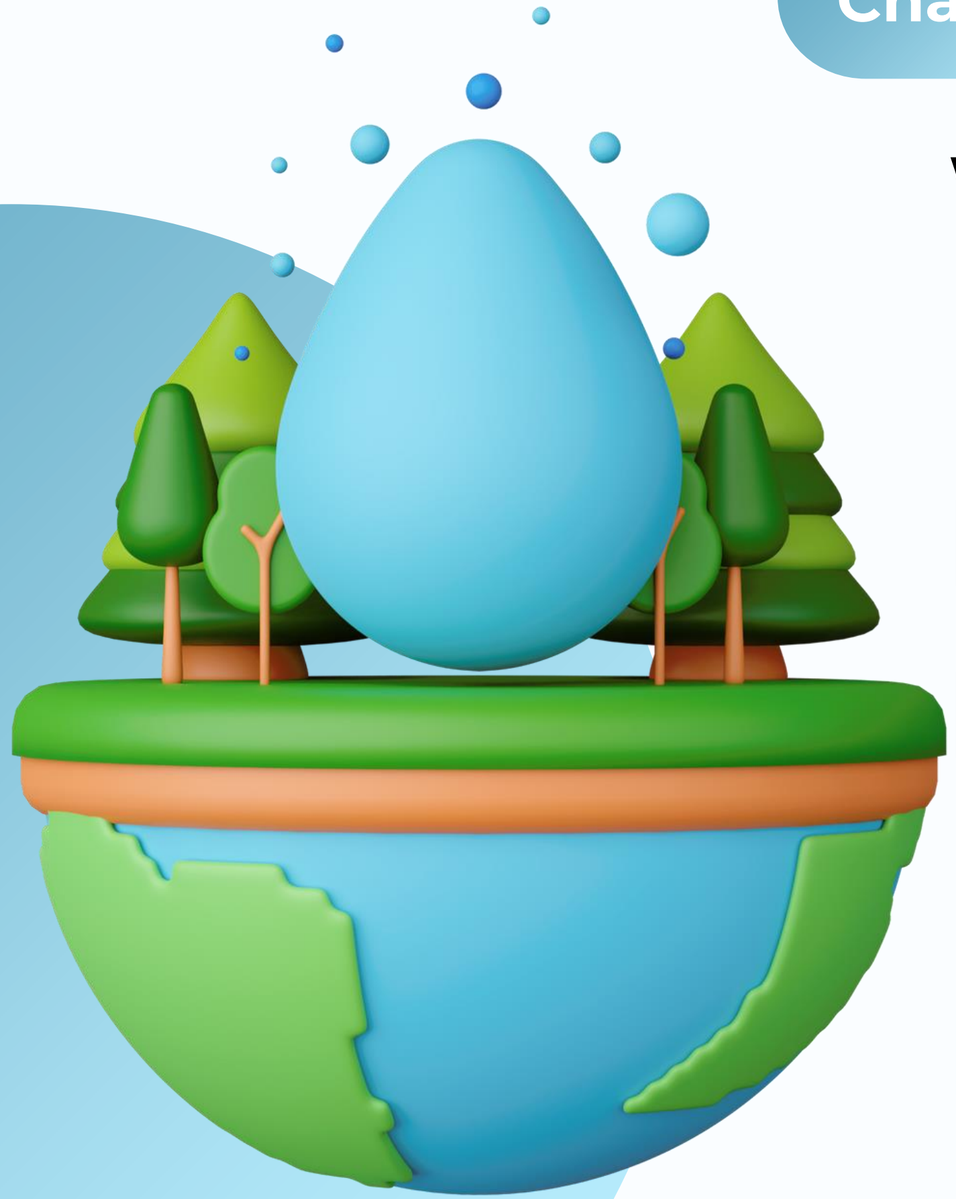
Chapter 6



# What are some Interactions Among Living Things Nonliving Things in an Intertidal Zone and Estuarine Ecosystem?

## OBJECTIVES OF THIS CHAPTER

- ❑ Identify the abiotic and biotic factors in an intertidal zone and estuary
- ❑ Describe the feeding relationship in an intertidal zone and estuary
- ❑ Discuss the protection and conservation of intertidal zones and estuaries

# BIG IDEA

Estuarine  ecosystem provide many necessities for all living things. These and other ecosystems can be saved by having sufficient knowledge about the environment and proper ways to care for it.

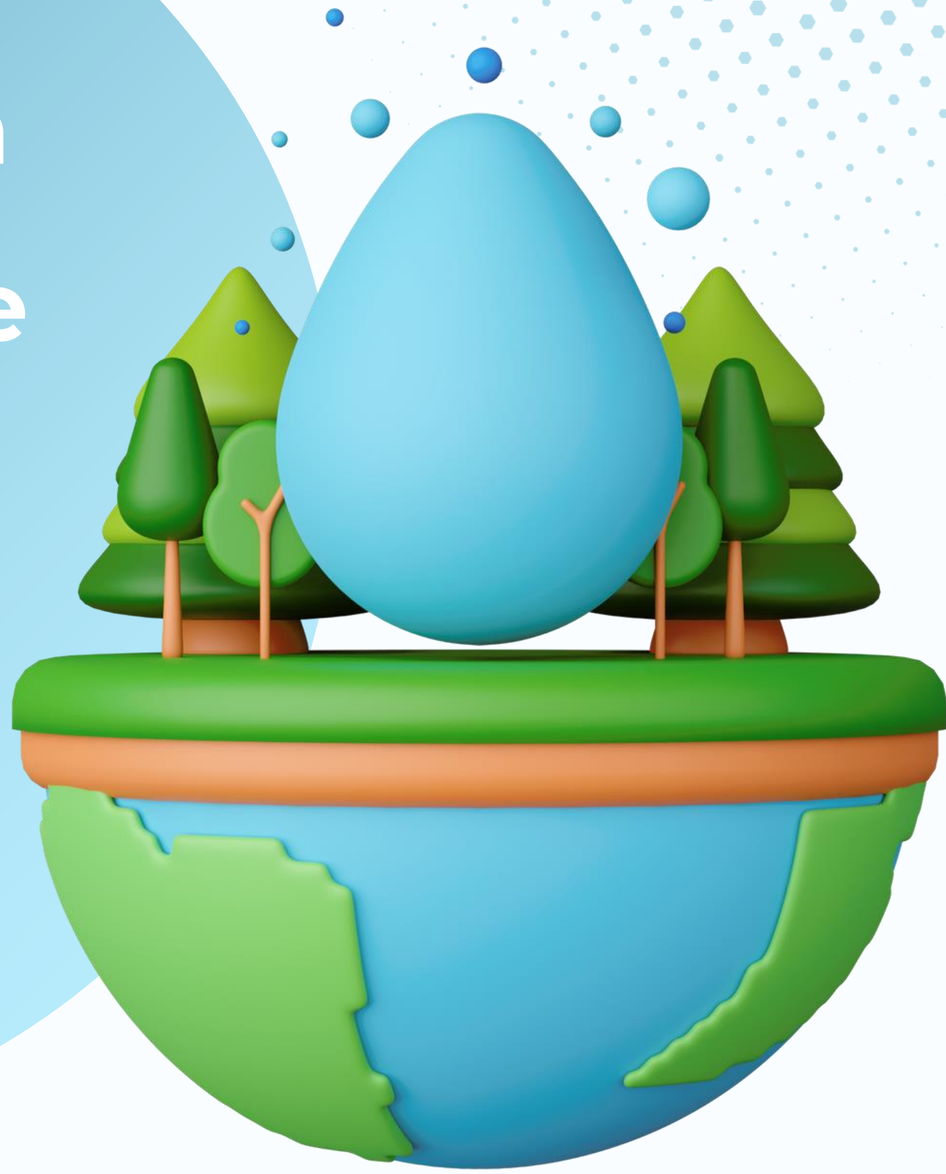
**Estuarine ecosystem has great diversity of plants and animals that live there.**

When organisms of the same kind live together, they form a group called **population**. A Population interacts with other populations to form a community. The community, interacts with the air, water, soil, sunlight, and other nonliving things in its surroundings to form an ecosystem. An **Ecosystem** is the relationship between **biotic** (living) factors and **abiotic** (nonliving) factors in a certain place.

In this chapter, you will learn about two specific ecosystem: the Intertidal Zones and the Estuaries. Find out the components of estuaries, their importance, and how you can protect them.

LESSON 18

# Abiotic Factors in an Intertidal Zone and Estuarine Ecosystem



# IMPORTANT QUESTION

## What are the nonliving factors in an intertidal zone and estuarine ecosystem?

**Manila Bay is a large estuarine environment which drains freshwater from the Pasig River.**

Have you been to Manila Bay or Subic Bay? Have you visited the Davao Gulf or explored the Underground River in Palawan? These places may be located in different areas of the Philippines, but they have something in common. They are all home to different kinds of animals.

The Philippines, being an archipelago, is surrounded by seas and oceans. Because of this, the Philippines is rich in coastal areas which are affected by the rising and receding tides. These areas which are constantly exposed to the changing tides are called **Intertidal Zones.**

**Intertidal zones** are home to many kinds of marine animals and birds. The daily changes in the tides play a major role to the life of living things in this area.

On the other hand, area where seawater meets the freshwater from the rivers is also a home to various kinds of animals. These areas are said to have **brackish waters**, which means they have a mixture of saltwater and freshwater. These areas are called **estuaries**. Because of its very unique characteristic, some organisms choose to produce in this areas. For such reasons, this also called as “nurseries of the seas”.

Estuaries are important because they filter sediments and pollutants before the freshwater from the river enters the seas or oceans. They also filter the salt from the seas and the oceans before water enters the mouth of the river.

Estuaries also help during storms and flooding for they serve as exit points for floods. Without them, the streets will remain flooded during rainy seasons.

Both intertidal zones and estuaries provide habitats for many organisms. These habitats have a lot of abiotic factors that affect the organisms thriving in them. These factors are water in the form of **waves , salinity, temperature, amount of sunlight, and type of soil.**

**Waves** refer to the movement of the surface of the water. These are strong forces that organisms must learn to live with. Kelp, a kind of algae, has strong root-like structures that attaches itself to rocks to keep it from being carried away by the waves.

**Salinity** refers to the amount of salt in water. Mangroves and blue crabs have adjusted well to the constantly changing salinity of water due to the continuous flow of freshwater and saltwater through the estuary. Since blue crabs can move, their life cycle begins from high salinity water moving upstream towards the river, which has a low salinity, where they grow as adults.

**Temperature** refers to the level of hotness or coldness of water, it changes because of the tides and amount of sunlight. Some organisms use plants like mangroves to keep themselves hidden from direct sunlight or away from the coldness of the water.

Since the intertidal zones and estuaries are shallow as compared to the seas, they are also conductive for photosynthesis to take place. Algae, seaweeds,, sea grasses, and other marine plants depend on the **amount of sunlight** that they received in the estuaries.

The **types of the soil** differ in the estuaries depending on the strength of waves and kinds of rock present in the area. Some areas are full or rocks, sand, pebble, or clay. Since nutrients are found in the soil, these types of soils have an effect on the kind of living things that live in these ecosystems.