

Different natural processes all react in some way to one another. Many local examples exist, as shown in the coastal plain and its estuaries, the oyster filtration system of the Chesapeake Bay, and the tidal marshes. These systems are all natural processes and affect the area we live in.

Estuaries are the tidal mouths of rivers. Estuaries go through a cycle called an estuarine circulation, in which fresh water flows out near the surface from the river, while denser water from the oceans flow inward near the bottom. Pollution from fertilizer and chemicals can flow into the estuaries and create dead zones. Oysters used to filter excess nutrients from estuaries in about three days. The oyster population has been reduced, and excess nutrients cannot be filtered in such a short period of time.

The oysters of the Chesapeake Bay filter the water of the bay. Plankton and suspended particles are ingested and expelled by oysters as a normal process. Healthy oysters consume algae and other nutrients, filtering up to five liters of water per hour. The once flourishing oyster population was able to filter water in the bay in three days, now it takes a year. Sediment and excess nutrients have become a problem.

Tidal marshes develop at river mouths near the Chesapeake Bay. These marshes have a higher productivity and are the base of food chains. A large amount of dead plant matter is released into the food chain and provides nutrients for many organisms. Some of this plant matter washes out into the bay, and some remains in marshes, contributing to organics in the soil.

All of these processes are interconnected and rely on one another. These processes affect us all by changing the area we live in. Systems react to each other, and when one falls, the others will be affected and new systems will be created, while others are destroyed or modified.