

WATER TREATMENT PLANTS

BACKGROUND INFORMATION

Plants are essential to the health of our water supply. Plants filter pollutants out of runoff, rainwater, and wastewater before it enters the reservoir. The tangle of leaves, stems, and roots trap trash and sediment. This sediment remains in the wetland, while the cleaner water moves away. Plants also take up toxic pollutants and nutrients. Nutrients are used by the plant for growth while pollutants are stored in the tissues of the plant.

In a natural system, plants are good at keeping things in balance. However, plants cannot clean everything. We must be careful that we do not add nutrients, sediment, and toxic pollutants into the water. We also must maintain the wetlands that help keep out pollutants that we miss or cannot control.

Many pollutants run off of the land into our water. These pollutants come from construction sites, highways, streets, and the communities in which we live. Sometimes ponds or ditches are built to filter runoff from these sites. These ponds are often planted with wetland plants to aid in the filtering. Rain and runoff also rest a bit here before moving on. This means that many of the pollutants, especially soil particles, settle to the bottom while the cleaner water drains off from the top. These ponds or ditches are called storm water management ponds.

Natural and constructed wetlands are now being used for sewage treatment in some areas. The city of Carthage, MS constructed wetlands of ponds and marshes to treat the city's sewage. The sewage is first pumped into the holding ponds where it undergoes the settling process. Bacteria and fungi digest organic solids. Effluent from the holding ponds then passes through the marshes. Here, the water is filtered and cleansed by aquatic plants.

Terms

effluent: liquid that flows out of a holding pond and into the marsh to be filtered and cleansed

nutrient: an element (or compound thereof), such as nitrogen, phosphorus, and potassium, that is necessary for plant growth.

pollutant: an impurity (contaminant) that causes an undesirable change in the physical, chemical, or biological characteristics of the air, water, or land that may be harmful to or affect the health, survival, or activities of humans or other living organisms.

storm water runoff: surface water runoff that flows into storm sewers.

