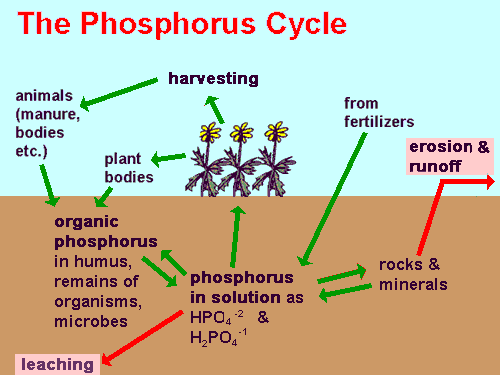
**Phosphorus cycle (Sedimentary cycle)**

Phosphorus plays a central role in aquatic ecosystems. Phosphorus occurs in large amounts as a mineral in phosphate rocks and enters the cycle from erosion and mining activities. This is the nutrient considered to be the main cause of excessive growth of rooted plants and free-floating microscopic plants (phytoplankton) in lakes.

The main storage for phosphorus is in the earth’s crust. Land phosphorus is usually found in the form of **phosphates**. By the process of weathering and erosion, phosphates enter rivers and streams that transport them to the ocean. In the ocean phosphorus accumulates in the form of insoluble deposits.

After millions of years, the crustal plates rise from the sea floor and expose the phosphates on land. After more time, weathering will release them from rock and the phosphorus cycle begins again.



**Sulphur cycle (Sedimentary cycle)**

The sulphur reservoir is in the soil and sediments where it is locked in organic (**coal, oil and peat**) and inorganic deposits (**sulphur rock**). It is released by weathering of rocks, erosional runoff and decomposition of organic matter and is carried to terrestrial and aquatic ecosystems in salt solution.

The sulphur cycle is mostly sedimentary except two of its compounds – hydrogen sulphide **(H2S)** and sulphur dioxide **(SO2)** which add a gaseous component. Sulphur enters the atmosphere from several sources like volcanic eruptions, combustion of fossil fuels (coal, diesel etc.), from surface of ocean and from gases released by decomposition. Atmospheric hydrogen sulphide also gets oxidized into sulphur dioxide. Atmospheric sulphur dioxide is carried back to the earth after being dissolved in rainwater as weak sulphuric acid.

Whatever the source, sulphur in the form of sulphatesis take up by plants and incorporated through a series of metabolic processes into sulphur bearing amino acid which is incorporated in the proteins of autotroph tissues. It then passes through the grazing food chain. Sulphur bound in living organism is carried back to the soil, to the bottom of ponds and lakes and seas through excretion and decomposition of dead organic material.

