



THERMAL POLLUTION

Thermal pollution, also known as heat pollution, is releasing of heat in air or water causing undesired changes to environment. It can be both natural as in case of forest fires and heat emanating from volcanoes, or it can be from manmade sources.

Sources of Thermal Pollution

There are several discrete sources of Thermal Pollution

Thermal Power Plants

Industries

Release of domestic sewerage

Nuclear Sources

Effects of Thermal Pollution

Solubility of oxygen has inverse proportionality relationship with temperature. That is, with increase in temperature of water bodies, oxygen content of water decreases. Dissolved oxygen is essential component for survival for aquatic life.

High surface water temperature also has detrimental effect on penetration of oxygen in deep cold water. Thus, it also affects on deep sea species.

Increase in water temperature has harmful effect on population of aquatic species who are sensitive to temperature changes. On the other hand, it propagates temperature change tolerant species. Thus, adversely affecting balance of the aquatic ecosystem.

Control of Thermal Pollution

Cooling towers

Water from water body affected is directed pumped towards the cooling tower having condensers, usually with temperature control. After bringing water temperature to desire level, it is returned to the source. Use of condenser makes this method expensive.

Cooling ponds

These are the most cost-effective way to tackle thermal pollution. In this method, heat of heating effluents on surface of the water is dissipated in atmosphere.

Artificial lake

These are the man-made bodies of water. Effluents are discharged into the lake and heat is gradually lost to the atmosphere through evaporation