Constructed wetland for the non-point source management

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A specially designed constructed wetland was employed in order to treat a polluted river water in Korea. The specially designed wetland was composed of two tanks connected in series; The one is the aerobic tank, and the other is the anoxic one. The aerobic tank could be remained aerobic due to the continuous supply of air through a natural air draft system whose driving force for air supply was the difference between the temperature of the air inside the tank and the ambient air.

On the bases of the results obtained from the five different pilot plant experiments, the optimum real scale constructed wetland was designed and installed to treat 1,000m3 polluted water every day. The wetland was operated for 28 months.The target concentrations of the effluent from the wetland were 2.0mg/L BOD(influent BOD 35mg/L), 3.0mg/L COD(influent COD 25mg/L), 1.0mg/L SS(influent SS 37mg/L), 3.0mg/L T-N(influent T-N 8.0mg/L) and 0.15mg/L T-P(influent T-P 1.4mg/L), respectively. About 1,000m^2 area of the aerobic and anoxic tank was necessary satisfy the targeted concentration of the effluent steadily upto 28 month continuous operation without blockage of the beds.