Journal of Environmental Hydrology
ISSN 1058-3912
Electronic Journal of the International Association for Environmental Hydrology

JEH Volume 11 (2003), Paper 3, April 2003 **Posted April 1, 2003**

HYDROCHEMICAL STUDIES OF THE HINDON RIVER, INDIA: SEASONAL VARIATIONS AND QUALITY-QUANTITY RELATIONSHIPS

*C.K. Jain**
*D.C. Singhal***
*M.K. Sharma**
** National Institute of Hydrology, Roorkee, India*
*** University of Roorkee, Roorkee, India*

ABSTRACT
A hydrochemical study of the Hindon river system in western Uttar Pradesh (India) has been carried out with the objective to examine variation in water quality characteristics within the river system, and to establish water quality-quantity relationships to provide a proper basis for establishing water quality objectives for the basin. The river receives considerable amounts of municipal and industrial wastes which contaminate the receiving water, especially immediately downstream of the outfalls. Agricultural runoff also contributes to river pollution. The river shows annual chemical cycles for most parameters, with elevated values in summer and minimum values in the monsoon season. Nitrate concentration did not show a seasonal variation. Most constituents decreased with increasing discharge, and dissolved oxygen concentration increased. The overall low value of r2 between water quality constituents and discharge may be attributed to the irregular discharge of industrial effluents of different kinds, climatic and physiographic controls including temperature, seasonality, the rainfall/runoff ratio, rock type and vegetation.

Reference: Jain, C.K., D.C. Singhal, and M.K. Sharma; Hydrochemical studies of the Hindon River, India: seasonal variations and quality-quantity relationships, Journal of Environmental Hydrology, Vol. 11, Paper 3, April 2003.

CONTACT:
Dr. C. K. Jain
National Institute of Hydrology
Environmental Hydrology Division
Roorkee ?247 667
India

E-mail: ckj@nih.ernet.in

Return to HydroWeb Homepage