

937. Samraj, P., Raghunath, B., Lakshmanan, V. and Haldorai, B. 1987. Studies

on hydrological impact of conversion of natural grasslands into bluegum plantations (*Eucalyptus globulus*) in the Nilgiri hills. Proc. Vol.I, National Symp. on Hydrology, N.I.H., Roorkee, Dec. 16-18, 1987: III-81-91.

A study was conducted at Udthagamandalam in the Nilgiri hills to quantify the effect of conversion of natural grasslands into bluegum plantations on water yields through paired watershed techniques. At the end of the first rotation of 10 years, the trees were felled during 1982 and during this period the average annual reduction in total runoff due to conversion of grasslands into bluegum was to the tune of 16%. During the first half of the second rotation, the reduction in total flow has further increased to about 20%. The seasonal distribution of total flow especially during the dry period which is mostly baseflow is drastically reduced to 50%. The data on consumptive use by *Eucalyptus* as a function of age and annual rainfall, five yearly trends in annual and seasonal runoff ratios for the period 1968 to 1986, the implications of reduced inflows into the hydro-electric reservoirs affecting power production, the policy decisions to be taken by the Government to sustain the hydel power based industries and wood