

**A CATCHMENT SCALE MODEL OF FAECAL INDICATOR ORGANISM (FIO)
TRANSPORT FROM AGRICULTURAL LAND TO SURFACE WATERS.**

Doug Lewis¹ and Alistair Duncan².

¹*SAC Land Management Department, Bush Estate, Midlothian EH26 0PH*

²*SAC Heartland, Auchincruive, Ayrshire*

ABSTRACT

The quality of Scottish Bathing Waters has been recently criticised because of failure to meet the standards of the European Union's Bathing Waters Directive. For example, for the Scottish Environmental Protection Agency's West region in 2000, 35% of 17 identified bathing waters received fails and the remainder received only a mandatory pass. Much of the pollution has been found to come from diffuse agricultural sources, and in an attempt to determine the quantities of FIO's transported from livestock to coastal waters, a model was developed (PAMIMO-C) which allows a spatially distributed evaluation of the effects of changing management practices or physical and climatic variables. The model has been developed in the context of two catchments (Cessnock and Hareshawmuir) within the basin of the river Irvine in South West Scotland. These two catchments have similar soils and elevations, but the Cessnock has a much higher proportion of improved pasture (80%) than Hareshawmuir (33%).