

An EIA of agricultural practice on Lingo Burn, Fife



Client: Mr Patrick Bowden-Smith
Project duration: 2 months

Project description:

The intensification of agriculture during the last century has impacted upon the ecological status of rivers, streams and burns all over the UK. For example, direct input of field drains and unrestricted access of livestock onto riparian strips can result in excessive silt loading and nutrient enrichment of the water.

However, at Pittarthie Farm in Fife, Scotland, various conservation measures have been implicated to mitigate against and lessen the effects of agricultural land use on Lingo Burn. These include the building of ponds and runoff-filtering wetlands, fitting of silt traps, modification of the channel form, reed beds and fencing off of the riparian zone.

A habitat template of eight sites was used to observe the chemical, physical and biotic properties of each site. This

allowed information to be collected on how conservation and agricultural practices were affecting the environment. Data was compared with that gained from a semi-natural site of known high ecological status.

Key elements:

Within this programme, SERG:ES took a variety of chemical, physical and biotic measurements. Nitrate, phosphate and silicate water concentrations were measured. The geomorphology of each site was visually observed. Plant indicator species within the riparian zone were noted, and an observational vegetation survey carried out. Aquatic floral species were identified. The aquatic benthic macroinvertebrate community was sampled using the Kick-net technique for determination of a BMWP score. Periphyton assemblages were sampled for calculating the Trophic Diatom Index (TDI).



Picture of *Baetis pumilus*, which has a BMWP index score of 4
