Sediment Ecology Research Group: Environmental Services
Gatty Marine Laboratory, St Andrews University, St Andrews, Fife, KY16 8LB, Scotland
Tel: 00 44 1334 463470 Fax: 00 44 1334 463443 Email: ecd2@st-andrews.ac.uk

Cornwall Rivers Survey

Client: Partrac Ltd
Project duration: 2 years

Project description:

An understanding of the sediment regime within streams and rivers provides valuable information for the successful management of upstream land practices, such as farming and construction activities. The deposition of large quantities of sediments in water courses, either by dumping or field and bank erosion, may lead to smothering of downstream sensitive habitats, infilling of navigation channels in estuaries and reduction of fish spawning grounds.

Partrac Ltd provided a complete solution to monitor and quantify the flux of sedimentary material transported down a river catchment in Cornwall, UK. Using a range of hydrological and sediment analysis techniques, Partrac instrumented four rivers (Fowey, Lerryn, Pont Pil and Pen Pol) that flowed into an estuary to monitor suspended sediment concentration, water levels and river velocity over a 2-year period.

Key elements:

Within this programme, SERG:ES was responsible for turbidity calculations, and the determination of particle size within TIL and river water samples. SERG:ES also supplied the flume suite and SEM services. Together, this data provided Cornwall County Council with information that will allow them to better inform land managers and dredge operation practices according to the temporal nature of sediment delivery to the estuary.

Digital image of TIL sample from Pen Pol River