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For marine discharges TransTech can deploy current meters, produce hydrographic reports, carry out dye release programmes, drogue deployments and sample benthic biology.

Dilution modelling can also be undertaken to assess pollutant dispersion. To do this we use the latest modelling software such as PLUMES, VISUAL PLUMES, GEMSS, CORMIX, WASP BATHAUTO and AutoDEPOMOD.

#### DISTILLERY DISCHARGE WORK

For distillery discharges SEPA sometimes require a hydrographic survey. When a hydrographic survey is required it should include data from a current meter deployed at or near the point of the proposed discharge. The deployment should be for a minimum of 15 days over a spring/neap tidal or neap/spring tidal cycle to allow assessment of current speed and direction.

This information, together with the outfall location, dimensions, effluent flows, effluent density, relevant concentrations of important substances, depth and potential for overlying stratified water column will allow an estimate to be made of initial dilution through the use of dilution modelling software or numeric calculations.

A dye release programme from the same site may also be required. This should be sufficient but in areas where bottom or shore topography is irregular a drogue release may aid the understanding of where the effluent might travel to immediately after release. Background levels of many contaminants are rarely zero and in calculating the potential to meet the Environmental Quality Standards, background levels should be measured and allowed for.



Grab samples for benthic biology assessment may also be required at particularly vulnerable sites.

#### FISH FARM DISCHARGE WORK

We regularly undertake current meter work for fish farming companies. The data is used for AutoDEPOMOD and BathAuto modelling of marine cage site discharges.

This enables the modelling process to become more efficient as all work is undertaken in-house and is particularly pertinent to ADCP current meters where the most appropriate bins, which meet SEPA criteria, can be selected for modelling.



#### FOUL WATER DISCHARGE WORK

Current meters can be deployed to measure current speed at proposed foul water outfalls.

#### SUBSEA PIPELINE HYDROGRAPHIC WORK

TransTech can deploy current meters at sites to ensure that pipelines meet materials specifications. We can also take grab samples for benthic biology assessment.

#### POWER PLANT DISCHARGE WORK

Hydrographic and dilution modelling work can be undertaken for cooling water discharges from electricity generation plants.

#### MARINE RENEWABLES HYDROGRAPHIC WORK

Current meters can be deployed at sites for proposed marine renewable energy schemes and we can undertake bathymetric surveying and EIA work.