



Guide 6.02 Monitoring Water Quality

Regular Checking

The turbidity (cloudiness) of water leaving worksites should be checked periodically during operations to ensure that site activities are not leading to diffuse pollution, in the form of silt, leaving the site. Ideally this should be done once a day, but more frequent checks should be carried out during periods of heavy rain or snowmelt. Operations likely to lead to turbidity problems include timber harvesting, ground preparation, drainage, road building or maintenance operations and quarrying.



Particular attention should be paid if problems such as deteriorating brush mats or road conditions are experienced on site and after operations likely to disturb silt such as log bridge building or removal.

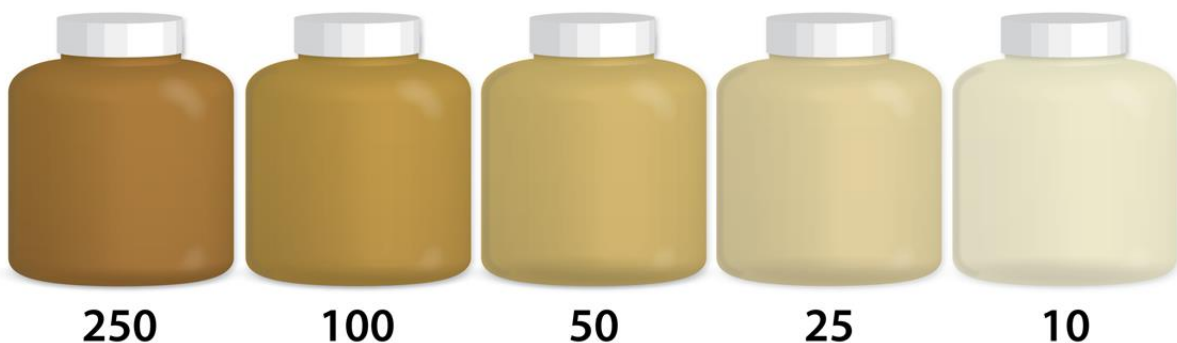
Check around fuel tanks and in silt traps for signs of an oil sheen.

Remember someone downstream may be relying on the water quality leaving the site for their drinking water or the stream may hold spawning fish. There are potential fines for causing siltation in natural watercourses.

Turbidity Colour Chart

Use the chart below to compare the water quality in watercourses leaving the site with a sample collected in a jam-jar or similar container. Any sample of more than about 25 to 50 on the chart below should be treated as an indication that diffuse pollution problems are occurring on site. Follow the watercourse back to identify the source of the problem and if necessary compare your sample with water drawn from a nearby unaffected watercourse or from above the site, to determine if the silt is the result of your activities. If it is, first inform the Scottish Woodlands site manager then take such steps as are required to rectify the situation.

Water Samples:

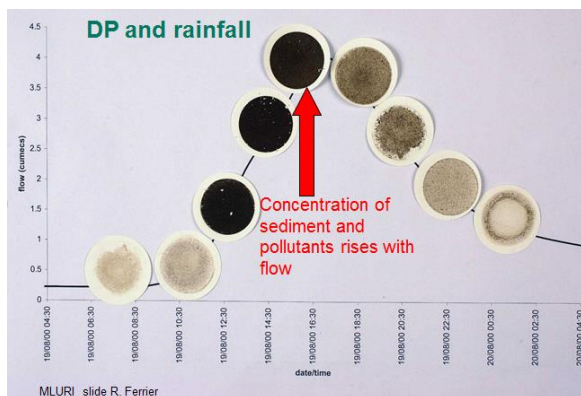


Turbidity Chart Courtesy of SEPA

Colloidal Siltation

The clay fraction of a soil may contain microscopically small particles which form a colloidal suspension in water. These particles remain in suspension and will not settle out even in a silt trap. The only way to deal with colloidal silt is to direct the outflow from the silt trap onto a grassy area or 'filter zone'.

Peak Flows and Peak Siltation



The charts on the left show that high flows do not dilute the effects of siltation and the concentration of pollutants actually rises in periods of high rainfall. It is therefore important to monitor water quality during wet weather and we cannot assume that siltation will simply be diluted further downstream.

Fisheries interests report that the greatest damage is done to spawning beds by siltation during high river flows.

Look for the Warning Signs

Warning signs that siltation of watercourses leaving the site are usually obvious and should be acted on before the problem becomes serious. Deteriorating brush mats and log bridges or road surfaces which are beginning to break down are usually indicators that there is a developing problem. Do not be tempted to turn a blind eye and 'boorach on', fix the problem or contact the Scottish Woodlands Site Manager to agree a suitable solution. We appreciate that brush may be in short supply and the difficulties of keeping going, but it is always more expensive to fix a big problem than a small one.

Everyone is Involved

It is not just the Scottish Woodlands Manager and Main Contractor's job to monitor water quality problems. Everyone on site should keep an eye out for potential problems. Even if this is just a quick check at a burn crossing or culvert end whenever you are passing, if you see a problem developing pass the information on.

Make sure everyone on site knows what to look for.

Additional Information

[Forestry and Water Scotland - Know the Rules Booklet](#)



Wet Weather Decision Matrix

