

Land contamination and impacts on the water environment consultation

Appendix 2: Assessing impacts on surface waters

A2.1 Rivers

To assess current and predicted impacts on rivers the following approach should be followed:

Step 1: Are contaminants from the site entering or likely to enter a river?

Step 2: Are contaminants contributing to a river being polluted or a risk of it being polluted?

- Are the concentrations of relevant contaminants in the surface water downstream of the site above the environmental standard? If so, considering upstream concentrations, is this likely to be due to the contaminant inputs from the site? Note that the groundwater baseflow route or other flow paths needs to be considered when deciding what is “downstream”. For example, this might not occur immediately adjacent to the site; or
- Considering low flow conditions (Q95) and upstream concentrations is there a risk that contaminants from the site could result in the environmental standard being exceeded downstream of the site once fully mixed?

Step 3: Are the contaminants contributing to a river water body being at poor status or a risk that it will deteriorate in status?

- Is the river a classified water body¹ and is there any sampling evidence to suggest that the extent of an environmental standard exceedance extends beyond the spatial limits²? or

¹ Is the surface water shown on <https://www.sepa.org.uk/data-visualisation/water-environment-hub/>

² The Scotland River Basin District (Standards) Directions 2014
<https://www.gov.scot/binaries/content/documents/govscot/publications/regulation-directive->

- Is the river a water body? If so, considering the increase in flow (and additional dilution) as the surface water moves downstream and any attenuation that will occur, is it likely that the spatial extent of the impact will be greater than the spatial limits?

Note, that impacts on SEPA monitoring points in rivers should not necessarily be used to determine status impacts e.g. an impacted monitoring point 100m downstream of an area of land contamination should not, on its own, be used to determine if a site is causing less than good status.

A2.2 Lochs

To assess current and predicted impacts on lochs the following approach should be followed:

Step 1: Are contaminants from the site entering or likely to enter a loch?

Step 2: Are contaminants contributing to a significant³ area of the loch exceeding the standards?

Step 3: Are contaminants contributing to the spatial standard in a loch being exceeded:

- Is the loch a classified water body⁴ and is there any sampling evidence to suggest that the extent of an environmental standard exceedance extends beyond the spatial limits⁵? or
- Is the loch a classified water body? If so, is it likely that the spatial extent of the impact will be greater than the spatial limits? For example a simple screen could be carried out to determine if the load of contaminants entering the loch

[order/2014/08/scotland-river-basin-district-standards-directions-2014/documents/00457867-pdf/00457867-pdf/govscot%3Adocument/00457867.pdf](https://www.gov.scot/binaries/content/documents/govscot/publications/regulation-directive-order/2014/08/scotland-river-basin-district-standards-directions-2014/documents/00457867-pdf/00457867-pdf/govscot%3Adocument/00457867.pdf)

³ This can be considered to be an area greater than or equal to 100x100xπ m²

⁴ Is the surface water shown on <https://www.sepa.org.uk/data-visualisation/water-environment-hub/>

⁵ The Scotland River Basin District (Standards) Directions 2014
<https://www.gov.scot/binaries/content/documents/govscot/publications/regulation-directive-order/2014/08/scotland-river-basin-district-standards-directions-2014/documents/00457867-pdf/00457867-pdf/govscot%3Adocument/00457867.pdf>

is sufficient to exceed the spatial standard when mixed in a volume of water equivalent to the areal spatial standard.

A2.3 Coastal and Transitional Waters

To assess current and predicted impacts on coastal and transitional waters the following approach should be followed:

Step 1: Are contaminants from the site entering or likely to enter a coastal or transitional water?

Step 2: Are contaminants contributing to a coastal or transitional water being polluted or a risk of it being polluted?

- Follow SEPA Guidance WAT-SG-11: Modelling discharges to coastal and transitional waters.

Step 3: Are the contaminants contributing to a coastal or transitional water body being at poor status or a risk that it will be at poor status?

- Is there any sampling evidence to suggest that the extent of an environmental standard exceedance extends beyond the spatial limits⁶? or
- Is it likely that the spatial extent of the impact will be greater than the spatial limits? For example a simple screen could be carried out to determine if the load of contaminants entering the coastal or transitional water is sufficient to exceed the spatial standard when mixed in a volume of water equivalent to the areal spatial standard.

⁶ The Scotland River Basin District (Standards) Directions 2014

<https://www.gov.scot/binaries/content/documents/govscot/publications/regulation-directive-order/2014/08/scotland-river-basin-district-standards-directions-2014/documents/00457867-pdf/00457867-pdf/govscot%3Adocument/00457867.pdf>