

Water pollution natural capital calculator

Use the calculator to estimate the cost of the public's losses after a pollution incident to English Waterways.

If you want to work out how much your offer should be for an Enforcement Undertaking you can only use this calculator if the pollution incident affected water.

What the calculator does

The calculator estimates the value the public holds for improvements to rivers, lakes and other waterbodies such as reservoirs, canals.

The calculator provides a range of guideline values because:

- it is difficult to quantify the value people place on nature with a specific monetary value
- the affects of each pollution incident varies greatly

The results:

- are given to the nearest £1,000, based on the value of the pound in 2016
- provide a starting point to open discussion with the Environment Agency

Values

The Environment Agency worked out the values based on:

- loss felt by the general public
- the assumption that gain felt by an improved water environment is the same as the loss felt by a deteriorated water environment, however, loss is usually felt more highly than gain

The value does not include shock or distress caused by the incident. It is based on the time period the environment is of lower quality than usual.

Estimating Damage

The values are based on 3 features that will be affected by the pollution incident, they are:

- fish
- invertebrates (and other animals)
- plants

The loss to society can be measured by the incident's:

- severity
- scale
- duration
- location

Severity

This is judged by the water framework directive ecological status of the waterbody before and after the event. See the 'status look up table' in the calculator to see the expected conditions for fish, invertebrates and plants at each status level for urban and rural waterways.

If you think the waterbody has not deteriorated by one whole status then the result can be scaled down. Contact the Environment Agency to scale the result.

Scale

Contact the Environment Agency to scale the result. The Environment Officer will scale the result up or down depending on local conditions.

Duration

The values are based on the time the affected stretch of water will take to return to its previous quality.

If a waterbody WFD status drops by one level then the estimated recovery times are:

- 7 years for fish
- 1 year for invertebrates and plants

Location

The values are based on local population density. People place a higher value on the quality of the environment near to where they live. A pollution incident in an urban area will affect more people than a rural area so the loss will be more highly felt in an urban area.

You must still calculate the cost if the pollution incident affected water where there is no public access or little public interest. This is because the public get benefit from nature as a whole being in a good state.

It may be possible to scale the results depending on the individual circumstances of the incident.

Other features that affect values

These include whether the incident:

- occurred in a protected area, such as a Site of Special Scientific Interest, national park
- occurred at a heavily modified waterbody, such as a reservoir
- affected animals outside of the WFD categories, such as mammals

The values can be adjusted up or down to reflect these conditions.

What the calculator does not do

The calculator does not:

- include losses to businesses or organisations
- estimate clean up and restoration costs

How to use the calculator

The calculator is a Microsoft Excel spreadsheet. Follow the guidance in the first tab (Readme) of the spreadsheet.

Contact the Environment Agency

Ask for your local Environment Officer.

General enquiries:

National Customer Contact Centre

PO Box 544

Rotherham

S60 1BY

Email

enquiries@environment-agency.gov.uk

Telephone

03708 506 506

Telephone from outside the UK (Monday to Friday, 8am to 6pm GMT)

+44 (0) 114 282 5312

Minicom (for the hard of hearing)

03702 422 549

Monday to Friday, 8am to 6pm