

Table 1: Potential impacts of climate change

Predicted change	Possible outcomes
Less overall summer rainfall	<p>Less water in rivers to dilute pollutants.</p> <p>Longer periods in which rivers shrink to occupy a fraction of the width of their beds. This will lead to declines in the abundance of plants and animals.</p>
More rainfall in winter/autumn, leading to higher annual river flows	<p>Increased dilution.</p> <p>Pollutants washed into the sea faster, with less time to be broken down in fresh water.</p>
Higher temperatures in all seasons	<p>Excessive and damaging growth of water plants in rivers with existing nutrient problems.</p> <p>Increased demand for water at just the time when there is less of it that can be taken without reducing the ecological quality of our rivers and lochs.</p> <p>Invasive NNS already pose a significant threat to the ecosystems of our rivers and canals. A changed climate may tip the balance in favour of some of these currently benign species.</p> <p>Rivers not shaded by bankside vegetation may overheat, reducing oxygen levels for wildlife</p> <p>Reduced snow cover will result in changes in flow rates in spring, which will alter the life-cycles of some species of wildlife.</p>
Increased frequency of extreme precipitation events (i.e. periods of more intense rain)	<p>More of the pollutants that collect on roads and urban surfaces will be washed into rivers.</p> <p>Soil, nutrients and other pollutants from land washed into rivers.</p> <p>Increased erosion rate of storm-swollen rivers, leading to habitat changes.</p> <p>More frequent and powerful extreme events will cause sewerage systems to overflow more often and lead to increased flooding of land and property.</p>
Sea-level rise	<p>Direct loss of habitat at the mouth of the river.</p> <p>Changes in base levels of rivers, which affects discharge points and abstractions.</p>

Source: <http://www.environment.scotland.gov.uk/get-informed/water/rivers-and-canal/>