

Annex 1 – Information released

The following information has been extracted from our records as being in scope of your query and so is being released to you:

On mortality associated with jellyfish:

1) Analysis of the cause of mortality within the Scottish salmon Sector from 2018 to 2020 revealed that in, 2018 - 2.65%; 2019 - 2.90%; 2020 – 6.70% of the total mortality experienced for each year was attributed to Jellyfish / plankton as a cause. This information was shared through the Farmed Fish Health Framework in April 2021. The mortality values do not differentiate between jellyfish or plankton but rather are linked together under the term: *Physical or toxic algal damage and jellyfish stings (inc. those impacting gills where jellyfish damage is the primary cause of mortality).*

2) Scottish Government recognises the rise in recent mortality figures – it can be attributed to an unusual bloom of micro jellyfish (*Muggiaea atlantica*) occurring out with its normally recognised range. It is premature to say if this will cause similar problems in future years. *Advice concerning mortality and welfare on fish farms to the First Minister from Marine Scotland 14 March 2023.*

On water temperature, climate change and jellyfish:

1) Evidence of the impacts of marine heatwaves in the UK is limited as this is a rare event but international evidence suggests a variety of impacts are possible including algal blooms, deoxygenation of water column, jellyfish blooms, impacts on fish size and increased mortality risk for marine species including at aquaculture sites.

Advice concerning marine heatwaves to the Cabinet Secretary for Rural Affairs Land Reform and Islands from Marine Scotland from communications dated 21 June 2023.

2) Australia is at the forefront of research on the impact of marine heat waves globally. Scientists there have reported reductions of kelp forest, jellyfish bloom occurrences and coral reef loss due to marine heatwaves.

Advice concerning marine heatwaves to the Cabinet Secretary for Transport, Net Zero and Just Transition from email communications dated 19 June 2023.

You may also find the attached publicly available information relevant to your request:

https://www.mccip.org.uk/sites/default/files/2022-11/Aquaculture%20Formatted_updated%20and%20returned%20by%20authors.pdf