Update on investigation into the deaths of crabs and lobster in the North East

Defra and partner agencies have completed a thorough investigation of the cause of dead crabs and lobsters which were found washed up on the North East coast between October and December 2021.

Following significant testing and modelling to rule out possible causes, Defra and partner agencies consider that the deaths of the crabs and lobsters potentially resulted from a naturally occurring harmful algal bloom.

From the evidence found during the investigation it is unlikely that chemical pollution, sewage or infectious aquatic animal diseases were the cause of the deaths. No traces of chemical contaminants have been found that could have caused an event of this scale. Follow up survey work carried out by the Environment Agency on the 18th and 19th of January 2022 has also shown live healthy crabs present in the area, albeit in reduced numbers.

A review of dredging activity and water samples found no evidence of a link between the disposal of dredged sediment and the deaths. The sampling of sediment that has been licenced by the MMO for disposal to the designated sites off the Tees confirmed that no chemical determinants exceeded concentrations (‘Action Levels’) that would be harmful to marine life. A further review of dredging, disposal activity and water samples found no evidence of a link between the disposal of dredged sediment and the mass crustacean deaths.

This investigation was a multi-agency response, involving Defra, the Environment Agency, Centre for Environment, Fisheries and Aquaculture Science (Cefas), North Eastern Inshore Fisheries and Conservation Authority (NEIFCA), the Marine Management Organisation (MMO), Food Standards Agency (FSA), UK Health Security Agency (UKHSA), to identify what could have caused the event.

Evidence gathered by Government scientists and multiple agencies throughout this investigation will continue to be collated and studied. While this is no longer an active investigation, the agencies will continue to work with local fishers and remain on standby to respond if further events occur.

The in-depth investigation considered evidence from:

- Surveys by an EA boat, Humber Guardian, and shore-based monitoring teams.
- Traditional and innovative screening methods of samples of water, surface sediments, and crab which looked for over 1,000 potential chemical contaminants.
- Follow up on any indicative chemical signals, including pyridine, involving further testing of water, sediment, blue mussels and crabs.

- Washup events reported by the public and fishers.
- An analysis of crab samples for signs of infectious disease and naturally occurring marine harmful algal toxins.
- A review of environmental permits and industrial sites for evidence of abnormal discharges.
- A review of licenced marine activity in the local area (or deemed licence).
- Satellite imagery and phytoplankton samples.

While the chemical pyridine was initially identified in crab from impacted areas, further investigations by the EA established that pyridine was not present in water and surface sediment samples collected off the Tees, and that pyridine is found in crabs taken from non-impacted areas. As such, the presence of pyridine in crab is likely to be linked to biological processes.

Results from cyanide analysis were below the detection limit of the test.

There is no evidence linking any reports of dead seals around the UK coasts to the investigation on crab and lobster deaths in the North East.

The joint investigation has not found any evidence of a food safety risk from healthy fish and crustacea, including crabs and lobsters caught off the North East coast. While there is no food safety risk from eating crabs that have been caught in waters off the North East coast, it is unsafe to eat dead or dying crabs found on the affected coast.

The public are encouraged to continue report any incidents of concern to the EA helpline on 0800 80 70 60 and industry are encouraged to contact NE IFCA on 01482 393 515 or ne.ifca@eastriding.gov.uk.

Further information:

- Dredged sediment must be tested before it can be disposed to sea in accordance with international obligations under the London Convention, London Protocol and OSPAR convention. Sediment disposed at the Tees was previously tested and met necessary requirements.

Specific roles of each agency include:

- EA – Investigating pollution related incidents.
- Cefas – Investigating disease, harmful toxins and hydrodynamic modelling.
- MMO – Investigating whether licensable activity, including dredging and disposal, cabling and offshore windfarm activity, might have caused the mortality event.
- NEIFCA – Liaison with local fishing community and intelligence on stranding.
- FSA – Advising on food safety implications
- UKSHA – Advising on any threat to human health.
- Local councils – local outreach and advice on local areas.