



30th December 2021

Ref: EW033-I-756 PM 41921, 41844, 42035, 42123

FISH HEALTH INSPECTORATE, CEFAS, DISEASE INVESTIGATION INTO MASS MORTALITY IN CRABS AND LOBSTERS ON THE NORTH EAST COAST BETWEEN SEATON CAREW AND ROBIN HOOD'S BAY

Summary:

The Fish Health Inspectorate (FHI), Cefas is responsible for investigating outbreaks of listed and emerging aquatic animal diseases under the Aquatic Animal Health Regulations (England and Wales) 2009. The FHI, working with partner agencies including the Environment Agency and North Eastern IFCA, have taken a number of samples from the affected area through October and November 2021. There is no evidence from the samples that there is an infectious disease agent responsible for the mortalities observed and we therefore do not believe that an aquatic animal disease is the likely cause of this event.

19th October (Sample reference 41921)

41921 sample details

Sample of 7 brown crab (Redcar beach), 2 native lobsters (Bran Sands) and 5 shore crab (Bran sands and Seaton) collected by Environment Agency from 4th – 8th October and sent for analysis at the Cefas lab (Weymouth) at the request of the Fish Health Inspectorate on 19th October. As the samples were dead / frozen they were analysed by molecular screening only for known listed diseases – White Spot Syndrome Virus (WSSV).

41921 results

All samples negative for the listed disease WSSV, the causative agent of White Spot Disease by nested PCR.

21st October (Ref. 41844)

41844 sample details

Sample of 16 brown crab collected from merchant in Hartlepool. All caught from local area (within 3nm of shore). Screened for known listed disease (WSSV) by molecular PCR techniques, and full disease screen for bacteria and histological analysis (all internal organs screened for disease including heart, gill, hepatopancreas, muscle, gonad, new shell).

41844 results

All samples negative for WSSV. Bacteriology found *Vibrio spp.* and *Marimonas aquiplantarum*, this is not an unexpected result as the species are present in the marine environment and several animals were compromised, including some recently dead when sampled, so likely to



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be an opportunistic presence within the animals. No pathology was observed in association with the bacteria so this finding is not attributed to the cause of the mortality.

Histopathology reported no disease agent within the sample.

11th November (Ref. 42035)

42035 sample details

Sample of 9 lobsters and 8 edible crab collected from merchant - caught 3 miles east of Redcar. Two of the lobsters were displaying lethargy/non-righting behaviour and twitching, which are symptoms widely reported across the affected area.

42035 results

All samples negative for WSSV. The 2 lobsters showing clinical symptoms were negative for any disease agent through histopathology (no pathology seen in the animal). Histology results however showed the presence of *Hematodinium* in 1 brown crab and 3 others infected with *Paramikrocytos canceri*. The presence of the pathogen in crabs does not appear consistent with clinical signs observed as part of the mortality event, nor was the pathogen detected in lobster (which were displaying clinical signs). These findings are therefore not considered to be the cause of the mass mortalities observed.

24th November (Ref. 42123)

42123 sample details

6 crabs found moribund on beaches at Runswick Bay (mixture of shore, edible and velvets), showing clinical symptoms described such as twitching. Full disease screen taken. 2 edible crab caught off Whitby (within 3nm) lethargic and dying also sampled at Whitby Quay.

42123 results

All samples negative for WSSV

Low levels of *Hematodinium* sp. and Digenean seen in 4 out of 8 crabs by histopathology, both findings we would expect to see and have identified previously in crab populations from around the country. 1 brown crab showed low levels of *Paramikrocytos canceri* in the antennal gland. This again is a parasite that has been identified previously in brown crab populations from several locations across the UK and the presence of the pathogen in crabs does not appear consistent with clinical signs observed as part of this mortality event.

In summary, there is no evidence from the samples that there is an infectious disease agent responsible for the mortalities observed and we therefore do not believe that an aquatic animal disease is the likely cause of this event

For any questions on any of the information included in this letter please contact the Fish Health Inspectorate (fhi@cefasc.co.uk)

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