Eel Virus European X (EVEX) in wild eels

In 2018, Eel Virus European X (EVEX) was detected during an eel specific mortality investigated by staff at our National Fisheries Laboratory. This was the first detection of this virus during a mortality event of wild eels in England. Efforts are underway to improve understanding of this virus and its distribution. In the meantime, fish movement restrictions are in place to help limit the spread of this important eel pathogen.

Eel Virus European X (EVEX)

Eel Virus European X is a rhabdovirus that infects all species of eel in freshwater. It was first detected in 1977 from European eels imported into Japan from France. Since then the virus has been detected throughout Europe, as well as parts of Asia, Africa and Oceania. EVEX is regarded as one of the most important viruses of the European eel that has the potential to cause mortality and migration failure.

What EVEX does

Whilst EVEX has been detected in outwardly healthy eels, it has also been associated with significant mortalities. Diseased eels can appear lethargic and show signs of emaciation, skin lesions and haemorrhaging. Infected eels can die from severe haemorrhagic changes that appear across the skin, fins and throughout the internal organs.

Importance of EVEX

The European eel population has declined in recent years. Whilst the cause for this is unclear, there is growing awareness of the importance of diseases, both in the decline of the eel stock and its recovery. Eels have a long and complicated life cycle that involves a lengthy spawning migration to the Sargasso Sea. This is a stressful period during which immune responses are suppressed and susceptibility to diseases is increased. Experimental studies have shown that eels infected with EVEX suffer reduced swimming ability and are likely to die before reaching the Sargasso Sea.

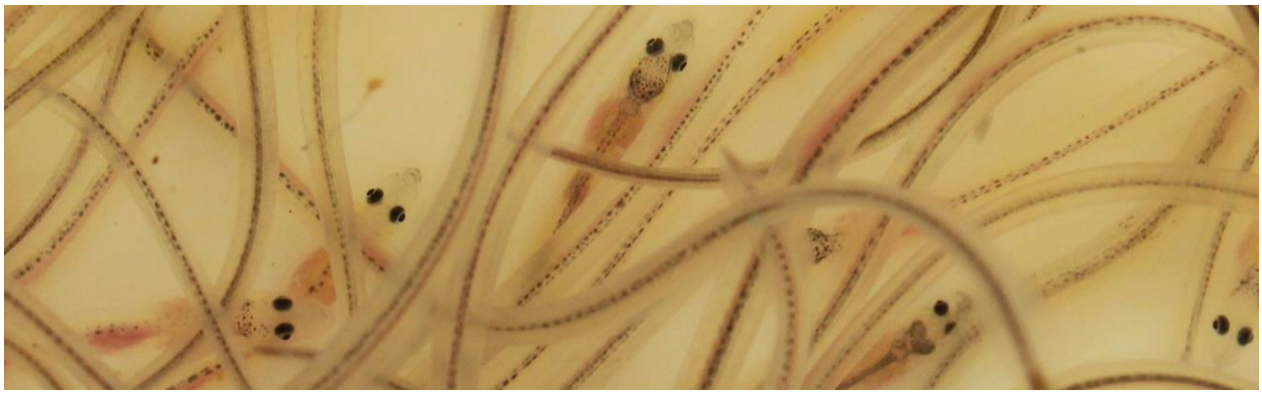
Status of EVEX and other eel viruses in England

Very little is known about EVEX in wild eels in England. The recent detection of the virus during mortalities of eels in river catchments in East Anglia represents the first record of the virus in the wild. At present the most frequently detected virus of wild eels in England is Anguillid herpesvirus (AngHV-1), which was first detected 2009 following mortality investigations conducted by staff at our National Fisheries Laboratory. AngHV-1 has since been associated with eel mortalities at a number of other sites in England, with further outbreaks confirmed in both still waters and rivers. High temperatures and barriers to migration are thought to be important triggers for this disease. A low-level infection of an Aquabirnavirus, suspected to be Eel Virus European (EVE) was also detected in an eel specific mortality during 2018. Further work is needed to understand the role of these viruses in determining the health of UK eels.

What we are doing

We continue to monitor the status of eel viruses nationally through our incident response. We are also working with fishermen and partner organisations to raise the profile of eel health and promote reporting of any fish health issues immediately to the Environment Agency. Following the recent detection of EVEX, we have issued biosecurity guidance to eel fishermen, to help reduce the risk of disease transfer between catchments.

We are currently working with colleagues at the Centre for Environment, Fisheries and Aquaculture Science (Cefas) to develop new diagnostic tools so we can test for EVEX from blood samples. This will allow us to assess the distribution of this virus during our routine monitoring activities, or prior to stocking, without the need to sacrifice eels. This information will help to determine the distribution and impact of these viruses in our wild eels and will provide context to the recent mortalities we have investigated.



What you can do

Please report any signs of dead or dying eels to us immediately. If you see any fish dying or in distress please contact our incident hotline - 0800 80 70 60. Prompt reporting of problems can allow us to respond quickly and effectively to disease outbreaks in fisheries.

Find out more

For more information on eel diseases, or any health problem in fisheries please contact:
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Tel: 02084 745244 or 07825 111723; Email: fish.health@environment-agency.gov.uk