

Briefing Notes: Killer Shrimp

(Update 04/09/2012)

History:

Dikerogammarus villosus was originally found in the lower courses of large rivers in the Black Sea and Caspian Sea drainage basins. It has become an invasive species across central and Western Europe, using the river Danube and its tributaries in its expansion. It is thought to have first escaped from the Danube in 1992 when the Rhine–Main–Danube Canal was opened and has since spread to nearly all the major rivers in Western Europe. It is unknown how the species is dispersed but it is probably related to shipping activity moving the shrimp via attachment to hulls or contained in ballast water.

In September 2010, it was found in Grafham Water in Cambridgeshire, the first report of the species in the United Kingdom and subsequently in Wales in Cardiff Bay and Eglwys Nunydd near Port Talbot.

On the 9th March 2012, *Dikerogammarus villosus* was found in Barton Broad during routine invertebrate monitoring.

Current Situation in the Broads:

After its initial discovery in Barton Broad, Dv has been found in the River Ant as far upstream as Wayford Bridge. It has also spread downstream from Barton Broad into the River Bure with this movement of Dv attributed to the flow of the river.

The latest round of monitoring (30/08/2012) has discovered Dv in Wroxham Broad. It does appear to be in low numbers – one live specimen found and several dead around the strand line but the movement of Dv to this location could only be possible with human influence.

Effects of Killer Shrimp:

Although the shrimp only grows to a maximum of 30mm (1¼") it is bigger, faster growing and more aggressive than our native species.

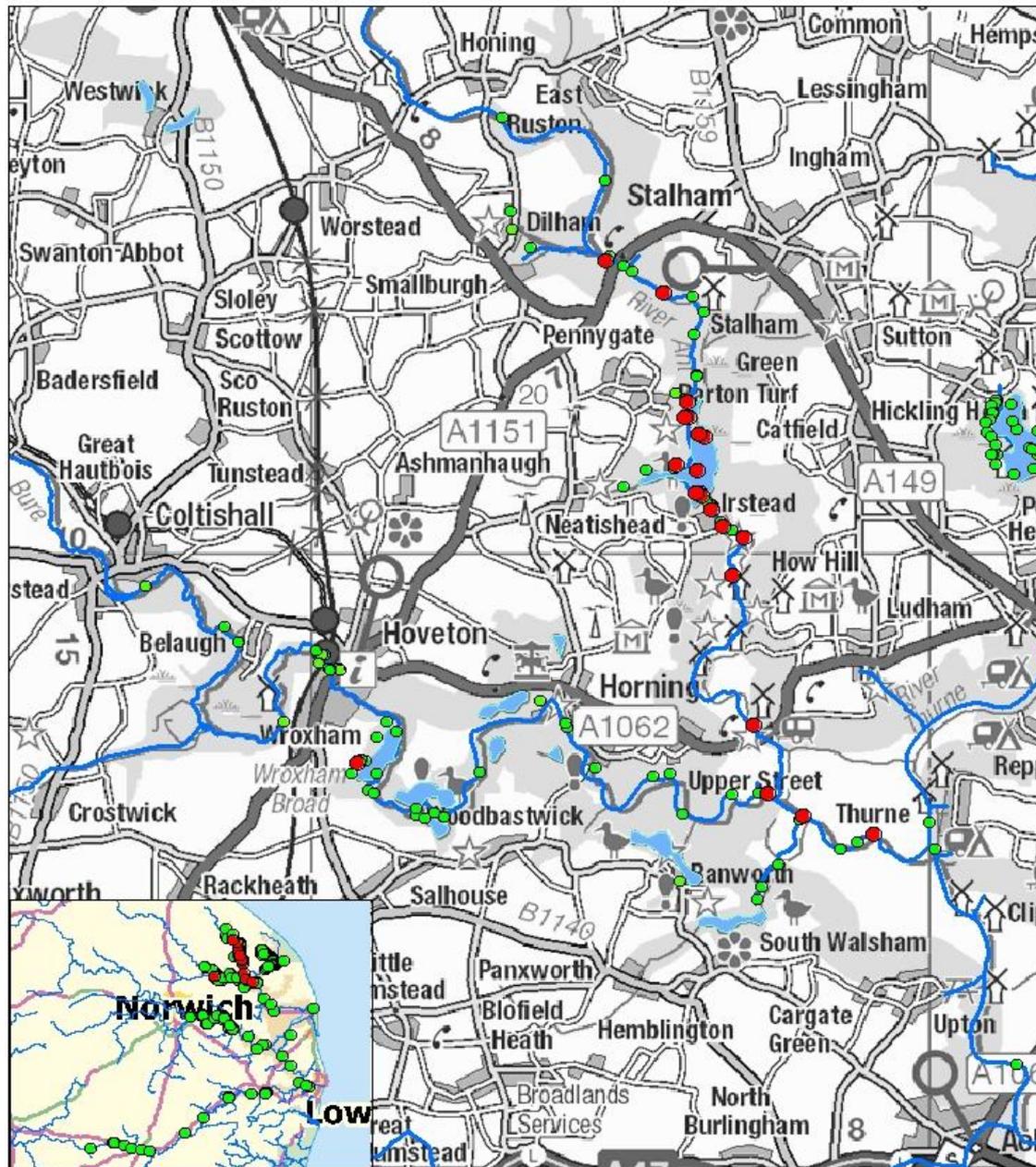
The Shrimps diet includes:

- Native shrimp
- Fish fry and eggs
- Nymphs such as Mayflies, Damselflies and Dragonflies
- Water Boatmen

The killer shrimp will attack a range of native freshwater species, particularly other shrimp and young fish. They alter the ecology of the waters they invade, leaving species locally extinct, removing key fish food species and severely restricting biodiversity.

Figure 1: Killer Shrimp Monitoring Locations (Latest Update)

Killer Shrimp (*Dikerogammarus villosus*)
Monitoring update 30/08/2012



Legend

- D. villosus present
- D. villosus not found
- Lakes
- Main rivers



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Identification:



Actual Size of Adult

Larger than native shrimps they can grow to 30mm from tip of tail to head but more commonly 10 to 20 mm

Usually has a striped back but can be more uniform in colour

Distinctive cone shaped protrusions or “spikes” on the tail (circled in red)



Accurate field identification of killer shrimp can be difficult. Please try and capture a few specimens for further identification under a microscope.

Treatment

Currently there are no wide scale treatment methods available to control the spread of Dv or to remove them from the watercourse although scientific investigations are ongoing. However there are some simple steps to follow which can stop the movement of killer shrimp and other non-native species by human activity.



Check **Equipment and Clothing** for live organisms – particularly in areas that are damp or hard to inspect



Clean and wash all **Equipment, Footwear and Clothing** thoroughly.
If you do come across any organisms, leave them at the water body where you found them



Dry all **Equipment and Clothing** – Killer Shrimp can live for up to 2 weeks in moist conditions.

Make sure you don't transfer water to another place

Research has also shown that Dv can be killed and removed from clothing and items such as ropes and nets by immersing them in hot water (at least 40°C) for 15 minutes. The Broads Authority are currently trialling the use of hot water pressure washers as a method of removing Dv from structures.

Further Information:

To report sightings of the Killer Shrimp, for more information, leaflets or signs please contact the Broads Authorities Wetland Bio-Security Officer, Will Burchnall

Tel: 01603 756003 or mobile 07788438121

email: will.burchnall@broads-authority.gov.uk