

Why it pays to treat your whelks well

The hard shell of a whelk may make it appear tough but they are actually a sensitive species that can be easily disorientated and damaged. Poor handling can make whelks more vulnerable to predators meaning that animals returned to the seabed after being caught are still at risk. This guide explains the issues caused by poor handling and provides fishers with some tips on ensuring whelks returned to the sea have the best possible chance of survival.

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Whelks are gastropod snails with a hard protective shell that continuously grows as the animal ages. They also have an operculum, a leathery sheath that they pull into the shell when the animal is withdrawn. The shell and the operculum together help the animal protect itself from predators such as starfish, crabs and lesser-spotted dogfish.

Despite their protective shells and tough appearance, whelks are sensitive to being disturbed from their normal environment. Whelks have a tiny calcareous body called a statolith which is found inside the animal's head. The statolith, which looks like a tiny transparent marble, is held by delicate nervous tissue which can be easily damaged. The statolith, like our inner ear, helps the whelk orientate itself. If it is disrupted this leaves the whelk unable to tell whether it is the 'right way up' on the seabed.

Why is proper handling of whelks important?

Experiments show that whelks that are rolled around or dropped from a height (no more than 1 metre) on to a hard surface, suffer a prolonged period of disorientation after the shock.

This leads to a period of time during which the whelks ability to right itself on the seabed is impaired and the soft body of the whelk is exposed. Exposed whelks are much more vulnerable to their natural predators. For this reason, treating whelks in a 'rough' manner is likely to reduce their chances of survival after being released from a fishing vessel.

Predation of whelks after release has an impact on whelk populations, particularly in the case of whelks which are released because they are below the minimum landing size. It means there are fewer whelks available to maintain the stock and to catch in the future.

Proper handling of whelks that are returned to the sea is an important part of maintaining a sustainable fishery.



Best practice for handling whelks

The table below outlines some best practice measures for handling whelks and explains why poor handling can cause problems. It also provides some simple solutions that fishers can use to minimise the impact of fishing activity on whelks that are to be returned to the sea.

Best practice measure	Why is this an issue?	What are the possible solutions?
<p>Avoid dropping whelks on to hard surfaces</p>	<p>Emptying whelks from pots on to the deck or sorting table, or riddling whelks in a way that means they are dropped from a height, could be enough to disorientate the animals. This makes them vulnerable to predation when they are returned to the sea.</p>	<p>Empty whelks into bins filled with seawater to break their fall.</p> <p>Fit neoprene matting to hard surfaces.</p> <p>Reduce the height over which whelks fall to reduce the impact.</p>
<p>Avoid rotating and rolling whelks unnecessarily</p>	<p>Rolling is particularly bad for whelks. Placing them in mechanical rotating riddles or drums will have a negative effect on their ability to right themselves and avoid predators when returned to the sea.</p> <p>Rolling them around to push them through passive (fixed) riddles can be enough to disorientate the animals.</p>	<p>Put undersized whelks in a bin of running seawater for several hours to recover. Whelks have recovered when they right themselves and start crawling around.</p> <p>Use a passive (fixed) riddle rather than a rotating drum if possible.</p> <p>Avoid catching under-sized whelks by trialling escape gaps in your pots.</p>
<p>Avoid using towed fishing gears in known whelk grounds</p>	<p>Intensive fishing disturbance by towed bottom fishing gear will lead to whelks being knocked and rolled in the gear. This type of disturbance can have the same impact as dropping/rolling the animals and will reduce the whelk’s ability to avoid predators.</p> <p>This type of disturbance can be made worse through a “cultivation effect”. Dead and injured animals discarded by bottom trawling activities attract whelks to the bottom trawled area. This makes them more vulnerable to predation or bottom trawling in the future.</p>	<p>Formulate management plans or informal agreements to remove or minimise the impact of towed bottom fishing gears (scallop dredges and beam trawls) from whelk grounds.</p>