

Star Fish

A rare species of starfish virtually wiped out when the Sea Empress shed more than 70,000 tons of crude oil on the Pembrokeshire coast may be getting a helping hand to regenerate its numbers thanks to a sophisticated process of DNA match-making.

The tiny Brooding Cushion Star (sic) - so named because it incubates its eggs - was flourishing in rock pools at West Angle Bay until heavy pollution from the tanker reduced numbers from an estimated 150 to approximately 12.

More seriously still the remaining Pembrokeshire population failed to breed last year and the end of its three-four year life cycle is now looming. According to experts from King's College, London and the Field Studies Council who have been monitoring it, the Welsh cushion star is considered to be functionally extinct without man's intervention.

"The hermaphrodite Brooding Cushion Star needs to aggregate in order to breed," explained Dr Roland Emson, senior lecturer in biology at King's College.

"Even if they are only separated by a few metres within a rock pool they cannot locate each other in order for this to happen. Surveys carried out four months and eight months after the spill indicate that the remaining population is too widely scattered for reproduction to take place."

The only hope of regenerating the Brooding Cushion Star colony in West Angle Bay - the location where it was first identified as a separate species in the mid 1970's - is by extracting DNA from its tube feet and from those of specimens inhabiting similar terrain in South Devon and creating a genetic picture in order to establish if the two are sufficiently compatible to breed.

Andy Simms, assistant warden and deputy director of studies at the Field Studies Council's Orielton Field Centre in Pembroke, hopes compatibility can be confirmed as he is anxious about the long-term consequences for the rock pool community in West Angle Bay should the Brooding Cushion Star disappear.

"The removal of any organism can be a negative thing as the stability of the marine community living in those pools is inevitably weakened," he says

"It is rather like the house of cards effect, keep taking the cards away and eventually the whole thing will collapse."

"Whether or not the Brooding Cushion Star is a keystone species has yet to be established, but one of the reasons this site is extremely special is because it is so rich in terms of biodiversity and it would be a great pity for that abundance to diminish."

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