

Marine pathways work continues throughout Great Britain and Ireland. Here are some updates on the subject of non-native species and on Marine Pathways work.

Carpet sea squirt confirmed in Loch Creran, Scotland

The Carpet sea squirt, *Didemnum vexillum*, has been confirmed in Loch Creran near Oban on the west coast of Scotland. This finding follows previous unconfirmed reports received in January 2016. Loch Creran hosts a number of shellfish and finfish aquaculture sites, marinas, boat services to a nearby port and is popular with recreational divers. Loch Creran is designated under the Habitats Directive as a Special Area of Conservation and is also a nature conservation Marine Protected Area, due to its internationally important biogenic habitats, including serpulid worm reefs, flame shell beds and horse mussel beds. There is a risk that *D. vexillum* may affect these habitats and work will be carried out in 2017 to assess this.

Marine Scotland is working in partnership with the Scottish Environment Protection Agency, Scottish Natural Heritage and with local stakeholders (including relevant industries and the Scottish Association for Marine Science) with a view to containing and limiting the spread of *D. vexillum* and minimising the risk to businesses and the protected features of the loch.

Report Assessing the Impact of Non-Native Species on MPAs

A new report on [investigating the impacts of 8 marine non-native species on Marine Protected Areas \(MPAs\)](#) by SAMs Research Service Limited has recently been published by Natural England. The aim was to gather evidence of impacts of species which don't yet have risk assessments (or would be useful to update our understanding of) and specifically to focus on the impacts to MPA features. A survey was also carried out by experts and stakeholders to identify any useful unpublished and anecdotal information on environmental and socioeconomic impacts.

The report provides a useful up to date reference source to help assess the condition of our MPAs and their potential susceptibility to these INNS and will also be useful to feed into future risk assessment work. Interesting feedback on potential socioeconomic impacts from survey respondents included necessary hand removal of the leathery sea squirt *Styela clava* from mussel lines, because it is too tough to be removed by the automated brushing system that cleans off native sea squirt species.



Jirina Stehlikova, SAMS

One of the species assessed in the report - Orange ripple bryozoan (*Schizoporella japonica*)- pictured on a mooring buoy.

Definition:

Invasive non-native species (INNS):

'A species which has been introduced outside its natural, past or present distribution and has a negative environmental, economic or social impact.'

Case Species:

Caprella mutica
(Japanese skeleton shrimp)-



Elizabeth J Cook

Native range:

Sub-boreal waters of North-East Asia.

Impacts:

- Potential to outcompete native species and impact on benthic communities.
- Economic impact associated with fouling of aquaculture equipment.

American Lobster in Wales

American lobsters are considered a potentially invasive non-native species in the UK due to their potential impact on native species such as lobster and edible crab. Impacts can range from outcompeting native populations for food and shelter and the spread of disease. Last summer off the coast of Pwllheli on the Llŷn Peninsula, a north Wales fisherman caught an American lobster – the first confirmed catch in Welsh waters.



Welsh Fishermen's Association

The American Lobster.

The Fisherman reported the catch to the Welsh Fishermen's Association and sent the lobster to Natural Resources Wales (NRW) for identification. NRW positively identified the species using the ventral tooth under the rostrum to distinguish the American lobster from its European cousin, *Homarus gammarus*.

The Welsh Government is committed to maintaining and enhancing diverse marine life and is working with partners to prevent the introduction and spread of INNS.

Working with the Welsh Fishermen's Association and NRW an information note was produced and widely distributed to raise awareness of the American lobster issue and the devastating affects the deliberate or unintentional release of INNS can have on native populations. The information note also seeks to encourage the reporting of INNS to the relevant authorities.

Welsh Sentinel Fishermen look out for INNS

With their valuable local knowledge and expertise, fishermen are helping to survey and monitor the presence of invasive non-native species (INNS) in Welsh waters. Since 2010, the Welsh Fishermen's Association (WFA) has been working to develop fishermen's capabilities in marine data collection to help inform the management of Marine Protected Areas and statutory marine monitoring.

More recently, working in partnership, the WFA and Succorfish have enhanced an existing mobile phone app to also record invasive species supported by the use of photographic guides. Using GPS through the Inshore Vehicle Management System (iVMS) fishermen are now able to provide accurate and real-time data on the location and type of invasive species found to managers and scientists, information which plays a key role in reducing the spread of INNS around Wales.

In April 2016, part funded by and in collaboration with Natural Resource Wales (NRW), the WFA initiated a two year project to establish sentinel fishermen to record the presence of INNS using the mobile phone app, Succorfish Catch App. A series of workshops were held by the WFA in North, Mid and South Wales where twelve fishermen were trained and are now actively using the app to record INNS, with focus on species including American lobster, American oyster drill, Chinese mitten crab, wireweed, Pacific oysters, Kuruma prawn and slipper limpet.



Sion Williams (Llyn Pot Fishermen's Association) checking his pots. Sion is participating in the INNS app recorder trial.

The Trumpet Tubeworm causes problems in Marina

The Trumpet Tubeworm (*Ficopotamus enigmaticus*) has established a superabundant population in a marina on the North West English coast. Surveys conducted in a collaborative effort by Cumbria Wildlife Trust, Natural England and Marine Biological Association, highlighted the potential impacts of this species. The worms aggregate to build large calcareous reefs on hard surfaces which can frequently reach more than 10cm thick. Settlement panels were densely colonised by mature individuals just eight weeks after deployment, demonstrating the tubeworms capacity to settle and grow rapidly. The tubeworm has also spread to a neighbouring marina since last year on vessel hulls.



A small part of a Trumpet Tubeworm calcareous reef.

Extensive fouling is a significant problem for vessels that are berthed on infested pontoons, as the thick covering of tubeworms can cause significant drag. Consequently, vessel hulls need to be cleaned on a much more regular basis if colonised by the tubeworm, which can be a costly procedure for boat owners. Marina operators are keen to eradicate the tubeworm, and have been advised to flush water through the lock gates regularly in order to minimise larval retention in the otherwise enclosed water body. If larvae are flushed into the open sea they are unable to survive and colonise new sites, as the tubeworm favors nutrient rich, shallow, brackish waters such as marinas and estuaries. Despite these efforts, the superabundant population has remained stable. Other management options may need to be explored to reduce numbers and prevent further spread.

Of interest:

[The Honolulu Challenge -](#)

The UK Government commits to spending £2.75 million on assisting its Overseas Territories to develop comprehensive biosecurity for invasive non-native species. This includes a commitment of £1 million towards developing comprehensive biosecurity for the Overseas Territories by providing them with access to UK expertise on risk analysis, pathway management, pest identification, horizon scanning, contingency planning, rapid response capability and species management.

Coming up:

Project studying Mitten crab genetics in Europe.



Paul Clark, from the Natural History Museum taking morphometric data from Dee Mitten Crabs as part of DNA analysis work for the project

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