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.

Surveys for Japanese wakame, Undaria pinnatifida, in the Firth of Forth

Since the first observation and confirmation of Japanese wakame (Undaria pinnatifida) from a site in the Firth of Forth in August 2016, the Scottish Working Group for Marine INNS has undertaken two surveys of the surrounding areas to check for further spread. Ten locations were identified, five on the north of the Forth and five on the south (Figure 1). These were selected based on accessibility to ensure a quick survey turn-around. Surveys were conducted at and around low tide by Marine Scotland, SNH and SEPA.

U. pinnatifida was not observed at any of the survey locations. Discussions are underway to carry out possible future surveys to monitor spread and management strategies.

Marine Scotland is in the process of developing and validating molecular-based tools for the identification and monitoring of marine INNS in Scottish waters. One of the species selected for this work is U. pinnatifida. Material has been collected from the established site (Figures 2) in addition to material from native algal species to begin this work. Water samples have also been collected for eDNA analysis.

Marine Biosecurity Planning part 2

Following on from previous work to promote site based biosecurity planning in 2016, this year biosecurity consultants Sarah Brown (C2W), the Marine Biological Association, PML Applications and Robin Payne, funded by Natural England, worked directly with individual marina and port companies to write biosecurity plans which can then be embedded throughout their operations.

It was clear that biosecurity planning is still a relatively new concept and stakeholders can be put off developing a plan due to a perception that it may be complex, time consuming and the actions identified expensive which could potentially negatively impact their businesses. The support provided from the project was therefore really valuable and participants were reassured that the process could be straightforward and focus only on key actions that are realistic, practical and cost effective.

As part of this project, estuary wide biosecurity planning was also trialed (see April 2017 newsletter).

The plans, with a wider geographical scope and wider stakeholder buy-in, clearly had the potential to be successful but they also required more time to create and will require co-ordination to ensure that they continue to achieve their potential positive impact. Smaller site plans are, by their nature, more contained but are limited in what they can achieve if they are not networked into wider regional plans.

For more information about the project or to download the full report and associated documents go to: http://www.nonnativespecies.org/index.cfm?pageid=593 or contact Jan.Maclennan@naturalengland.org.uk or sarah@c2w.org.uk.

Definition:

Invasive non-native species (INNS):

‘A species which has been introduced outside its natural, past or present distribution by human activity and has a negative environmental, economic or social impact.’

Synonymous term: Invasive non-indigenous species (INIS).

Case Species: Schizoporella japonica (Orange ripple bryozoan)

Native range: Northwestern Pacific

Impacts:
- Competes for space and inhibits growth of neighbouring species.
- It has the potential to become a significant fouler of aquaculture equipment.

Providing samples promotes awareness and prompts
Marinas and harbours are recognised as hotspots for NNS and thus priority sites for risk-based monitoring and surveillance for marine pathway management. However, they are not currently covered by statutory monitoring. Since 2013, rapid assessment surveys (RASs) for sessile marine NNS have been undertaken in 81 marinas/harbours (Figure 1) by the Marine Biological Association (MBA) and collaborators. English RASs built upon previous surveys conducted by the MBA (2009 – 2012) and Welsh RASs on the Cross-Wales NNS surveys (2011) conducted by CCW/Bangor University. English RASs were funded mainly by the Bromley Trust and Welsh RASs by the Resilient Ecosystems Fund administered by NRW.

The presence and absence of a target list of 29 animals and 9 algal NNS were recorded, and any unexpected NNS documented. The first sightings in the UK of the Asian Brush-clawed Crab (Hemigrapsus takanoi), Wright’s Golden Membrane Weed (Chrysymenia wrightii) and Blue-fringed Fan Weed (Dictyota cyanoloma) were documented. Important extensions to known ranges of species were also observed including Didemnum vexillum and Undaria pinnatifida. The ongoing spread to new sites was also documented in a range of species. Some species (those which had a high rate of occurrence by 2012) showed little or no further colonisation, including Tricellaria inopinata, Austrominius modestus and Styela clava.

It is apparent that there are regional differences in the prevalence of NNS, with individual sites on the south coast of England and in East Anglia frequently hosting 14 or more of the target species. Presence (926) and absence (2,317) records provided a significant contribution to the baseline mapping data for several priority NNS on the MSFD monitoring list. The data also fed into indicator B6 (pressure from invasive species) in the annual UK Biodiversity Indicators (Defra). Site-specific data from the surveys was compiled for individual marinas, marina groups and whole estuaries for use in the recent NE-funded biosecurity planning project.


For further information or suggestions regarding the continuation of this work, please contact ibis@mba.ac.uk.