

# Marine Pathways Project Newsletter

Issue 1 – Jan 2014

Welcome,

The Marine Pathways Project is concerned with the management of pathways by which marine invasive non-native species may be introduced into the UK and Ireland and will therefore contribute to the delivery of the non indigenous species descriptor of the [Marine Strategy Framework Directive \(MSFD\)](#). Current funding will enable the project to run until March 2015.

The aim of this newsletter is to raise awareness of the Marine Pathways Project and provide a means of sharing information about current work being undertaken.

We also welcome contributions to the newsletter by stakeholders, for example, as a means by which to share ideas or raise concerns regarding the Marine Pathways Project or invasive non-native species.

Regarding queries or ideas for contribution to the next newsletter please email [hannah.tidbury@cefas.co.uk](mailto:hannah.tidbury@cefas.co.uk).

## Background

Marine invasive non-native species (INNS) are an increasing problem and can have negative environmental, economic and social impacts. Environmental impacts include loss of biodiversity through displacement of native species, loss of genetic diversity and introduction of pathogens into naïve native populations. Social impacts are the consequence of disruption to industries such as recreational boating, commercial shipping and aquaculture. It is thought that the cost of marine non native species to Great Britain alone is in the region of £40 million per year.

## Aims and Objectives

The aim of the Marine Pathways Project is to:

***‘protect marine biodiversity in the UK and Ireland by reducing the risk associated with key pathways by which marine invasive non native species are introduced and spread.’***

Although many potential pathways exist, key pathways may include commercial shipping, recreational boating and water use, aquaculture and fisheries. For example, marine INNS may be introduced and spread via ships ballast water, hull fouling and aquaculture stock movements.

Specific objectives of the project include:

1. The assessment of the presence and distribution of existing marine INNS.

## 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

The Chinese mitten crab:



**From:** S.E. Asia

**Impact:**

- Burrows into soft sediment banks during its breeding season causing erosion.
- Predates on and results in possible extinction of native invertebrate and fish species.
- Damages eel fishing nets and is therefore considered a pest.

2. Monitoring for the introduction and spread of marine INNS.
3. Assessing high risk regions/pathways for marine INNS introduction enabling biosecurity to reduce the risk of introduction of marine INNS to be focused in these high risk areas.
4. Raising awareness of marine INNS with stakeholders and developing codes of practice to reduce the risk of their introduction and spread.
5. Research and trialing of strategies for the control and eradication of marine INNS to increase preparedness in the event of their introduction.

## Related projects:



Vectors of Change in Oceans and Seas Marine Life, Impact on Economic Sectors ([VECTORS](#)) is a European project concerned with the mechanisms of change in marine life and the human drivers of these changes. The project covers the North Sea, the Baltic sea and the western Mediterranean. The vectors project is related to the marine pathways project given that the vectors project is concerned with the impact of environment and human activities on marine life, including the introduction and establishment of marine invasive non-native species.

The specific objectives will be achieved using various approaches including:

1. Inshore and offshore monitoring programmes.
2. Pathway intensity mapping and risk assessment.
3. Communication and discussion with stakeholders.
4. Development of guidelines regarding biosecurity, for example, for marina operators, recreational boaters and the aquaculture industry.
5. Pilot studies for control and eradication programmes.

**The project is funded by a number of different organisations across the UK and Ireland:**

[Department of Environment, Food and Rural Affairs \(DEFRA\)](#)

[Natural Resources Wales - Cyfoeth Naturiol Cymru](#)

[Scottish Natural Heritage](#)

[Marine Scotland](#)

[Welsh Government](#)

[Department of Environment](#)

[Irish Sea Fisheries Board - Bord Iascaigh Mhara](#)

**The project also comprises input from a number of organisations including:**

[Natural England](#)

[Centre for Environment, Fisheries and Aquaculture Science \(CEFAS\)](#)

[Bangor University](#)

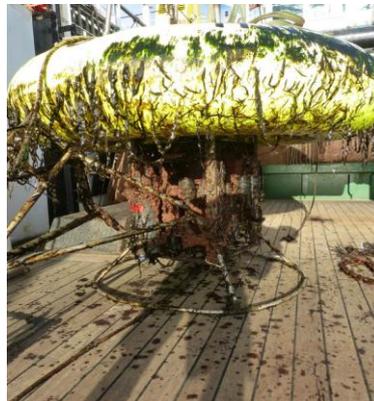
[Marine Biological Association](#)

## Project Highlights

### Offshore monitoring

Offshore mooring buoys are being used to trial INNS early warning system methodology. This work provides a means of developing methodology which can then be modified and applied to a range offshore structures. Work is currently being undertaken to:

1. Determine whether there is potential for marine INNS to attach to offshore structures such as buoys.
2. Investigate sampling and identification techniques which will allow the detection of marine INNS attached to offshore structures.
3. Assess the overall merit of using buoys and potentially other offshore structures as an early warning system for the introduction of marine INNS into UK coastal waters.



### Inshore monitoring

Work is also being undertaken to develop monitoring strategies to enable early detection of marine INNS in inshore areas such as marinas and fisheries. A recent 1-month trial by Bangor University for Natural Resources Wales at an oyster farm in the Menai Strait has been successfully completed. The trial was used to test the proposed monitoring method for aquaculture sites in Wales as part of their inshore monitoring network.



### Introduction pathway risk assessment

By seeking high resolution data the aim is to map movement networks for each important pathway. For example, movement of ships into ports in the UK and the Republic of Ireland from other ports in the UK and the republic of Ireland and from the rest of Europe will be mapped. These network maps will then allow high risk ports and regions to be highlighted. To maximize the cost effectiveness and increase the probability of detection, monitoring programs can then be focused in these high risk areas.



### Biosecurity

The project team will be working with industry sectors to develop guidance on best practice biosecurity to help reduce the risk of introduction and spread of marine INNS. This will involve reviewing what is currently available, identifying where further guidance is required and working together to determine how that can be best developed and disseminated to stakeholders.

### Pathways advisory group

Advisory groups for different sectors will be established to provide practical advice on awareness raising, delivering guidance and training. Advisory groups will comprise representation from industry as well as specialist advisers and will help to ensure that any information, guidance, best practice and training that is produced as part of the project is fit for purpose and practical. The direct involvement of industry will also help to disseminate information and encourage buy-in from users.

### **Contact us:**

Please contact the Marine Pathways Project on

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