

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.

Ecostructure – Climate Change Adaptation through Ecologically Sensitive Coastal Infrastructure.



Biosecurity: in-water floating quarantine berth (Bangor University)

Ecostructure is an Interreg funded project that will raise awareness of eco-engineering solutions to the challenge of coastal adaptation to climate change by providing developers and regulators with accessible tools and resources, based on interdisciplinary research in the fields of ecology, engineering and socioeconomics. Ecostructure aims to promote the incorporation of secondary ecological and societal

benefits into coastal defence and renewable energy structures, with benefits to the environment, to coastal communities and to the blue and green sectors of the Irish and Welsh economies.

The Partners are Aberystwyth University, University College Dublin, Bangor University, University College Cork, and Swansea University.

The overall objective of the project is to develop practical strategies to minimise negative impacts of climate change-related artificial structures on ecological communities and processes, taking account of ecosystem services and societal preferences.

The project has 4 main work packages: Ecological condition of coastal structures; Building-in ecologically-sensitive design; Society, economy and governance; Non-native Species and Biosecurity.

The Non-Native Species work package is cross disciplinary in nature, bringing together population genetics, eDNA, hydrodynamic modelling, fundamental ecology and social science. Its aims are to enhance understanding of the role of artificial structures, including ports and marinas, in facilitating spread of non-natives, and develop practical approaches to biosecurity. Genetic work combined with hydrodynamic modelling will increase understanding of patterns of connectivity and hence the secondary spread of non-natives within the Irish Sea. Focused work on non-native hotspots in Wales and Ireland, particularly marinas will aim to develop greater knowledge of the ecological dynamics of non-native species and through this inform the development of biosecurity devices and protocols. Environmental DNA (eDNA) approaches will also be tested to determine the extent to which they can be used in non-native monitoring.

The principle outputs from the non-native species work package will be:

- A tool for predicting the effects of coastal structures on dispersal and gene flow of native and non-native species.

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:

Orange-striped sea anemone (*Diadumene lineata*)



Native range:

North West Pacific, Japan.

Habitat:

Intertidal species which attaches to hard substrates including rocks and man-made structures. It can tolerate a large range of temperatures and salinities.

Impacts:

Unknown but could potentially compete with native anemones for space and food.

- Biosecurity devices and protocols for ports and marinas and tools for early warning and rapid response to invasive species. The main awareness raising initiatives under this work package will be around coastal defences as green infrastructure; coastal biosecurity and rapid response to biological invasions.

For more information, please contact: Gabrielle Wyn, Natural Resources Wales (NRW)
Gabrielle.Wyn@cyfoethnaturiolcymru.gov.uk

The British Irish Council and marine Invasive Non-Native Species

One of the institutions created under the Good Friday Agreement was the British-Irish Council (BIC). The Council's objectives are wide-ranging, with the formal purpose of the Council being "to promote the harmonious and mutually beneficial development of the totality of relationships among the peoples of these islands... the BIC will exchange information, discuss, consult and use best endeavors to reach agreement on co-operation on matters of mutual interest within the competence of the relevant administrations".

Membership of the Council comprises representatives of the Irish and British governments and of the devolved institutions in Northern Ireland, Scotland and Wales, together with representatives of the Isle of Man, Guernsey and Jersey.

The Council meets in different formats, including summit (Heads of Government/Administrations) and sectoral (Ministerial and official) level. Officials from BIC member administrations meet in advance to prepare for the meetings.

Ministers recognised the threat that invasive species pose to the island ecosystems which make up the British-Irish Council membership, and seek common means for members to collaboratively tackle the issue.

A BIC non-native workshop was held on the 3rd and 4th October 2017, at the Royal Botanical Gardens in Edinburgh. Specific sessions were run in relation to the EU Invasive Alien Species Regulations, contingency planning and rapid responses, aquatic biosecurity and communications, including awareness raising. As part of the aquatic biosecurity session, work conducted by the Marine Pathways Group was presented by Paul Stebbing, with support from other members of the group present at the meeting including Lorna King, Jo Long, Stan Whitaker, Olaf Booy and Collette O'Flynn. The Marine Pathways Group presents an excellent example of how BIC members can work together to tackle issues surrounding marine non-native species.

During the meeting several potential areas of collaborative working were discussed in relation to marine non-native species, specifically invasive species common to all members, and work areas such as biosecurity and monitoring.

Outputs from the meeting, including a list of proposed common work, will be presented to BIC ministers for discussion at the ministerial meeting in March 2018.

As the Marine Pathways Group continues to evolve, we will remain in a strong position to facilitate delivery in line with BIC aims and objectives.

For more information:
<https://www.britishirishcouncil.org/>



Coming up:

A review of marine pathway regulations in regulatory processes.

Of Interest:

Impact Evidence Group (IEG) Marine Monitoring Workshop to be held at Cefas in November 2017.

Places are limited but if you're interested in attending please contact Paul Stebbing, Cefas.

Contact us:

Please contact Marine Pathways on:

rachel.parks@cefasc.co.uk

paul.stebbing@cefasc.co.uk