

Project Description



Commercial catch crayfish; high value low volume catch off the south west coast of Ireland

Crayfish stocks are heavily depleted in Irish waters. This depletion has been driven by over exploitation since the introduction of tangle netting in the 1970s. The restoration potential relies on acquiring better data on crayfish essential habitat, information on migration and stock structure and in managing fishing interactions. The specific objectives and tasks of this project are:

1. **Characterisation of crayfish habitat at selected sites to improve knowledge for spatial management**

Crayfish habitat will be characterised and mapped using a combination of acoustic data from the national seabed survey, SCUBA and vessel based surveys at selected sites. Crayfish live in physically complex elevated and structured reef habitat. The output will be a crayfish essential habitat map which has been physically and biologically characterised.

2. **Modelling larval dispersal and stock structure.**

Crayfish have a prolonged larval life of 6-9 months. Larval dispersal is the main determinant of population structure and recruitment. The connectivity across crayfish reef habitat in Irish waters will be investigated using a particle dispersal model.

3. **Assessment of crayfish stocks off the north Kerry coast using a mark recapture programme.**

The fleet will be contracted to catch, tag, release and record tag re-captures of crayfish in the area to provide information on migration, movement and possibly estimates of population size.

4. **Assessment of catch and by-catch species composition in the commercial tangle net fleet.**

This will form part of the work of the enhanced by-catch project (MB 2017 14).

5. **Management plans for stock recovery and reduce the effects of the fishery on biodiversity.**

The outputs of the project will inform future management plans for crayfish including management of by-catch.



Scientific Observer tagging crayfish on board commercial fishing vessels

Partners

Inshore Fishing Sector

The inshore fishing sector and in particular vessels using tangle nets off the coast of Kerry.

Duration

The project has a 2 year duration and runs between 2017 and 2018.

Project Outputs

- Data sets: size composition, catch and effort, tag releases, tag recaptures, georeferenced data, acoustic map data on seabeds, biological data on reef fauna, distribution of crayfish reef habitat, modelled larval dispersal data and maps. These will be incorporated into existing Marine Institute data bases where appropriate.
- Reports: 1. Report on fine scale acoustic mapping of crayfish reefs and the distribution of crayfish reef habitat. 2. Report on larval dispersal modelling. 3. Report on catch and by-catch in the crayfish fishery. 4. Report on tag release and recapture of crayfish.
- Incorporation of data and new information into stock assessment and scientific advice and publications/dissemination thereof.

Expected Benefit

Information from the project will be collated and used to design management measures for the fishery with the objective of re-building crayfish stocks and reducing the environmental effects of the current set net fishery. Particular emphasis will be placed in areas where by-catch is significant and where the data shows potential for re-building of stocks. Overall expected benefits are: 1. Improved scientific knowledge on the fishery and its impact on target stock and biodiversity 2. Proposed management measures to restore crayfish stocks and protect biodiversity impacted by the fishery 3. Dissemination of results and related management consideration at regional/national inshore fisheries management.

Further details available on www.emff.marine.ie

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