Project Title

Assessment of Species Catch Composition in Fisheries that Pose a Risk to Biodiversity

Project Description

Harbour porpoise in veterinary lab for post mortem examination

The impact of accidental capture (by-catch) on marine species is an important biodiversity consideration in the implementation of the Common Fisheries Policy, the Marine Strategy Framework Directive and the Habitats and Birds Directives. Although Ireland currently has an observer programme on commercial inshore and offshore fleet metiers, these programmes are optimised for assessment of fish catches for the Data Collection Framework (DCF). Statistically meaningful bycatch estimates are difficult to obtain for rare and endangered species; this challenge requires in the first instance an enhanced observer programme for fleet metiers that pose the highest risk of by-catch of such species. Static fisheries including tangle net and gill net fisheries as well as pelagic trawl fisheries have been identified in the first instance as requiring additional observer effort in order to improve the estimation of by-catch.

Striped dolphin on the beach in Achill, Co. Mayo. Image courtesy of Patrick Mulloy

In parallel with the at-sea observation method, additional information is obtained on the cause of mortality of stranded animals. Under Ireland's ongoing Cetacean Strandings' Scheme implemented by the Irish Whale & Dolphin Group, a proportion of the annual stranding records show external signs of fisheries by-catch. The enhanced monitoring programme subsamples stranded small cetacean (i.e. dolphin, porpoise) carcasses around the coast, and recovers them for full post-mortem examination in a laboratory setting. The objective is the pathology-based assessment and determination of cause of death where possible, in order to gather scientific evidence of by-catch interaction and other causes of mortality. It is aimed to use both components of the study to inform one another, to improve the assessment of relevant metiers of concern, and to enhance the scientific and management understanding of such interactions and their risk to protected species.

Results of this project will be reviewed in relation to end-user requirements. Recommendations on sampling methodologies and sampling effort for by-catch monitoring will be drafted to inform future data collection programmes (link to UP3).

Partners

Marine Institute, DCHG (National Parks & Wildlife Service), Irish Whale and Dolphin Group, Galway Mayo Institute of Technology, DAFM Regional Veterinary Laboratory.

Duration

The project has a 2-year duration and runs between 2017 and 2018. The project will continue as Phase 2 until 2020 based on satisfactory output in the initial two years.

Project Outputs

1. Data on the by-catch of seals, small cetaceans, seabirds and rare and endangered fish species by fishing metier with increased effort on static net fisheries (2017+) and pelagic fisheries (2018+).
2. Results of post-mortem examinations of a subset of stranded cetaceans from the national Strandings Scheme, stratified by geographic region and species.
3. Collection of specimens/samples from by-caught and stranded animals recovered for post-mortem examination; data & samples to be disseminated for further scientific studies.
4. Integration of results with data collection scheme and dissemination of data to end-users including DCHG, ICES, European Commission and others as required.

Expected Benefit

1. The Improved scientific reporting in 2017+ on by-catch events involving seals, small cetaceans, seabirds and rare and endangered fish species by fishing metier.
2. Scientific reporting in 2017+ on the evidence, if any, for fisheries by-catch in the population of stranded cetaceans around the Irish coast.
3. Capacity building in Ireland on international best practice in post-mortem examination and assessment.
4. Contribution of key tissue samples from at-sea observation and laboratory procedures to facilitate the potential assessment of further ecological and environmental parameters, including age, population structure, diet, life history, pollutant burden, etc..

Further details available on www.emff.marine.ie

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