

**The Workshop on stakeholder input to and parameterization of, ecosystem and food web models in the Irish Sea aimed at a holistic approach to the management of the main fish stocks (WKIrish4),** chaired by David Reid, and Francis O'Donnell (Ireland), will be held in Dún Laoghaire, Ireland, 23–27 October 2017.

The workshop has been set up as a follow up to the scoping workshop on the impact of ecosystem and environmental drivers on Irish Sea fisheries management (WKIrish1), held in Dublin, Ireland, in September 2015. That workshop identified a number of approaches that could be used to evaluate ecosystem/fisheries linkages in the Irish Sea. In particular, the development of a tailored Ecopath with Ecosim (EwE) model, Multispecies fish community modelling, and Integrated Ecosystem Assessment (ODEMM) were highlighted. In all three cases it was agreed that there was considerable value in using stakeholder's knowledge to both parameterize, and to help set the main objectives for the modelling. In particular, for specification of the food web linkages, and for the key human activities, pressures, and ecosystem components for consideration.

As part of the WKIrish regional benchmark process, WKIrish4 will work building on the conclusions and recommendations of the Scoping Workshop (WKIrish1), the Data Evaluation Workshop (WKIrish2), and the Stock Assessment Workshop for Irish Sea stocks (WKIrish3) to:

- a) Identify and document the main ecosystem concerns for stakeholders and determine if these can be addressed with the available models, and make any appropriate recommendations for future work.
- b) Populate an Irish Sea food web structure based on stakeholder perceptions
- c) Evaluate the out-turn food web structures against those developed by scientists.
- d) Specify appropriate human activity sectors, pressures derived from these and ecosystem components appropriate for an ODEMM IEA for the Irish Sea.

WKIrish4 will report by 1<sup>st</sup> December 2017 for the attention of ACOM and SCICOM, as well as for any proposed WKIrish5.

## Supporting information

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| Priority | The current activities of this workshop are in line with the ICES strategic plan to progress towards integrated ecosystem assessments. |
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| Scientific justification               | <p>At the ICES WGCHAIRS 2015 meeting the scope of the Irish Sea Benchmark was extensively discussed. It was agreed that the Irish Sea would be a good test bed for ICES to develop an integrated ecosystem benchmark. The fisheries components to the ecosystem are relatively well understood. Several recent projects have looked at ecosystem models and reviewed the Irish Sea ecosystem in general. What has been missing thus far is how we integrate these new types of information and data into and improve the current stock assessments and management advice. WKIrish 1 set up the road map for this work, and WKIrish2 &amp; 3 carried out the assessment benchmark component. In the meantime, we have obtained funding for the EwE component, and are also able to carry out the Ensemble modelling component.</p> <p>Irish Sea fisheries have changed from a cod, whiting and herring dominated fishery in the 1960s to one which is dominated by Nephrops and other shellfish stocks today. Since the early 2000s, ICES has been advising zero catch for cod and whiting. Despite strong effort reductions and other measures to recover the cod stock, there is little evidence of any stock response, suggesting ecosystem aspects (e.g. various sources of natural mortality) may be playing a role.</p> <p>The work plan for WKIrish was initially envisaged as a 2-year process, focused on improving single-species stock assessments (principally cod, haddock, whiting, plaice, herring), incorporating a mixed fisheries model, and developing the integration of ecosystem aspects and working towards an integrated assessment and advice including the previously mentioned stocks as well as sole. Securing funding for the EwE process took longer than expected, and has extended the lifetime of these workshops. There is a strong link PGDATA to develop guidelines for data compilation and evaluation.</p> <p>There are now 5 main workshops, with work co-ordinated and progressed intersessionally. The 5 workshops were to address:</p> <p>WKIrish1 (September 2015): Information sharing and scoping<br/> WKIrish2 (September 2016): Data compilation<br/> WKIrish3 (February 2017): Stock assessment benchmark<br/> All completed<br/> WKIrish4 (October 2017): Stakeholder input to and parameterization of, ecosystem and food web models in the Irish Sea aimed at a holistic approach to the management of the main fish stocks.<br/> WKIrish5 (2018): Towards development of an integrated ecosystem assessment and advice.</p> |
| Resource requirements                  | The research programmes which provide the main input to this group are already underway.   |
| Participants                           | Experts on integrated assessment, fish stock assessment models and Irish Sea ecosystem, stakeholders (industry, administrations, NGOs).  |
| Secretariat facilities                 | Professional assistance by the ICES Secretariat.   |
| Financial                              | No financial implications.   |
| Linkages to advisory committee         | There are close links with ACOM and SCICOM.  |
| Linkages to other committees or groups | ACOM/SCICOM Steering Group of Integrated Assessments (SSGIEA), ACOM/SCICOM Steering Group on Integrated Ecosystem Observation and Monitoring (SSGIEOM), WGCSE, HAWG, WGEF, PGDATA, WGEAWESS, BEWG, WGZE, WGMME, WGSFD, WGSAM, WGMIXFISH, WGISUR, WGEKO, WGBIOP   |
| Linkages to other organizations        | NWWAC, OSPAR   |

