

Working Group Offshore Wind Development and Fisheries (WG OWDF)

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Science for sustainable seas





Steering Group - Human Activities, Pressures and Impacts ([HAPISG](#))

Working Group on Offshore Wind Development and Fisheries (WGOWDF)

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2019/20-2022



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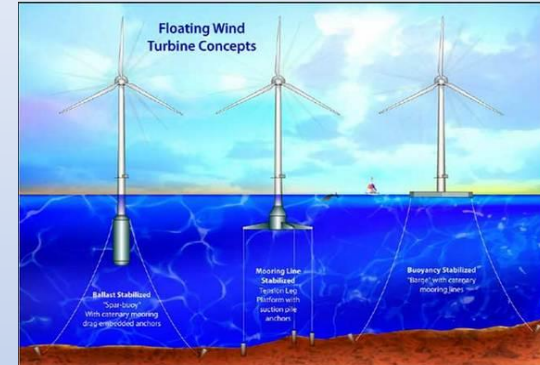
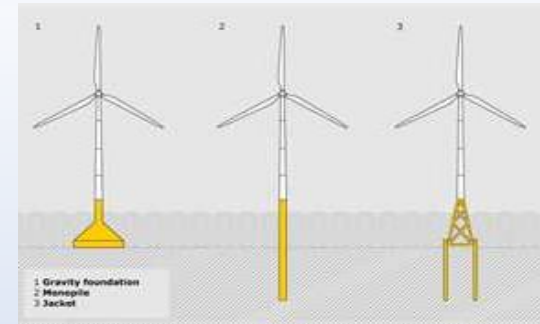
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2021-2023

WGs Terms of Reference (ToRs)		
ICES WG	ToR	Description
OWDF - Offshore Wind Development and Fisheries	A	Review and report on fishing industry interactions with offshore wind development and document lessons learned including effects on the distribution of fishing operations.
	B	Develop and report on methodologies to assess the impact of offshore wind development on fishery resources. These assessments should include observational and model-based approaches and consider hindcast and forecast data and models.
	C	Consider and report on effects of habitat alteration by offshore wind development on fisheries. This consideration should include anticipated changes to the benthic habitats, potential for invasive species, vertical and horizontal movement of water, sediment suspension, and water column changes.
	D	Review ICES expertise and identify gaps and opportunities relative to renewable energy and marine ecosystems and sustainability.
MBRED - Marine Benthic and Renewable Energy Developments	A	Review the methods for non-invasive imagery benthic data collection and interpretation methods.
	B	Review the existing methods assessing the effects of energy emissions from benthic marine renewable energy devices (MRED) to make recommendations for addressing knowledge gaps.
	C	Develop the scientific basis to support decision making processes with regard to decommissioning of marine benthic renewable energy installations.
	D	Review the methodology to assess the role of benthos associated with benthic marine energy devices on the provisioning of ecosystem services to society.
	E	Review available literature on biological traits for application in assessments of the functional effects of renewable energy devices on the marine ecosystem.
ORE - Offshore Renewable Energy	A	Cumulative Effects Assessment of offshore wind, wave, and tidal farms in the ICES area.
	B	Review of the use and environmental effects of chemicals in offshore wind, wave, and tidal farms.
	C	Evaluate and report on the environmental effects of emerging marine renewable energy technologies and devices.

ICES WG OWDF

- Working Group on Offshore Wind Development and Fisheries (WGOWDF) focuses on the interactions of fisheries and offshore wind (fixed and floating)
- Coexistence of offshore wind energy with fisheries is critical for the future of energy, food production, and cultural traditions
- Offshore wind activities in both Europe and the United States have been challenged to effectively address fisheries considerations
 - including evaluating and addressing impacts on fishery operations and fishing communities,
 - fishery-independent surveying and fishery-dependent data, and
 - marine habitat alterations.
- WGOWDF ToRs focus on these and other key interactions and will generate review papers, methods publications, and recommendation reports to ICES



Strategic topic - Offshore Wind interactions with fisheries

Effects and interactions

- could be +ve or -ve or neutral – BUT need to be meaningful and relevant

Fisheries species

- Fish aggregation /artificial reef effect
- Spillover into adjacent fishing grounds
 - Closed areas refuge for species (i.e. de facto MPAs)
- Energy emissions (e.g. noise, electromagnetic fields) causing effects on fisheries species
 - Diversion of migratory fish and crustacea
- Ecosystem food web effects locally
 - Potential knock-on effects in other locations
- Changes to interactions between fisheries species and others (predators and prey)
- Leading to changes in stocks

Fishers

- Vessel displacement (fishing grounds and/or transit routes/times)
- Conflict of user activity
- Gear use
- Effects on baseline data collection/monitoring and stock assessment used in fisheries management
- Cumulative effects on fishers and the fishery stock
- Socio-economic impact on fisheries communities (adaptability, resilience)



(Source: iO.wp.com)

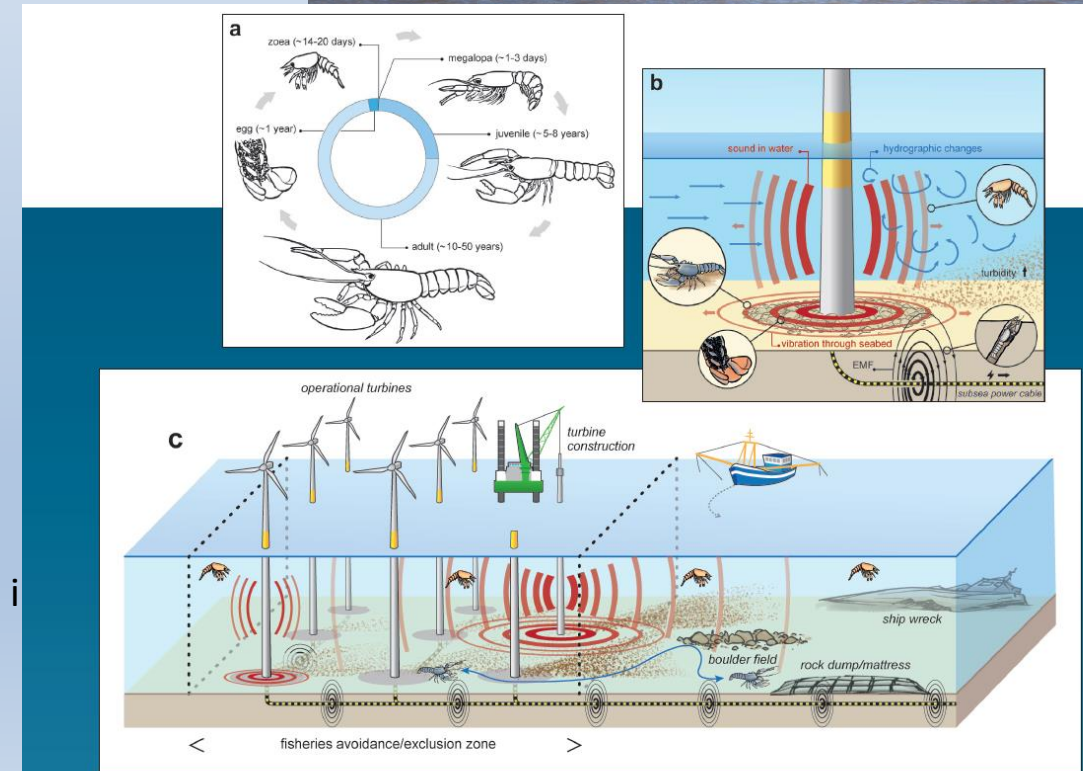


FIGURE B-1. Overview of the main effects on the different life stages of the lobster genus *Homarus* during the different offshore wind farm (OWF) devel-

Activities & engagement

ToR A

- Socio-economic Implications of Offshore Wind on Fishing Communities (WKSEIOWFC – which linked to social science WGs and involved external fisheries organisations).
- Paper "Fishing industry interactions with offshore wind development on a global scale" describing the current state of knowledge of socio-cultural effects of fisheries effort displacement due to offshore wind farms.

ToR B

- Online questionnaire with other ICES expert WGs relating to the perception of the issue of impacts of offshore wind on scientific data collections.
- Data collection methods paper, which is the focus of the deliverable for this ToR.
- ICES Annual Science Conference theme session : “Methodologies to assess the impact of offshore wind development on fishery data collections.” at the ICES ASC Dublin (19-22 Sept 2022).

ToR C

- Break down the OWF-Fisheries implications for the fisheries resource species of interest into a structure that assists in identifying and assessing the cause(s) of the changes in fisheries resource species and the potential effects to the fishers

Annual Meeting 13th-16th June 2022 (online) – focus on ToR C

USA

- Baird Symposium - learn from the European experience

**Offshore Renewable Energy
in the US:
Learning as We Go**

"Effects on the Food Web"

BAIRD SYMPOSIUM
Ronald C. Baird Sea Grant Science Symposium

Sea Grant

ICES CIEM
International Council for the Exploration of the Sea
Conseil International pour l'Exploration de la Mer

THE UNIVERSITY OF RHODE ISLAND GRADUATE SCHOOL OF OCEANOGRAPHY

CBC COASTAL RESOURCES CENTER

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<http://www.mareano.no/>

Thank you for listening

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<https://www.ices.dk/community/groups/Pages/WGOWDF.aspx>

Any Questions?



(Source: iO.wp.com)