

Ms Charlina Vitcheva  
Director-General  
Directorate-General for Maritime Affairs and Fisheries  
European Commission  
1049 Brussel  
Belgium

Dun Laoghaire/Zoetermeer, 04 August 2020

Ref.no. PELAC: 1920PAC87

Dear Ms Vitcheva,

**Subject: NWWAC & PELAC advice for non-recurrent request to ICES on seismic impacts**

## Background

Over the past years, the Pelagic and North Western Waters Advisory Councils have paid careful attention to ongoing developments regarding the effects of seismic activities on relevant commercially exploited stocks as well as their biology. Both ACs consider oil/gas exploration an important sector in European offshore areas contributing to underwater noise. However, the impacts of these activities on fish, shellfish, spawning grounds and larval development, both on the long and short term, remain poorly understood by the scientific community<sup>1</sup>.

The NWW and Pelagic AC members are concerned over these potential impacts given the importance of e.g. spawning grounds/burrows for the health of the stocks under their remit (such as North Sea herring or *Nephrops* in the NWW region), especially in light of preliminary results from research on catch rates currently being carried out in Australia<sup>2</sup>. Other studies suggest a possible connection between seismic activities (“blasting”) and observed declines in zooplankton<sup>3</sup>.

The NWW and Pelagic ACs are equally concerned over the quality, thoroughness and independence of impact studies carried out prior to offshore projects. To date, most impact studies are being commissioned and/or funded by the energy sector, raising the question of impartiality.

Both ACs are of firm belief that independent scientific research on seismic impacts is necessary and urgent. We would therefore highly encourage the development of scientific expertise by ICES in this research field, in the form of a non-recurrent request.

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<sup>1</sup> Anthony D. Hawkins et al.: A sound approach to assessing the impact of underwater noise on marine fishes and invertebrates. ICES Journal of Marine Science, Volume 74, Issue 3, March-April 2017, Pages 635–651 ([link](#))

<sup>2</sup> Fisheries Research and Development Corporation (FRDC) Australia 2019-072: Multiple - Before After Control Impact (M-BACI) analysis of the effect of a 3D marine seismic survey on Danish Seine catch rates ([link](#))

<sup>3</sup> McCauley, R., Day, R.D., Swadling, K.M., Fitzgibbon, Q.P., Watson, R.A., and Semmens, J.M. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. Nature Ecol. & Evol. 1: 1-8. ([link](#))



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The Pelagic and NWW ACs kindly ask the European Commission to consider the following research questions below as a basis for a non-recurrent request to ICES.

## Input non-recurrent request to ICES

The NWWAC and PELAC have joined forces in a joint Focus Group on impacts from seismic activities and offshore wind farms, to formulate the specific research needs and advice deliverables for a non-recurrent request to ICES.

In our view both ACs would benefit from ICES advice on the following general research questions:

- Upon evaluating existing scientific publications on the impacts of seismic activities from oil/gas exploration on larval development/reproduction/growth/migration of commercially exploited stocks (both pelagic and demersal) in the North Western Waters region, what are the knowledge gaps identified that are relevant to address in the context of ecosystem-based fisheries management?
- What are known impacts of seismic surveys on zooplankton?
- An analysis of ecosystem wide impacts of seismic activities on important fish stocks, including effects on prey and predators (e.g. Plankton death by airgun blasting, displacement of prey/predators, behavioural changes, lost foraging time etc)
- To what extent have accumulations of seismic activities and other noise sources been taken into consideration in existing research?
- How does seismic activity affect developing eggs and larvae, with special focus on the commercially exploited stocks (both pelagic and demersal) in the North Western Waters region?
- When considering existing environmental impact assessments (EIAs) carried out prior to seismic surveys, what parameters are not addressed that, according to ICES, would be relevant to be included to determine the impact of the surveys on (the major) commercially exploited stocks within an ecosystem context?
- What habitats, including shallower waters, for commercially exploited fish in the NWW region are affected by seismic activities and what possible measures, such as seasonal restrictions would be effective at mitigating these impacts?

In addition, the NWW and Pelagic ACs would appreciate further, more specific, ICES advice on:

- What are the (long and short) term effects of seismic surveys happening in the same area and at the same time as the mackerel egg survey, on the survey outcomes?
  - For short term impacts: do the seismic surveys scare the fish away to such an extent that this affects what is seen in the egg survey?



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- Are there any known effects of seismic surveys on mackerel larval development and recruitment? Can these effects potentially affect the mackerel survey outcome in the long term?
- What are the (short/long term) impacts of seismic surveys happening in areas that are known spawning grounds for herring? E.g. in the Downs herring spawning ground in divisions 4.c and 7.d. or spawning grounds in the Shetland area in division 4a. Can these activities adversely affect herring reproduction in the long term?
- What are the effects of seismic activity on cod populations, namely on the size and stability of spawning aggregations?
- What are the short-term effects of seismic surveys happening in the spawning burrows for *Nephrops* at time of spawning?
- Fishermen in the North Western Waters observed the migration of brown crab to miles away from areas where seismic surveys took place. What are the impacts of seismic activities on migratory patterns of brown crab in the North Western Waters, including shallow water areas?

We thank you for taking this advice into consideration and look forward to your response.

Best regards,



Emiel Brouckaert  
Chairman  
NWWAC Executive Committee



Jesper Raakjaer  
Chairman  
PELAC Executive Committee



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