

Comments on the Celtic Sea Ecological Sensitivity Analysis

A SUBMISSION FROM THE SEAFOOD INDUSTRY REPRESENTATIVES' FORUM

November 2024



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A Submission

from the Seafood Industry Representatives Forum

to the Department of Housing, Local Government and Heritage.

Comments on the Ecological sensitivity Analysis of the Celtic Sea to inform

future designation of the Marine Protected Areas (MPAs) Report.

1. Summary

- It is evident that the four SC-DMAP areas overlap significantly with the areas identified as being sensitive to ORE Development.
- By precluding the selection of these areas in the potential MPA network the analysis failed in its primary objective of safeguarding environmentally sensitive areas to the potential development of ORE in the short term.
- The summed solution should not be used to inform the future MPA process, nor should it be used to support the selection of the SC-DMAP areas.
- It is evident that the analysis should have been completed in advance of the four SC-DMAP areas being selected and if it had been then the SC-DMAP areas would almost certainly be deemed unsuitable for ORE development.
- The stakeholder engagement through a final project webinar was not sufficient and did not enable proper discussion of the project outputs.

2. Background

Ireland is currently undergoing significant changes in relation to maritime activity, its regulation and its planning. This includes the recent introduction of Designated Maritime Area Plans (DMAP) for Offshore Renewable Energy and the development of the Marine Protected Areas (MAP) Bill.

Given that the MPA legislative process is ongoing, and **in order to safeguard areas environmentally sensitive to the potential effects of ORE development in the near term**, the Celtic Sea Ecological Sensitivity Analysis (CS-ESA) was undertaken by the MPA Expert Advisory Group between November 2023 and May 2024. The study was commissioned by the Department of Housing, Local Government and Heritage (DHLGH), who also dictated the terms of reference. The aims of the project were to:

1. provide rationales and recommendations for the identification of areas for potential designation as MPAs in the Celtic Sea, through processes that align with provisions set out in the forthcoming MPA legislation.
2. provide data and analyses that can inform planning decisions on the potential siting of ORE infrastructure, taking account of stakeholder views, ecological features, conservation requirements and sectoral activity.

In March 2024 the Seafood Industry Representatives' Forum (SIRF) submitted comments on the CS-ESA process to DHLGH [1], following the two stakeholder workshops held in Cork in February. The submission acknowledged progress in the development of the process made following the related Irish Sea Ecological Sensitivity Analysis, suggested further improvements and highlighted issues that remained to be addressed.

On the 27 June 2024 the final report of the CS-ESA was published by DHLGH [2] and a webinar was held on the 24 July to present the results. Unfortunately, there was no in-person follow up workshop to discuss the content of the report and no official process by which to submit comments. As such the comments in the current document are related to the content of this report.

3. Analyses

In general, the approaches employed in the CS-ESA to select features, collate the data and undertake the initial sensitivity analyses were robust and comprehensive. The level of work involved was a significant undertaking and there are inherent difficulties in identifying and selecting features with sufficient representative data to undertake the analyses. The MPA expert group should be commended for the work undertaken particularly as the timeline set by DHLGH for the analysis was, as in the case of the Irish Sea ESA, too short.

In this case the urgency appears to have been related to the ongoing SC-DMAP process and, as stated in the CS-ESA aims, the need to *"safeguard areas environmentally sensitive to the potential effects of ORE development in the near term"*. This indicates that the aim of the CS-ESA was to identify sensitive

areas prior to the refinement of the SC-DMAP in order to avoid sensitive areas being selected for ORE development. This is an understandable aim, however the prioritisation analyses and resulting outputs failed to deliver on this and as demonstrated below have actually been biased by the inclusion of the SC-DMAP areas as a sectoral cost layer.

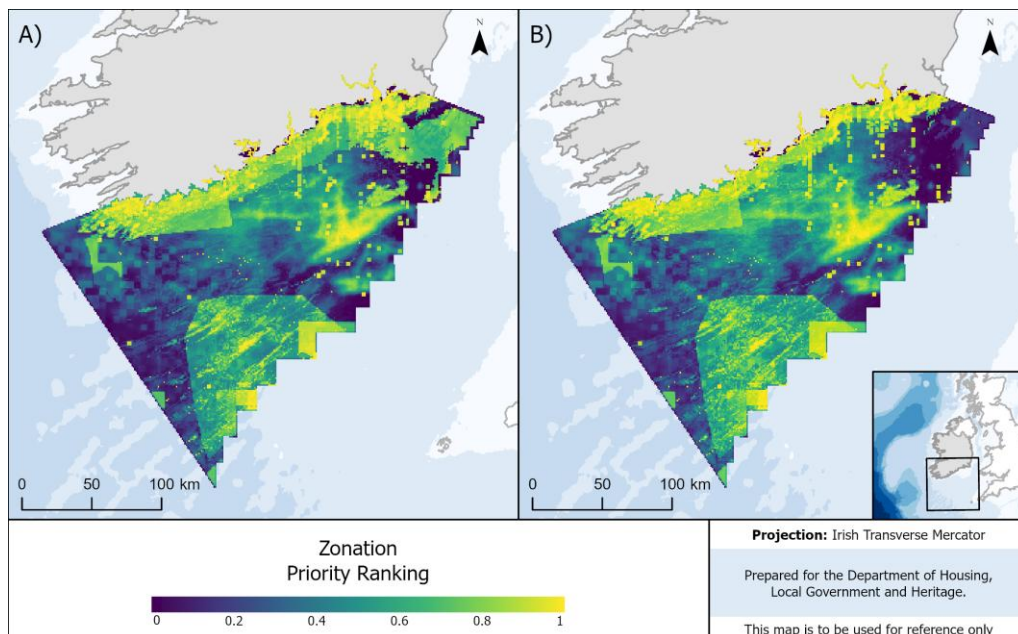


Figure 1 (Figure 3.5.1. in CS-ESA report) Ranking using Zonation of conservation value for 1 km² locations, based on the 31 features comprising 34 feature layers where data were suitable for analysis. Brighter colours show areas with higher value in terms of multiple features and/or the coverage of rarer features. A) feature layers were weighted equally. B) feature layers for the Celtic Sea and coastal fronts switched off for comparative purposes.

Conservation prioritisation is the process of identifying areas that should be a priority for the protection of selected features. In the CS-ESA two software packages were used for this analysis, *Zonation* and *prioritizer*. *Zonation* was used to objectively, based on the inputted features and data, identify areas of high conservation value. *Prioritizer* was then used to generate a potential MPA solution that met set conservation targets whilst minimising the overlap with areas deemed important to different sectoral activities.

3.1. Zonation analyses

The output of the *Zonation* analyses (Figure 1A) clearly indicated significant variation in the conservation value of different parts of the study area. The highest conservation values were along the coast as there is a diversity of habitats in these areas that are not found offshore e.g. kelp and seagrass. In the northeast of the study area there was a high conservation value area that was determined to be associated with the Celtic Sea front. When the Celtic Sea front was excluded from the analysis (Figure 1B) there was a significant change to the priority ranking of cells meaning that either the feature list did not include these species and functions or that data are lacking for those species in the area of this dynamic seasonal feature. It was therefore determined to be particularly important to include the Celtic Sea front in the feature list and to account for it in the development of potential MPAs.

Information from the sensitivity analysis can be used to identify areas where the management of the impacts from a particular sector should be prioritised. The majority of the features had a high sensitivity to ORE development and also to bottom otter trawl fishing and as such the sensitivity maps for the two activities were very similar (Figure 2).

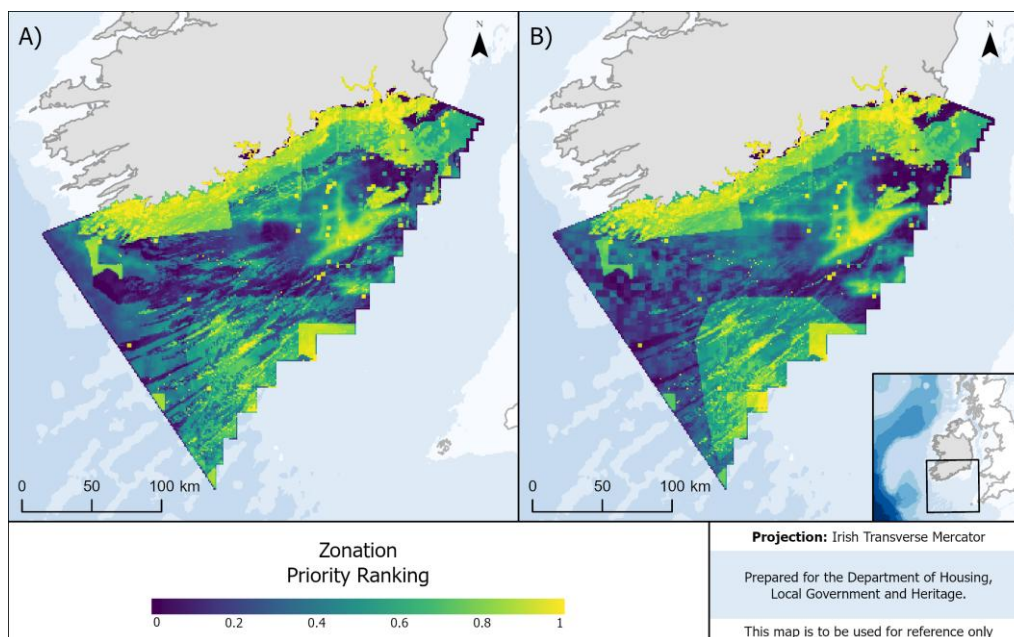


Figure 2. (Figure 3.5.2. in CS-ESA report) Zonation maps with features weighted by the level of sensitivity to A) ORE operations (turbines) and B) bottom otter trawls. The more yellow the area is the more sensitive it is deemed to be to the sectoral activity.

Once potentially sensitive areas have been identified then it is important to assess the overlap between the sectoral activities and the sensitive areas identified. In the CS-ESA this step is undertaken as part of the *prioritizer* analysis (see Section 3.2), which focussed instead on minimising the overlap between potential MPAs and sectoral activities. What the CS-ESA report did not do, was to clearly present the overlap in an objective way that would enable qualitative assessment of the potential impact of the sectoral activities on the sensitive areas identified.

In the current report the SC-DMAP areas and the 2018-2022 International bottom trawl effort data used in the CS-ESA analyses were overlaid on the specific sensitivity layers for ORE development (*OREturbrankmap.tif*) and for bottom otter trawl fishing (*otter8 rankmap.tif*) from the CS-ESA data repository (Figure 3). It is evident that the SC-DMAP boundary and the four SC-DMAP areas overlapped significantly with the areas identified as being sensitive to ORE Development. Area A, the closest SC-DMAP area to the coast, is entirely located within an area that was determined to be sensitive due to the presence of the Celtic Sea front. Similarly, the majority of Area D is located in an area that was deemed to be highly sensitive to ORE development. Parts of Area B and C were also identified as being sensitive areas, whilst the remainder was determined not to be sensitive to ORE development. The non-sensitive areas are also the areas that overlap with scallop fishing grounds (Figure 3).

There is also overlap between areas identified as sensitive and bottom otter trawling (Figure 3), though the majority of bottom otter trawling appears to take place in non-sensitive areas. It is important to also recognise the fact that the features included in the analyses all exist in the presence of long-term fishing activities, including bottom trawling, and all of the included data has been collected in the presence of fishing. Of course, the features may not be in pristine state in the presence of fishing and this should not preclude their consideration for protection. Conversely none of the included data has been collected in the presence of ORE developments and the potential impact of ORE development on these features is largely unknown beyond the recognition that they are sensitive to ORE development.

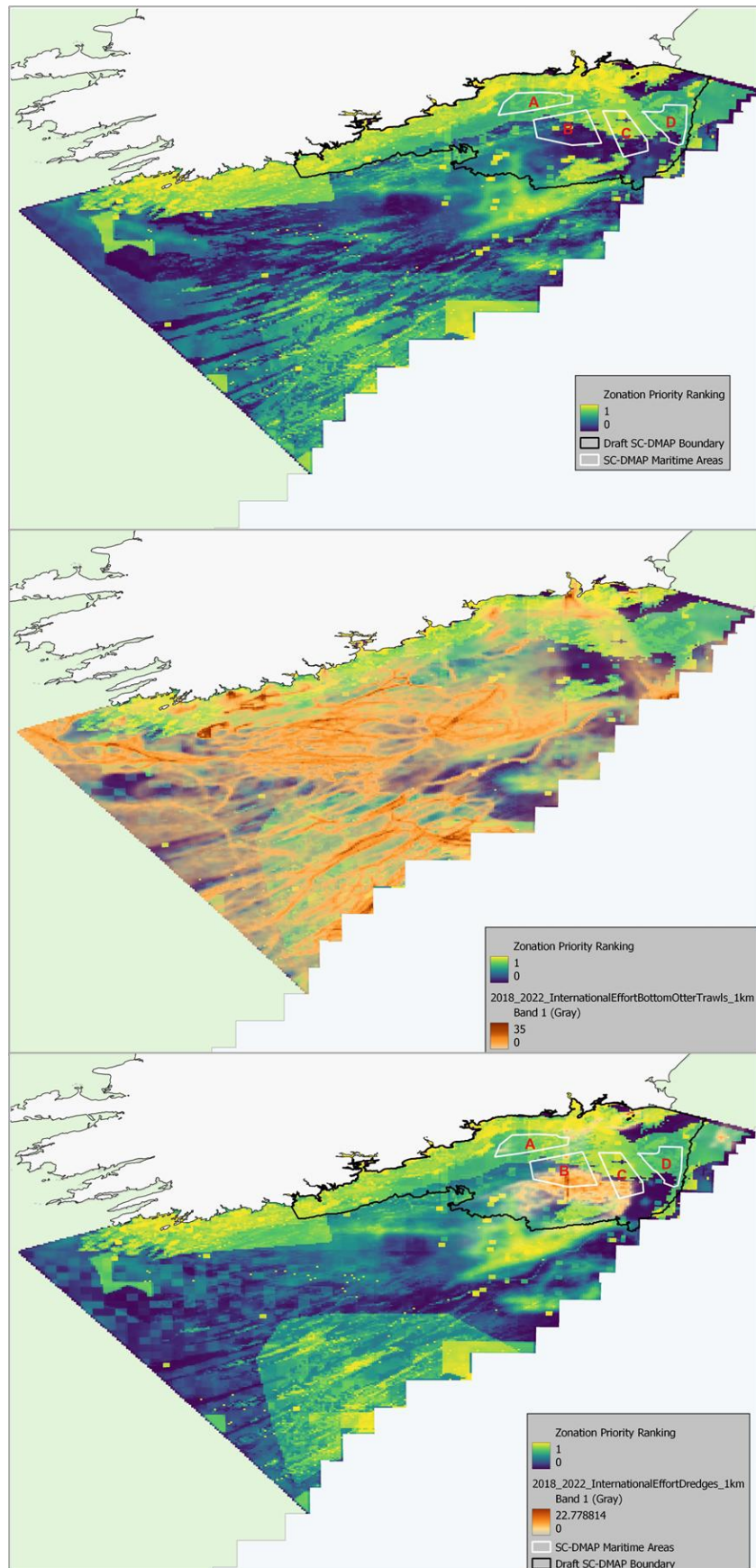


Figure 3. The overlap between (top) the SC-DMAP areas (middle) international bottom otter trawl effort 2018-2022 (bottom) international dredge effort 2018-2022 and the areas identified as being sensitive to these sectoral activities.

3.2. Prioritizer analyses

Following identification of the sensitive areas, the sectoral activity layers were added to the CS-ESA analysis and the *prioritizer* software package used to identify potential MPA networks that met conservation targets whilst minimising the overlap with sectoral activities. In the first instance the analyses were run including existing activities (i.e. fishing), whilst excluding activities that do not yet exist in the study area (i.e. ORE developments). This is a logical approach as the sensitivity analyses are based on the data that has been collected in the presence of fishing activity.

The potential network solutions had, as expected, a degree of overlap with existing fishing activity as fishing activity is extensive in the Celtic Sea. There are many potential solutions in the output files [3], which require further analyses to assess the potential impact on fishing activity and the resulting socioeconomic impact, a factor which is not included in the CS-ESA. This is important as different fishing areas produce different species and some areas may be more valuable than others. Factors such as this are not included fully in the current analysis but are essential to consider when making trade off decisions between different areas.

A notable feature of the outputs was also the lack of network solutions in coastal waters (Figure 4). As illustrated in the *Zonation* analyses (Figure 1) coastal waters have the highest conservation values and are the most ecologically sensitive as there is a diversity of habitats in these areas that are not found offshore. In the current analyses the lack of accurate inshore fishing data precluded a robust analysis of these areas to be conducted. As inshore effort data were not available, known net and pot fishing grounds for <12 m vessels were coarsely demarcated with polygons. This is clearly not ideal as there are many inshore areas with limited or no fishing activity which may be amenable to spatial protection but under the current approach these are not identified or available for selection. Further the impact of potting on benthic habitats and the specific features included in the analyses are likely negligible and potting and MPAs should not be considered mutually exclusive. A more nuanced approach to the analyses should be taken in these areas as it is also necessary to account for the land-based activities that may impact the viability of coastal MPAs.

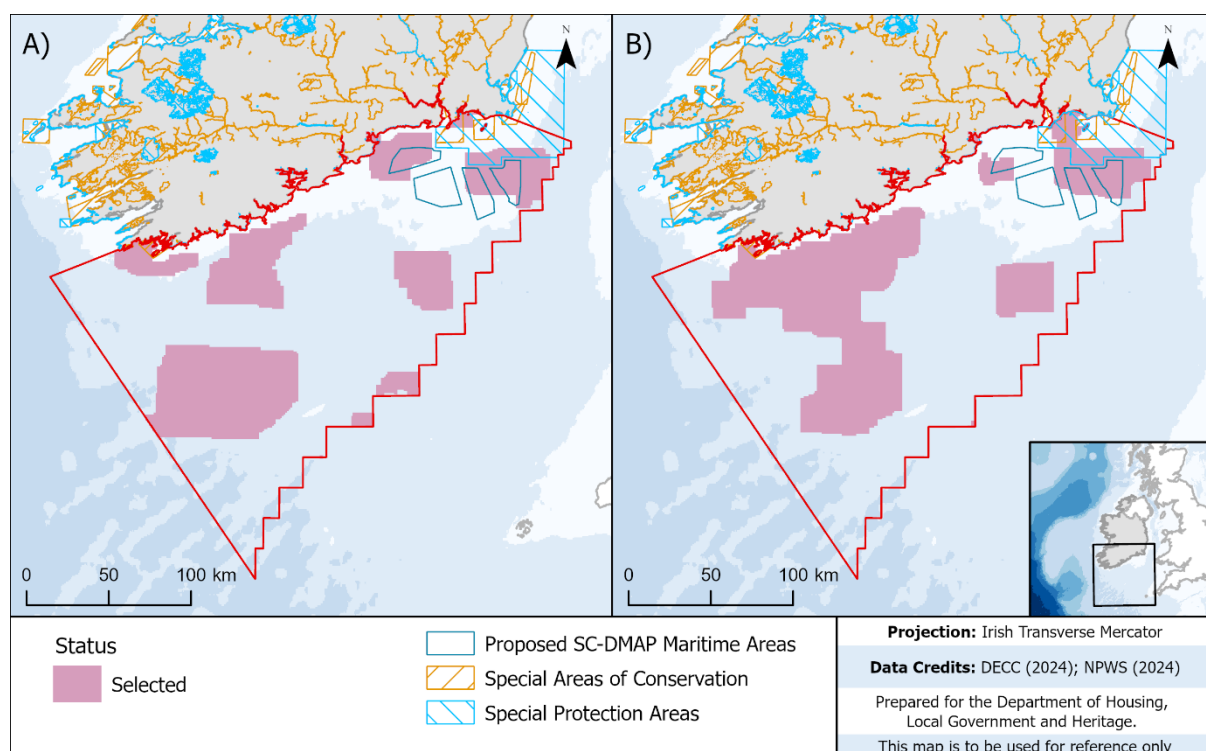


Figure 4. (Figure 3.5.3 in CS-ESA report). Reserve solutions using a sectoral activity layer without ORE activity, and with (A) fishing weighted for effort and (B) standardised per meter.

3.3. Inclusion of the SC-DMAP

The most questionable aspect of the *prioritizer* analysis and of the CS-ESA in general was the treatment of the ORE sectoral activity layer. In the stakeholder workshops in February 2024 the stakeholders were informed that ORE sectoral activity would be included as the draft DMAP area which was published in July 2023 [4]. The delineation of this area (figure 3) was primarily based on water depth as it was demarcated by the c.80 m depth contour. The consultation on the SC-DMAP which included the four DMAP areas did not open until 3 May 2024 and did not conclude until the 14 June 2024. It was only when the CS-ESA report was published on the 27 June 2024, that it became evident that the four refined SC-DMAP areas were included rather than the larger draft DMAP area. No explanation was provided in the CS-ESA report as to when the four refined DMAP areas were provided to the MPA expert group and whether they were instructed to use these areas as the ORE sectoral cost layer instead of the larger draft DMAP area.

As illustrated in the Seafood Industry Representatives' Forum submission to the SC-DMAP consultation [5], the four SC-DMAP areas were selected based on a constraint analysis which openly applied subjective criteria to aid in the selection of areas which were deemed technically and economically attractive for ORE development despite likely significant impact on fishing activity and marine species. The *zonation* analyses in the CS-ESA confirm this as the four SC-DMAP areas overlapped significantly with the areas identified as being sensitive to ORE Development (Figure 3). It is also clear that when the SC-DMAP areas were not included in the sectoral activity layer, the analysis selected potential MPAs that overlapped with these areas, reflecting their sensitivity to ORE development (Figure 4). Given that the stated aim of the project was to "*safeguard areas environmentally sensitive to the potential effects of ORE development in the near term*", one would assume that these areas would be deemed unsuitable to ORE development. However, this was not the case and CS-ESA the analyses were tailored, through differential weighting, to specifically avoid overlap with the SC-DMAP areas. By biasing the outcome of the analysis through the inclusion of the four SC-DMAP areas, the CS-ESA failed in its primary objective of safeguarding environmentally sensitive areas to the potential development of ORE in the short term.

It was suggested that the conservation targets could be met elsewhere in the study area, which effectively means larger and more MPAs in other areas to attempt to offset the impact of developing the sensitive areas for ORE, which as previously stated are currently unknown. This is also contrary to the previous assertions about the Celtic Sea front which stated that many species and ecological processes are likely to be associated with it and not all of these are included in the feature list. As such it is not possible to determine that the impacts in this can be realistically offset by protecting other areas.

It is also important to ask how the larger draft SC-DMAP area would have been handled in the analyses if the MPA expert group had not been provided with the four SC-DMAP polygons. Would the entire area have been deemed an exclusion zone for MPA selection within the analyses and if so what would the impact on the potential MPA network have been?

3.4. Biased summed solution

As noted in the CS-ESA appendices, conservation prioritisation does not provide a single 'right' answer but rather provides options to policy makers based on stated conservation objectives. In total twenty-seven scenarios were run, several of which were requested by stakeholders, varying targets and included features.

However, only ten of the twenty-seven scenarios were included in the final summed solution and presented at the start of the CS-ESA report (Figure 5). All ten of these scenarios included the four SC-DMAP areas as the weighted ORE layer. The only differences between runs were the treatment of fishing effort and the weightings of targets set for each feature. As a result, the ten scenarios provided very similar outputs which when combined resulted in the 'summed solution', which prevented

overlap with the majority of the SC-DMAP areas. Had the other scenarios been included in the summed solution and a balanced number of scenarios with and without ORE been analyses, then the outcome would likely have been quite different.

The second stated aim of the CS-ESA was to *“provide data and analyses that can inform planning decisions on the potential siting of ORE infrastructure, taking account of stakeholder views, ecological features, conservation requirements and sectoral activity”*. The data compiled within the project can contribute to this aim and the *zonation* analyses in particular will be useful towards reaching this goal. However, as it stands, the current summed solution is biased towards avoiding overlap with the SC-DMAP, which is currently a non-existent sectoral activity. As a result, the summed solution should not be used to inform the future MPA process nor should it be used to support the appropriateness of the SC-DMAP areas. It is clear that the CS-ESA should have been completed in advance of the SC-DMAP and if it had been then the SC-DMAP areas would almost certainly be deemed unsuitable for ORE development.

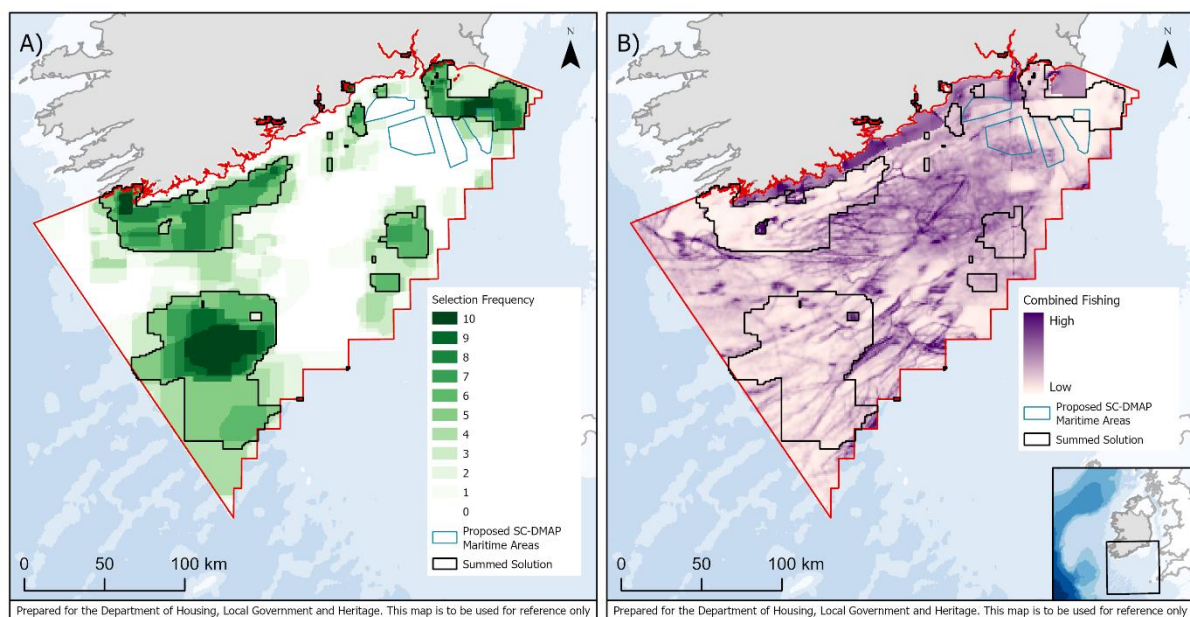


Figure 5. (Figure 1 in the CS-ESA report). Key outcomes from conservation prioritization analyses of the Celtic Sea, completed by the MPA Advisory Group in May 2024.

4. Additional issues

The issues described above are not the only items of concern relating to the CS-ESA. There are a number of other issues which would have been preferable to raise in a comprehensive stakeholder workshop following the publication of the report. However this was unfortunately not included as part of the process, which only included a webinar and a limited opportunity to ask questions related to the analysis. This needs to be addressed in advance of any future Ecological Sensitivity Analyses in other areas and in advance of any further developments in the process of identifying MPAs.

One other notable issue with the CS-ESA was that the analysis was conducted in isolation from the adjacent areas and only considered a portion of the Irish EEZ in the Celtic Sea. It is impossible to develop a coherent network of MPAs without considering the connectivity with adjacent areas that are ecologically connected. For example, how are the features represented in UK waters and what approach is being taken there to develop an MPA network? Does that approach align with the CS-ESA approach and if not then how can a coherent network of MPAs be developed?

These and other questions need to be addressed properly in the future MPA process and that is only possible with full stakeholder participation in the process from the start.

5. References

1. https://kfo.ie/wp-content/uploads/2024/10/Seafood_Industry_Representatives_Forum_comments_on_Celtic_Sea_ESA_01032024.pdf
2. <https://www.gov.ie/en/publication/03ccc-ecological-sensitivity-analysis-of-the-celtic-sea/>
3. https://github.com/IrishMarineInstitute/celtic_sea_sensitivity_analysis/tree/main
4. <https://www.gov.ie/en/publication/36d9a-designated-maritime-area-plan-dmap-proposal-for-offshore-renewable-energy/>
5. <https://www.gov.ie/pdf/?file=https://assets.gov.ie/307015/3b113d2d-f12e-4266-af1f-3f82878e0761.pdf#page=null>