Killybegs Fishermen's Organisation Response and Objection to the Notice of Intention to Designate Porcupine Shelf (002267) and Southern Canyons (002278) as Special Areas of Conservation (SACs)

15/02/2023

Objection

The Killybegs Fishermen's Organisation (KFO) objects, on behalf of its members, to the proposed designation of the Porcupine Shelf (002267) and Southern Canyons (002278) as Special Areas of Conservation (SACs). The basis of the objection is:

1. The current delineation of the proposed SACs does not reflect the scientific evidence provided and does not align with the designation basis, Reefs (1170).
2. The evidence indicates that this habitat type is only present in a small fraction of the defined areas, therefore the spatial scale of the proposed SACs is not supported by the scientific evidence.

We note the requirement in Section 4 of the Notice of Intention to Designate, that the objection must be accompanied by a declaration stating the interest in the proposed areas that the objector has. The KFO declares that its members have existing pelagic, demersal and crustacean fishing activities,

(a) in the areas comprising the sites of both proposed SACs.

(b) in the areas outside of the sites of both proposed SACs which may potentially be affected by the Direction.

and consider that these interests may be affected by the designation in its current form.

Background

The KFO recognises the need for conservation and restoration of sensitive marine habitats and ecosystems. This is important not only for addressing the biodiversity crisis but also for supporting sustainable fisheries which are critical for food security. As outlined in the Draft EU Action Plan: Protecting and Restoring Marine Ecosystems for Sustainable and Resilient Fisheries [1]*, 'Sustainably managed and caught fish constitutes a high quality and affordable protein which has a relatively low carbon footprint, is essential to ensure food security and maintain the basis for economic activities and contributes to the protection of biodiversity and the fight against climate change'*.

The KFO has a number of concerns regarding the process of notification of the Intention to Designate the Porcupine Shelf and Southern Canyons as SACs and also the methodology used for the selection and delineation of the proposed sites. Whilst sea fishing is licenced by the Department of Agriculture, Food and the Marine (DAFM) and is not immediately excluded from the proposed SACs or listed as an 'Activity Requiring Consent' (ARC) there is concern that once designated as SACs this will ultimately lead to closure of the areas to fishing or restriction of particular fishing activities. There is precedent for this in the case of other offshore SACs, for example Belgica Mound Province, Hovland Mound Province, Southwest Porcupine Bank and North-West Porcupine Bank. These SACs have the same marine Annex I qualifying interest of Reefs (1170) as the two proposed SACs and were first listed as Sites of Community Importance (SICs) in 2008 [2]. In 2016 they were designated as SACs in Irish law

(S.I. No. 98/2016 [3], 101/2016 [4], 105/2016 [5], 108/2016 [6]) according to Article 4(4) of the EU Habitats Directive. In 2019 these SACs were closed, under Regulation (EU) 2019/1241 [7], to '*bottom trawls or similar towed nets, bottom set gillnets, entangling nets or trammel nets and bottom set longlines*'. Further restriction on pelagic fishing vessels were also incorporated in the regulation including having to give four hours advance notification to the Irish Fisheries Monitoring Centre (FMC) of their intention to enter the areas.

The KFO, on behalf of its members, is concerned that a similar approach will be taken with the designation of the proposed SACs, Porcupine Shelf and Southern Canyons, which would have a significant impact on existing fishing activities by Irish vessels in the shallower parts of the currently delineated sites. This expectation is strengthened by the recently released draft EU Action Plan: Protecting and restoring marine ecosystems for sustainable and resilient fisheries [1] which includes stated targets for prohibiting mobile bottom fishing by the end of March 2024 in '*Marine Protected Areas [within existing Natura 2000 sites] which have either seabed protection as their conservation objective or non-bird species protection and thus should also protect the seabed as the habitat of those species*'.

We understand that the Habitats Directive does not have provisions requiring public consultation on the designation of Natura 2000 sites. However, the Commission has also underlined in its 2022 Staff Working Document on Criteria and Guidance for Protected Areas Designations [8] that **Member States should involve all relevant stakeholders, including sea users, local communities and NGOs in the identification, designation and management of new protected areas, in a fair and participatory way, in line with the Aarhus Convention and in accordance with national procedures**. Unfortunately, there was no stakeholder participation or consultation as part of the designation process and no transparency on the site selection and delineation. The only option available to stakeholders for input is to lodge an objection. Therefore, the KFO objects, on behalf of its members, to the two SACs as they are currently proposed and provides a detailed scientific basis for the objection in the text below. In addition, we have also provided a detailed synopsis of the lack of stakeholder engagement with the hope that it will highlight this issue to the Departments concerned and improve the future approach to such processes.

Lack of notification and engagement

The Department of Housing, Local Government and Heritage (DHLGH), Marine Planning – Foreshore Unit published a Notice of intention to Designate Porcupine Shelf and Southern Canyons as Special Areas of Conservation in 2022, which was dated the 18th November 2022. The Notice and associated maps were published on the gov.ie/publication page on the 29th November 2022 [9] and was publicly announced by the DHLGH on 13th December 2022 via a press release [10], which coincided with the Minister of State for Heritage and Electoral Reform, Malcolm Noonan's, attendance at the UN Biodiversity Conference, COP15, in Montréal, Canada. Apart from these announcements no notice was issued to those with fishing licences within the proposed sites nor was any notice issued to the fishing industry representative bodies.

The Notice of Intention to Designate specified in the Notification Provisions that *'It is important to note that holders of permits or licences including, but not limited to, prospecting licences, exploration licences, foreshore licences, aquaculture licences and finfish licences within the above-mentioned sites, where those are issued by your Department/agency, should be informed of the proposal to designate these sites'*. The KFO is unaware whether notification was received by other sectors however it can confirm that no notification was received by finfish licence holders or their representative bodies. It may be argued that DHLGH does not issue finfish licences and therefore did not have to issue notification, however there should be mandatory engagement between the different Departments within government, particularly those that are concerned with licencing and regulating the marine

area. DHLGH should be obligated to inform DAFM of the intention to designate these SACs, and perhaps they did, but there is a lack of transparency around inter-department communication. DAFM should then have informed licence holders under their remit and afforded them the opportunity to lodge an objection within the three-month time period, of which almost one month had passed before the public announcement of the proposed SACs. This basic level of government inter-departmental communication and collaboration should not need to be highlighted. Given the delays in publishing the notifications and the complete lack of notification to licence holders the three-month deadline should be extended and a new and comprehensive round of engagement and consultation established.

The complete lack of engagement with stakeholders before issuing the intention to designate notification is a disappointing situation but is, unfortunately, not without precedent as has recently been observed in the process of pre-legislative scrutiny of the related General Scheme of Marine Protected Areas (MPA) Bill 2022 [11] by a Joint Oireachtas Committee on Housing, Local Government and Heritage. It must be highlighted that although the proposed SACs will be designated under the Habitats Directive they will become part of the Irish MPA network area and included in the % protected area in Irish waters as stated by Minister Noonan in the December 13th press release [10] '*We started from a low base of 2.3% marine protection in 2020, but since I became Minister we have more than tripled the overall size of protected areas in the sea to 8.3%, and are on track to reach 10% by the middle of next year. This, plus progress on the new MPA Bill, puts Ireland in an excellent position to deliver on its ambition for protected areas across 30% of our maritime area – that's twice the size of our landmass – by 2030'.*

Whilst this progress is to be applauded it is important to stress that active engagement with stakeholders is one of the key pre-requisites for identification and delineation of successful MPA designations. One of the main recommendations of the 2020 MPA Advisory Group Report on Expanding Ireland's MPA Network [12] was that '*Early and sustained stakeholder engagement should be integral to the selection and management processes for MPAs. Engagement should be inclusive and equitable and the process should be designed to ensure that it is transparent, meaningful and facilitating*.' It appears that this important stage has already been overlooked and this process sets a poor precedent for the future process of identifying, defining and designating the wider MPA network.

Scientific Basis for the Objection

For the purposes of this objection both of the proposed SACs will be considered together as they have both been proposed for designation based on the presence of Reefs (1170), which is an Annex I habitat of the Habitats Directive. The Interpretation Manual of European Union Habitats - EUR28 [13] states that '*Reefs can be either biogenic concretions or of geogenic origin. They are hard compact substrata on solid and soft bottoms, which arise from the sea floor in the sublittoral and littoral zone. Reefs may support a zonation of benthic communities of algae and animal species as well as concretions and corallogenic concretions'*.

The cited evidence provided for the existence of such reefs is the results of two surveys undertaken by the Marine Institute in 2017 in the Porcupine Shelf area and in 2019 in the Southern Canyons area. A very brief description of the surveys and the habitat in the areas is provided along with mention of a small number of species that were observed during the surveys. No detailed data, for example habitat maps, are provided to support the proposed designation and nor is the extent of the reefs within the proposed areas illustrated. Further no citation for the surveys is provided and there are no links to relevant data sources that the reader can follow to assess the evidence base. In the case of the Southern Canyons it states that the '*SAC boundaries have been designed to encompass this unique habitat, which is exceptional in a European context*'. The justification behind the delineation of the Porcupine Shelf SAC is not stated.

One would assume that there has been a detailed analysis of the results of these surveys that has included a mapping exercise to delineate the proposed SAC areas transparently, robustly and based on scientific evidence. These are large areas (the Porcupine Shelf SAC is c.14,718 km^2 and the Southern Canyons SAC 14,448 km^2) which have been delineated with simple straight edge polygons (Figure 1). The Southern Canyons polygon extends from less than 200m depth to the abyssal plain at greater than 3,000m. The Porcupine Shelf SAC has a slightly narrower range and extends from the 300-400m depth contours down to 2,900m. There appears to have been no attempt to refine the site areas based on bathymetry. **Full details of the scientific procedure followed to define the polygons should be included with the notice of intention to designate in order to ensure scientific transparency**. In the absence of this information we have undertaken a simple analysis for the purpose of this objection.

Further investigation was required to understand the basis of the proposed designation, which revealed that the surveys were part of an ambitious survey series specifically developed to fulfil Ireland's obligation to quantify the abundance and distribution of offshore biogenic and geogenic reef habitats in Irish waters. The extensive offshore reef survey of Ireland's continental slope was commissioned by the Marine Institute in partnership with the National Parks and Wildlife Service (NPWS), funded by the European Maritime and Fisheries Fund (EMFF), and coordinated and led by INFOMAR (Integrated Mapping for the Sustainable Development of Ireland's Marine Resources). The Sensitive Ecosystem Assessment and ROV Exploration of Reef (SeaRover) surveys took place annually between 2017 and 2019 and the cruise reports contain details of the sampling undertaken [14, 15, 16]. A single synthesis report was also compiled by MERC Consultants Ltd. on behalf of the Marine Institute [17] and presents the results of the three surveys together along with information and discussion about the wider relevance of the surveys.

Each survey undertook transects using a Remote Operated Vehicle (ROV) to record high-definition camera footage of the transect, whilst manipulator arms were used to collect samples (physical and sediment) and a water sampling apparatus was used to facilitate collection of water samples. Each dive involved the ROV following a pre-determined transect line 1-2m above the seabed (Figure 2). Transect selection criteria included depth range, areas of highly sloping terrain, geographical spatial discreteness, historically low fishing activity and effort, historically low scientific studies and the presence or absence of certain target geomorphological features identified with reef habitat which included, canyons and canyon walls, gullies, escarpments, ridges, carbonate mounds and cobble fields [17]. **Therefore, the target transect areas were not randomly distributed but were pre-determined to be undertaken in areas with minimal previous anthropogenic impact and to maximise the encounters with reef habitat**. As such it is questionable whether there is scientific justification to extrapolate the data collected on these transects to a wider area. Despite this non-random targeted approach, across the entire survey series only 89 out of 154 dives or 58% contained evidence of reef habitats, whilst 42% recorded neither biogenic nor geogenic reef [17].

All data were generated after review of HD transect video, which used Ocean Floor Observation Protocol (OFOP) software to facilitate capture of the visual observations with associated positions. Where biogenic or geogenic reef was encountered on transects, '*there was an assumed minimum patch size of 5m x 5m (this is a standard minimum area used for biotope classification)*'. The percentage of reef present per transect was summarised as a proportion of cells marked as reef in the enhanced OFOP file when compared with the length of the dive. '***This means that the reef presence estimate is based on time, so may be skewed when there have been lots of stops for sampling or beauty shots*'** [17]. If biogenic reef was present, then an estimate of percentage living and dead reef forming coral was made although the estimates are not presented in the synthesis report. It should also be recognised that **a healthy reef rarely has more than 50% living colonies** with the dead framework or parts of colonies providing the main habitat for other species [17]. For example, a 99%

dead reef at the base of a cliff is likely to be a sign of healthy living colonies attached to the cliffs above rather than an unhealthy reef.

The SeaRover surveys also enabled ground-truthing of published predictive models for coral and sponge distribution. To this end the models' predicted distribution was assessed relative to where actual observations were made during SeaRover. However the results were poor and it was concluded that '*If modelling of the type attempted by Howell is to be of any predictive value it needs to be much more fine-grained*', '*…….the modelled distribution of Lophelia is out of scale compared with the real world, where living reef is only in a relatively small patch on the top of carbonate mounds*'.

A very useful and constructive output of the analyses of the SeaRover series is the Marine Institute's online SeaRover GIS tool [18]. This tool is an incredible resource which makes accessible a selection of data from the surveys, including the actual ROV footage from each transect. So, if resources were available, an independent assessment of the transects could be conducted. What is evident from watching a subset of the transect footage is that the reef habitats are not homogenously distributed across the length of the transects. Instead, the majority of the footage shows sediment with little visible biodiversity, which is occasionally interspersed with rocky outcrops, boulders or cobbles with some organisms that could be considered to be reef habitat. Therefore, it seems highly likely that where reef habitat has been identified on a transect that it represents only a proportion of that transect and not the entire area of the transect.

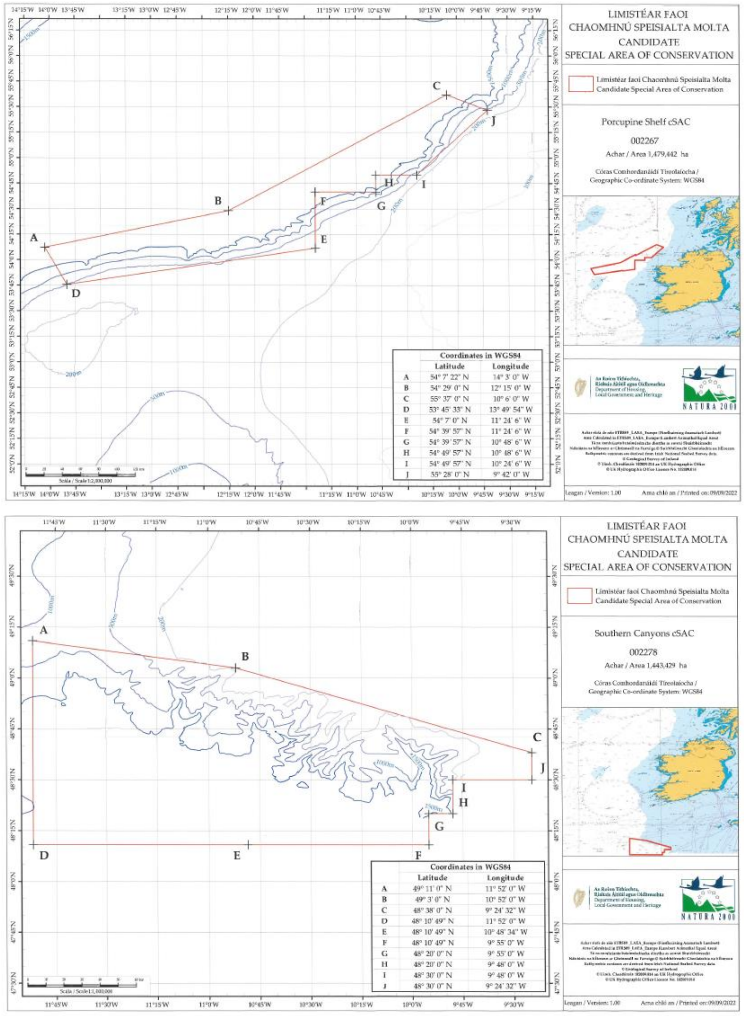

Figure 1: (Top) The proposed site of the Porcupine Shelf SAC (bottom) the proposed site of the Southern Canyons SAC (source = Notice of Intention to Designate).

The 2017 and 2019 SeaRover surveys undertook 50 and 52 ROV transects, respectively [14, 16]. The 2018 survey focussed on the southern Porcupine area and is not included in the evidence base provided in the Notice of Intention to Designate for either of the proposed SACs therefore it is not considered further here.

For the purposes of understanding the evidence on which the proposed SAC designations were based we extracted the coordinates of the dives from the 2017 and 2019 reports [14, 16] and plotted them on a map with the proposed SAC polygons. During this process a number of errors were identified in the coordinates supplied in the survey reports. In the 2017 report the coordinates for two transects (T30, T35) were incorrect as they indicated transect lengths of 17km and 209km, which did not agree with the illustrated transects in the report (Figure 2). The coordinates in the 2019 report all appear to be incorrect and this is possibly the result of an error in the conversion to decimal degrees. We have contacted the report author in the Marine Institute to make them aware of the errors.

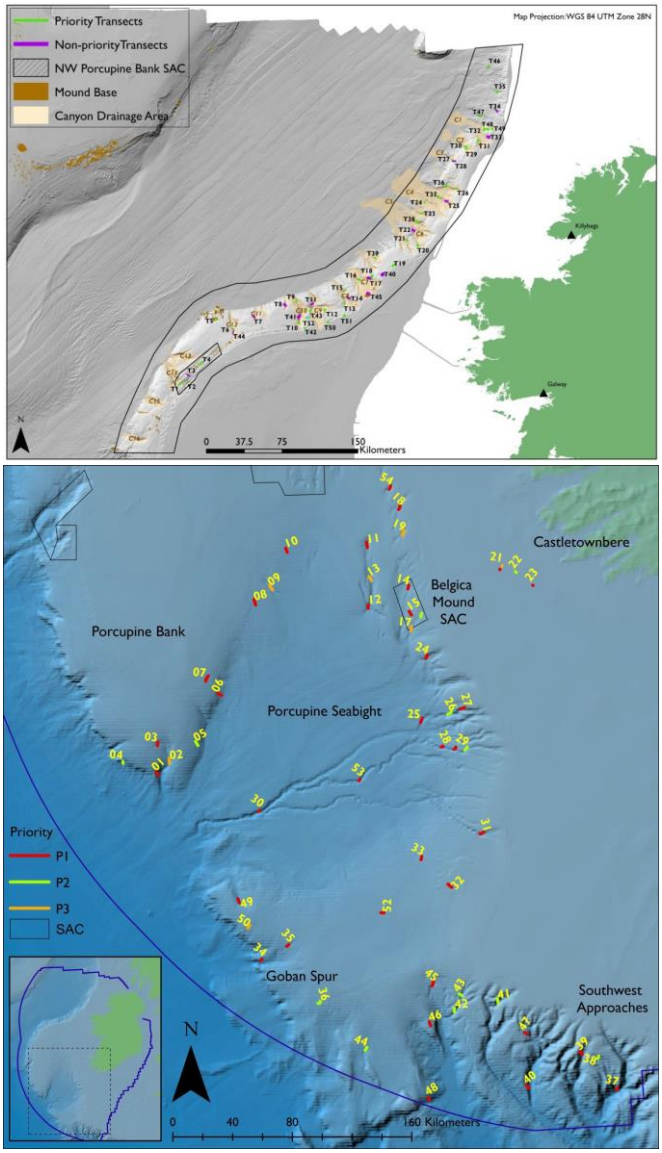

Figure 2. The location of the ROV transects on the (top) 2017 and (bottom) 2019 SeaRover surveys [14, 15].

In an effort to obtain the correct coordinates we accessed the Marine Institute's online Marine Atlas [19] and downloaded the SeaRover transect positions as a shapefile. Through this shapefile it was possible to download the metadata files for the individual surveys from the Marine Institute database

[20, 21]. As start and end coordinates for the transects were available for both surveys it was also possible to calculate the length of each transect as a point to point, start to end measurement.

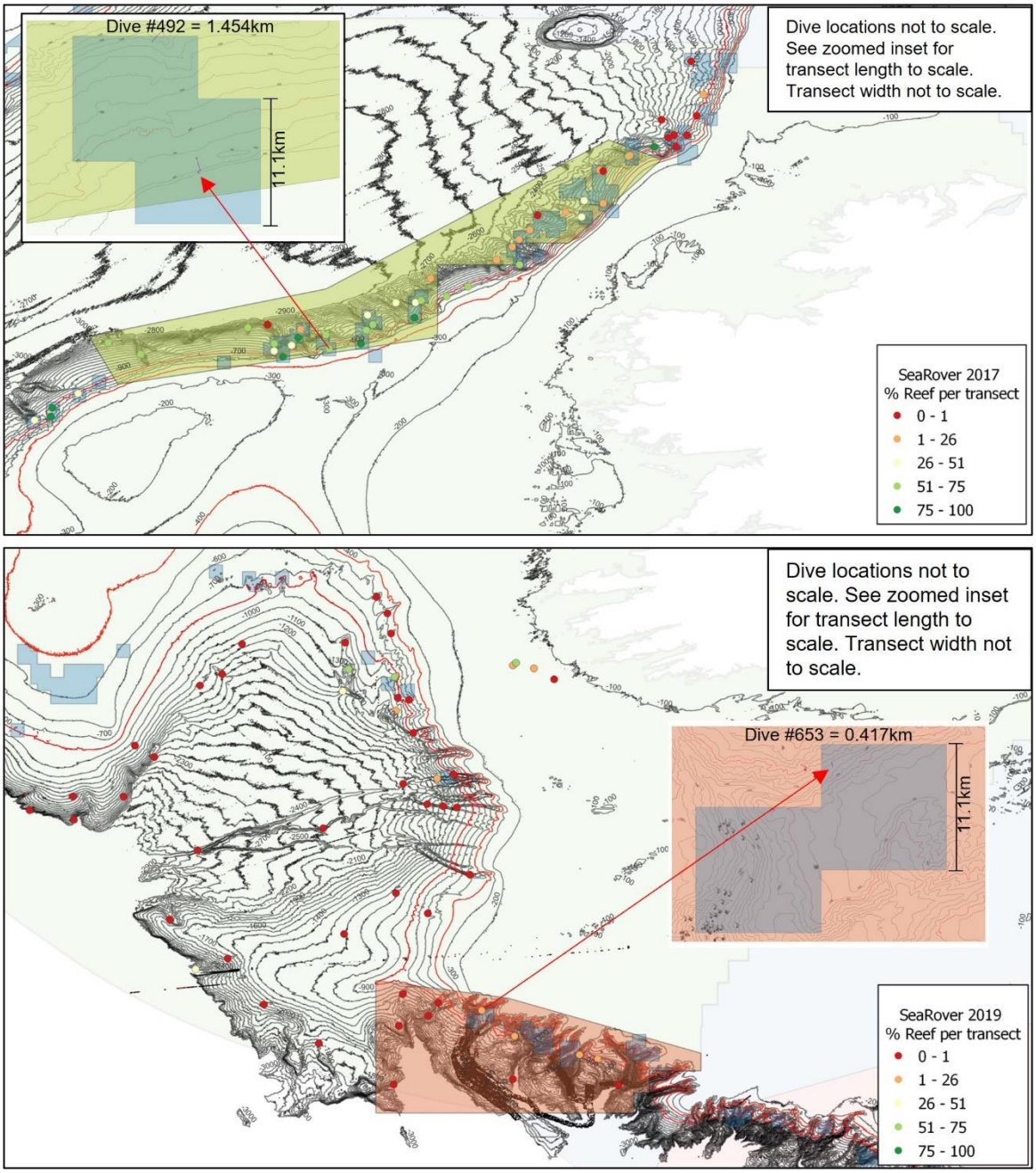

Figure 3. The location of the ROV transects on the (top) 2017 and (bottom) 2019 SeaRover survey. The proposed Porcupine Shelf and Southern Canyons SAC sites are shown in yellow and orange and the Vulnerable Marine Ecosystem closure polygons [22, 23] are shown as blue polygons. The 400m and 800m depth contours are indicated in red. Each zoomed inset shows a single transect in a VME polygon. In each case the transect length is to scale but the width is magnified to make it visible at the map scale.

We further filtered the dataset to only include transects within the proposed SAC sites. Thirty-four out of 50 dives in the 2017 survey were located within the proposed Porcupine Shelf SAC (Figure 3). The depth range of these dives is shown in Table 1. No dives were initiated at less than 500m depth though one dive (#492) ended at 471m (Figure 3). Eleven out of 52 transects in the 2019 survey were located within the proposed Southern Canyons SAC. The depth range of these dives is also shown in Table 1 and none of the dives were initiated or ended at less than 900m. **As a result, any reported evidence**

related to the occurrence of reefs within the proposed SAC areas is only applicable to depths greater than 471m in the Porcupine Shelf SAC and greater than c. 900m in the Southern Canyons SAC.

Table 1. The depth range of SeaRover ROV transects undertaken within the proposed SAC areas.

	Number of ROV Transects	
Start Depth Range (m)	Porcupine Shelf	Southern Canyons
0-400	0	0
400-500	0	0
500-600	1	0
600-700	2	0
700-800	0	0
800-900	0	0
900-1000	1	1
1000-2000	18	7
2000-3000	12	3

The start to end length of the 34 transects within the proposed Porcupine Shelf SAC ranged from 397m to 2,485m with an average point to point length of 1,435m (Table 2). The length of the 11 transects within the proposed Southern Canyons SAC ranged from 331m to 1036m with an average length of 607m (Table 2). As the percentage occurrence of reef habitat observed within each transect was provided it was possible to calculate an estimated area of reef habitat within each transect, though as previously noted this is likely an overestimate as the '***reef presence estimate is based on time, so may be skewed when there have been lots of stops for sampling or beauty shots***'. From the viewing the footage of a subset of transects observed on the Marine Institute's online SeaRover GIS tool [18] it is evident that the ROV follows the transect and does not deviate significantly from the pre-determined track, though it does stop and start depending on the habitat encountered and as noted will have spent additional time recording features of particular interest. Though the field of view is not specified in the reports it could be roughly estimated to be approximately $1m^2$, given that the ROV is 1-2m above the seabed.

On this basis the total surveyed area of the transects within the proposed Porcupine Shelf and Southern Canyons SACs could be estimated to be $48.8km^2$ and $6.7km^2$ of seabed, respectively. However once this is corrected for the occurrence of observed reef habitat then the total estimated observed reef habitat is $18.89km^2$ and $0.24km^2$, respectively (Table 2). The majority of this is geogenic reef (rocky outcrops, rocks, boulders, cobbles etc) and the minority is biogenic (concretions, encrustations, corallogenic concretions and bivalve mussel beds originating from dead or living animals) (Table 2). Given that the total area of the proposed Porcupine Shelf and Southern Canyons SACs are c.$14,718km^2$ and $14,448km^2$, respectively, then **the % observed reef habitat within these areas based on the evidence presented is 0.0013% and 0.000017%, respectively**. Even if the assumed minimum patch size of 5m x 5m as indicated in the survey synthesis report [17] was used and the transects were assumed to be 5m wide then the observed reef habitat within these areas based on the **evidence presented would be 0.006% and 0.00008% of the total area proposed as SACs**. Whilst it is prudent to apply the precautionary principal, the scale of extrapolation of the evidence base cited in the notification of intention to designate the SACs is extraordinary. To put it into context in the case of the proposed Porcupine Shelf SAC it is akin to designating the entire combined area of Counties Dublin, Wicklow, Wexford, Kildare and Louth based on the presence of habitat the size of the Phoenix Park. Whilst in the case of the proposed Southern Canyons SAC it is equivalent to designating the same area based on the presence of habitat the size of the St Stephens Green. Whilst we acknowledge that it is not possible to survey the entire deep-sea area of Ireland's EEZ and certain extrapolations may be

warranted, the current delineation of the proposed Porcupine Shelf SAC is not supported by the evidence cited.

Table 2. The transit length (m), total % reef, estimated reef area, % geogenic reef (e.g. rocky outcrops, boulders, cobbles,) and % biogenic reef (hard matter created by living organisms) within the dives conducted in the proposed Porcupine shelf and Southern Canyons SACs.

Area	Dive	Length (m)	% Reef	**Estimated reef area km²**	% Geogenic Reef	% Biogenic Reef
Porcupine Shelf SAC	453	1614	75	**1.21**	75	0
Porcupine Shelf SAC	454	1599	58	**0.93**	58	0
Porcupine Shelf SAC	455	581	0	**0.00**	0	0
Porcupine Shelf SAC	456	1422	35	**0.50**	35	0
Porcupine Shelf SAC	457	627	88	**0.55**	88	0
Porcupine Shelf SAC	458	1745	100	**1.75**	82	18
Porcupine Shelf SAC	459	1756	55	**0.97**	55	10
Porcupine Shelf SAC	460	1496	58	**0.87**	58	0
Porcupine Shelf SAC	461	1516	65	**0.99**	42	31
Porcupine Shelf SAC	462	1274	37	**0.47**	37	0
Porcupine Shelf SAC	463	1373	41	**0.56**	41	0
Porcupine Shelf SAC	464A	1445	40	**0.58**	40	0
Porcupine Shelf SAC	464B	1622	73	**1.18**	51	22
Porcupine Shelf SAC	465	1116	12	**0.13**	12	0
Porcupine Shelf SAC	466	878	20	**0.18**	20	0
Porcupine Shelf SAC	467	2446	12	**0.29**	12	0
Porcupine Shelf SAC	468	1416	7	**0.10**	7	0
Porcupine Shelf SAC	469	1957	9	**0.18**	9	0
Porcupine Shelf SAC	470	1182	0	**0.00**	0	0
Porcupine Shelf SAC	471	2485	6	**0.15**	6	0
Porcupine Shelf SAC	472	2435	35	**0.85**	16	19
Porcupine Shelf SAC	473	1711	6	**0.10**	6	0
Porcupine Shelf SAC	483A	1181	72	**0.85**	72	0
Porcupine Shelf SAC	483B	2262	12	**0.27**	12	0
Porcupine Shelf SAC	485	979	19	**0.19**	19	0
Porcupine Shelf SAC	486	904	0	**0.00**	0	0
Porcupine Shelf SAC	487	1562	40	**0.62**	21	18
Porcupine Shelf SAC	491	1180	87	**1.03**	81	5
Porcupine Shelf SAC	492	1454	63	**0.92**	63	0
Porcupine Shelf SAC	493	397	88	**0.35**	88	0
Porcupine Shelf SAC	494	1285	20	**0.26**	20	0
Porcupine Shelf SAC	495	822	60	**0.49**	60	0
Porcupine Shelf SAC	496	1060	58	**0.61**	53	5
Porcupine Shelf SAC	497	2020	38	**0.77**	21	32
Southern Canyons SAC	648	627	0	**0.00**	0	0
Southern Canyons SAC	649	331	10	**0.03**	6	4
Southern Canyons SAC	650	357	18	**0.06**	18	0
Southern Canyons SAC	651	423	0	**0.00**	0	0
Southern Canyons SAC	652	1036	10	**0.10**	2	8
Southern Canyons SAC	653	417	9	**0.04**	9	0
Southern Canyons SAC	654	1003	0	**0.00**	0	0
Southern Canyons SAC	655	733	0	**0.00**	0	0
Southern Canyons SAC	656	528	0	**0.00**	0	0
Southern Canyons SAC	657	777	0	**0.00**	0	0
Southern Canyons SAC	658	441	0	**0.00**	0	0

It is valuable to also draw comparisons with the recent analyses of Vulnerable Marine Ecosystems (VMEs) undertaken by the International Council for Exploration of the Sea (ICES) and the resulting advice issued to the European Commission [22, 23]. The ICES VME polygons cover c.2,194km^2 (15%) of the proposed c.14,718km^2 Porcupine Shelf SAC area and c.1,042km^2 (7%) of the proposed c.14,448km^2 Southern Canyons SAC area (Figure 3). Given that these are considered precautionary it is difficult to understand the significant difference is scale.

In order to develop the VME advice, ICES used the data in its VME database [24] to identify areas that contained or were likely to contain VMEs. Data contained in the VME database up to and including those submitted in 2020 was included in the advice and this included the SeaRover data. Data on the location of VME habitats and indicators, such as those in the SeaRover dataset, are submitted to ICES as point or line data. To collate this information, ICES uses a VME weighting algorithm, which is an assessment system with many criteria that follows a series of steps to come up with a VME score and a confidence score. This method produces the 'VME Index', which indicates the likelihood of an area containing a VME, based on the underlying data from the VME database [22]. ICES provides a number of scenario and option combinations for the application of the advice.

The ICES VME assessment method is considered precautionary and is performed at the level of C-Square (0.05^o x 0.05^o), which equates to 17km^2 at the most northerly part of the Irish EEZ. Therefore, a VME habitat or potential VME automatically has a box of 17km^2 drawn around it, which is then buffered by an additional half C-square border to make it c. 68km^2. This may be amalgamated with adjacent C-Squares to form even larger polygons. Whilst we do not agree with the broad and non-selective scale at which the ICES polygons are constructed nor the inclusion of polygons shallower than 400 m, which should have been excluded according to the EU Deep-Sea Regulation [25], we do recognise that it is performed through a relatively transparent process. We say 'relatively' as the ICES VME database [24] contains a large number of restricted access records (13%), including the SeaRover data, for which detailed information is not publicly accessible. Regardless, the areas of ICES VME polygons within the proposed SAC sites are significantly smaller than the total SAC areas.

Suggested approach to address the issues outlined above

Despite the illustrated lack of evidence to support the proposed designations in their current form, it should be clarified that the KFO is not opposed to such designations provided that due process is followed and that such designations are based on robust scientific evidence which is applied at the finest spatial scale possible.

Further, as SACs will form part of Ireland's 30x30 MPA network, the process should include implementation of the recommendations of the 2020 MPA Advisory Group Report on Expanding Ireland's MPA Network [12] in that '***Early and sustained stakeholder engagement should be integral to the selection and management processes for MPAs. Engagement should be inclusive and equitable and the process should be designed to ensure that it is transparent, meaningful and facilitating***.', and also the recommendation of the European Commission's 2022 Staff Working Document on Criteria and Guidance for Protected Areas Designations [8], which advised that **Member States should involve all relevant stakeholders, including sea users, local communities and NGOs in the identification, designation and management of new protected areas, in a fair and participatory way, in line with the Aarhus Convention and in accordance with national procedures**. Had these recommendations been followed then the current situation could have been avoided prior to the Notification of Intention to Designate being issued. The KFO would be happy to be involved in and make a meaningful contribution to any such process.

We recommend that the data should be re-analysed and the proposed SAC polygons re-drawn to reflect the available supporting evidence. Given that the precautionary principle should apply and that Ireland has ambitious MPA targets to reach, it would be prudent to keep the proposed areas as large as possible whilst minimising the uncertainty due to lack of evidence. In this case we would suggest re-drawing the polygons to reflect the bathymetry in the two sites and also aligning with the existing regulations on bottom contact fishing deeper than 400m [25]. So rather than using straight lines the polygon should follow the 400m or 500m contours at the shallower side and could be extended much further out onto the abyssal plain on the deeper side. This would also reduce the potential impact on existing fishing grounds. Figures 4 and 5 show the overlap of Bottom Otter Trawl fishing effort with

the proposed Porcupine Shelf SAC. The northeast corner of the site extends to the midpoint between the 200 and 300m contours, which is an important fishing ground for Irish bottom fishing vessels. There is no scientific justification for the SAC to cover this area and a simple modification of the polygon outline would account for this issue. A significant amount of international bottom fishing effort also takes place in deeper water (Figure 4) and in the proposed Southern Canyons SAC (data not shown).

It is important to also highlight pelagic fishing grounds. Pelagic fishing does not have any impact on bottom habitats however in the case of the other offshore SACs where closures have been implemented [7], pelagic vessels must adhere to additional regulations including having to give advanced notice of entering and leaving these areas and only having specific sized fishing gear on board. This creates unnecessary additional administrative obligations for the vessels, particularly given the enormous size of the proposed SACs (c.14,718km^2 and 14,448km^2), that can interrupt fishing activities. The proposed SAC areas are important pelagic fishing grounds for Irish and international vessels (Figure 5) and given the scale of these areas, such measures within them would cause more widespread issues for pelagic fisheries.

Summary

1. The current delineation of the proposed SACs does not reflect the scientific evidence provided and does not align with the designation basis, Reefs (1170).
2. The evidence indicates that this habitat type is only present in a small fraction of the defined areas, therefore the spatial scale of the proposed SACs is not supported by the scientific evidence.
3. On the basis of the scientific information presented in this submission we request that the National Parks and Wildlife Service and DHLGH adjust the boundaries of the proposed SACs. These adjustments should be made following a comprehensive stakeholder engagement process.
4. The new consultation process should ensure that it '*involves all relevant stakeholders, including sea users, local communities and NGOs in the identification, designation and management of new protected areas, in a fair and participatory way, in line with the Aarhus Convention and in accordance with national procedures'*.

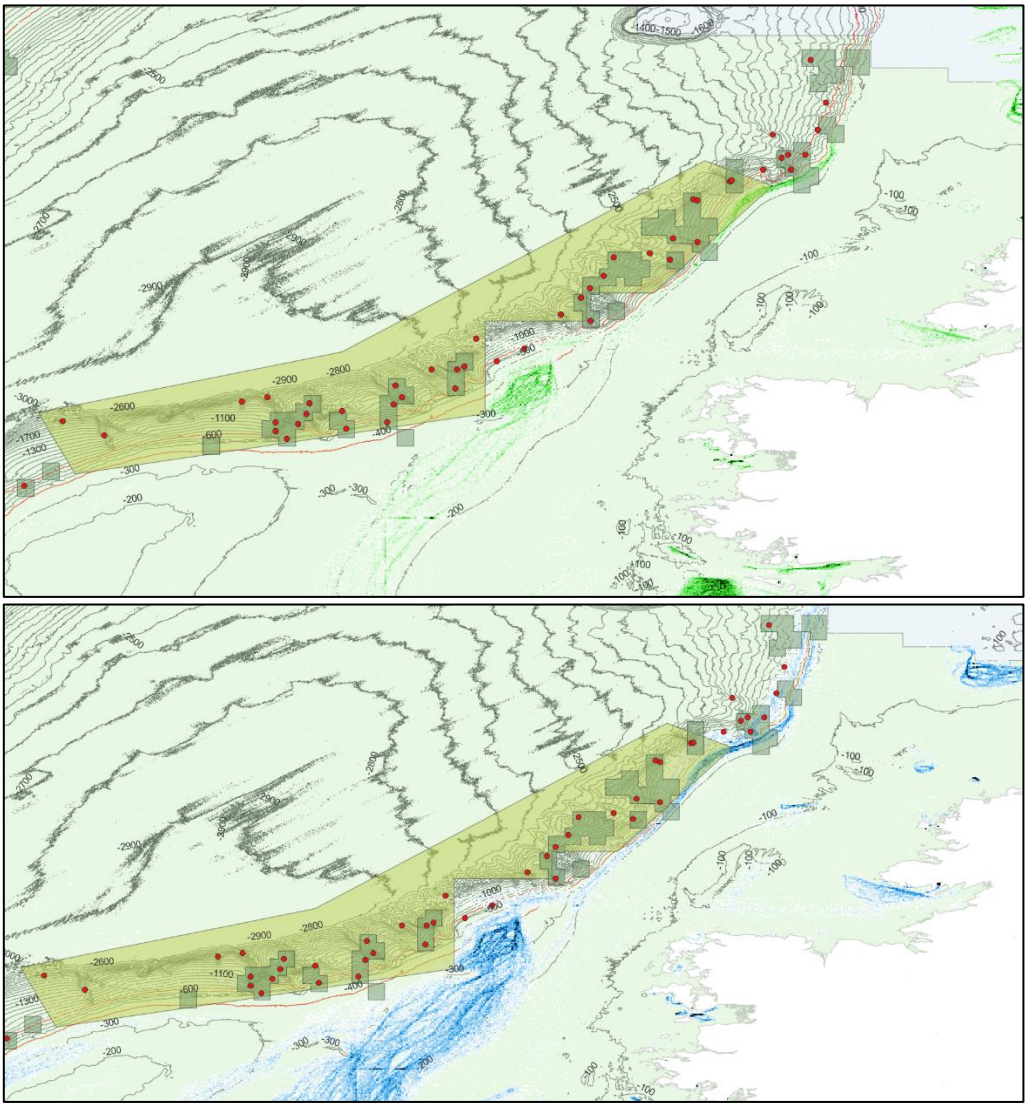

Figure 4. The location of (top) Irish and (bottom) International including Irish Bottom Otter Trawl fishing effort 2014-2018 [26] in relation to the proposed Porcupine Shelf SAC.

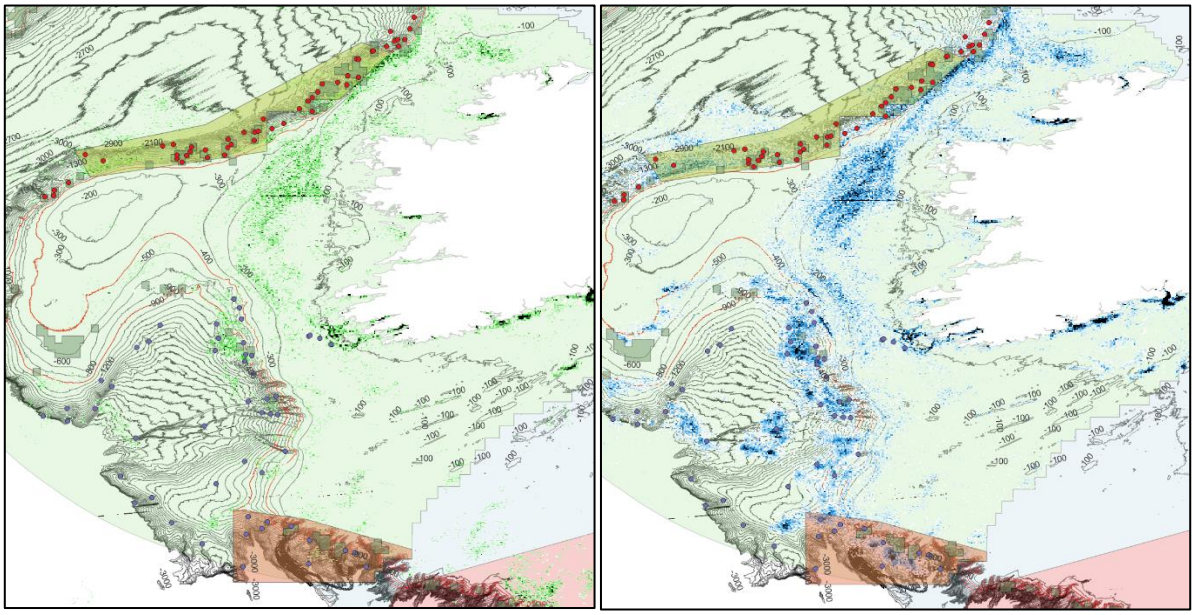

Figure 5. The location of (top) Irish and (bottom) International, including Irish, Pelagic Trawl fishing effort 2014-2018 [26] in relation to the proposed Porcupine Shelf SAC.

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