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promote sustainable
fisheries and address the
nature and climate crisis



This response to the **Future Catching Policy** consultation was prepared by the Future Fisheries Alliance, a coalition of WWF, RSPB and Marine Conservation Society. This submission is supported by:

- Client Earth
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Executive Summary

We welcome Marine Scotland consulting in parallel on the Future Catching Policy and on Remote Electronic Monitoring with cameras (REM). Having looked at the proposals, we believe that **the success of the new catching policy will depend on the successful deployment of REM with cameras**. We are concerned that there is no clarity on how new exemptions will be monitored and how catches will be accounted for.

Accurate data and a comprehensive understanding of what is being removed from the marine environment are of fundamental importance in fisheries management. We are therefore deeply concerned that for one of the highest risk fleet segments – the demersal trawl fleet – there is still no assurance that this basic necessity will be achieved.

It is **crucial that implementation and enforcement of the new catching policy is effective as this was the major downfall of the Landing Obligation**. It is vital that additional measures to avoid unwanted catches including better gear selectivity, spatial management and closures to protect aggregations of spawning adults and juveniles are implemented and monitored, rather than providing additional exemptions to solve some of the existing problems.

A lack of effective monitoring and enforcement of the current Landing Obligation has made it impossible to quantify the successes and failures of the policy, or to understand the full impact of fishing activities. Scotland's Future Catching Policy must address these issues.

Full documentation of catches is an essential part of implementing sustainable management measures and REM is a cost effective and robust solution. Full documentation will provide the accountability and confidence that the consultation document refers to, not just for fisheries managers but for the supply chain and importantly the consumer.

Marine Scotland must ensure the use of REM is an integral part of monitoring the Future Catching Policy and the data collected is used to drive climate and nature smart fisheries in Scotland.

We believe a **comprehensive and transparent review should be undertaken of Scotland's fishing capacity** in relation to fishing opportunities. As required under the sustainability objective of the Fisheries Act fleet capacity must be such that it is economically viable but does not overexploit marine stocks. This is a vital consideration - if the fleet is not capable of operating within environmental limits it will fundamentally undermine the ability to deliver sustainable management.

targeted.

More specifically if Scottish Ministers are to deliver on their obligations under the sustainability objective, the ecosystem objective and the bycatch objective of the Fisheries Act (2020) the FCP must address impacts on wider marine wildlife as well as issues with unwanted catches of fish and accidental bycatch.

Wildlife bycatch is a solvable problem. As demonstrated in fisheries elsewhere in the globe, effective action can be taken to minimise accidental catches of seabirds, which has resulted in albatross deaths in the South African hake trawl fishery and seabird deaths in Namibian demersal longline fishery being dramatically reduced by 99%² and 98%³ respectively. In light of the significant concerns over wildlife bycatch in Scottish waters, particularly fulmar in longlines, whales in creel lines and both seabirds and cetaceans in gillnet fisheries, action must urgently be taken by Scottish Government.

Bycatch minimisation must be underpinned by effective monitoring to understand bycatch rates and risks and mitigation use. REM is a highly effective tool for both determining levels of non-target species bycatch and ensuring vessels are compliant with mandated mitigation measures. Given the need to scale up both of these in the UK to address sensitive species bycatch including seabirds, sharks and cetacean bycatch issues, REM provides a cost effective and practical solution to the perennial issue of 'a lack of data' within existing fisheries bycatch monitoring.

It is therefore essential that the benefits of REM systems are maximised beyond an enforcement tool. The opportunity should be taken to fully utilise REM in scientific monitoring and data collection for fisheries and the marine environment, particularly for the incidental capture of non-target species. If the management or policy objective is to monitor sensitive species bycatch, then REM systems must be optimised to collect this data i.e. ensuring camera positioning is effective at capturing hauling activity to record all bycatch, including any animals that drop out of nets/off hooks before processing and to capture footage or environmental data to assess mitigation use while fishing.

3. Do the broad fleet segment categories identified within this section appear correct?

Yes / No

These appear to represent a sensible split of the fleet for purposes of management on the understanding that some applications may still be appropriate to apply across a number of the fleet segments.

4. Are there any specific geographical differences of the sea which you think we should take account of within the FCP?

Yes / No

There are certain sea areas where some stocks are identified as in a critical state - the west of Scotland for example and where more targeted measures and innovative management may be needed in order to support restoring stocks. Protection of critical fish and shellfish habitats throughout Scotland's marine areas is crucial, and therefore we think that the future catching policy, and access to quota, should be linked to spatial management. The inshore area is particularly important for providing critical fish and shellfish habitats, many of which are Priority Marine Features (PMFs), and this should be recognised as a geographical area in which only lower impact activities are allowed. Furthermore, there are some sea

² [Significant reductions in mortality of threatened seabirds in a South African trawl fishery](#)

³ [Reduction in seabird mortality in Namibian fisheries following the introduction of bycatch regulation - ScienceDirect](#)

areas which we know are important for certain protected or vulnerable species like cetaceans or seabirds which should be factored into management decisions given the commitment to make fisheries management help contribute to the achievement of GES. For example, the large MPA designated for cetaceans and other wildlife to the west of Scotland and 14 marine SPAs for marine birds. Certain gear types and areas known to be associated with entanglement and bycatch should be prioritised for mitigation and monitoring.

5. Do you think that the proposed actions for each fleet segment sound appropriate?

Yes / **No**

Pelagic fleet segment - We very much support the approach being taken with the pelagic fleet both with regard to keeping discard policies in line with the current Landing Obligation and in the ambition to the use of REM across the fleet to monitor and enforce this. While one of the main concerns around the pelagic fleet is the risk of slippage some of the fisheries can still pose a risk of unwanted catches, which can include dolphins, porpoises, seabirds and sharks.⁴ The use of REM with cameras will be essential to monitor for slippage but also for these unwanted catches and ensure they are fully recorded. This can be achieved through the correct positioning of cameras on the vessels. If required, this information can be used to implement steps to reduce these impacts and avoid times or locations where vulnerable animals are most likely to be encountered.⁵

Offshore whitefish fleet segment - We welcome and support the recognition that there is scope to reduce unwanted catches in this fleet segment as it has been highlighted by the European Enforcement Agency as one of the highest risk segments for non-compliance with the landing obligation which makes it a priority for management action. We agree that additional measures including gear selectivity and spatial management will be vital to avoid the capture of undersized fish and to protect spawning fish. However, the use of additional measures should also be extended to avoiding large aggregations of all vulnerable species (for example cod) and not be limited to only spawning fish.⁶ The use of effectively monitored real time closures and move-on rules should also be implemented and must be triggered through the use of REM with cameras.

We believe there is also merit in monitoring the potential impact these vessels could have on seabirds and other marine wildlife as bycatch through the use of effectively placed cameras during the fishing process. There is anecdotal evidence of gannets interacting with trawl nets during hauling, which would require specific monitoring to determine whether there is a bycatch problem. In other areas of the world, collisions with trawl warp cables are a risk for seabirds – which again requires specific monitoring. There is also evidence of dolphins ‘fishing’ in and around trawl nets and once exhausted, falling back into the net. While this is likely a rare event in Scottish fisheries it is not clear whether the aforementioned risks are issues of concern in Scottish waters, due to low levels of monitoring (less than 5% of total annual midwater trawl effort across UK-registered vessels is monitored by the Bycatch Monitoring Programme).⁷

We note the current proposal states “all large marketable fish (i.e. above MCRS) should continue to be landed (unless they have a high chance of survival)”. This requires further clarification given there is

⁴ [WWF-Whats-in-the-net-REM.pdf](#)

⁵ [mcsuk - seafood-buying-guides/fishing-methods-explained](#)

⁶ [gov.scot/publications/north-sea-cod-plan](#)

⁷ [Defra, UK - Science Search](#)

currently no agreed definition of 'high survivability' and therefore is left open to interpretation.

We do not agree with the proposal to adjust current *de minimis* rules to allow for the discarding of undersized fish for the following reasons:

- In doing so the incentive to maximise selectivity is removed. These fish have often yet to reproduce and allowing them to do so is essential if we are to start to rebuild stocks. It is vital Marine Scotland do not lose sight of the importance of protecting juveniles, especially within the Whitefish fleet segment which targets a number of already vulnerable species including cod and saithe.⁸
- There is no clarity on how either the anticipated improved selectivity and spatial management will be accounted for or indeed how the discarded element of the catch will be fully documented and accounted for.
- The current Landing Obligation "applies to all sizes of fish" which highlights the importance of "minimising catches of undersized fish which will use up quota."⁹

Ambitions to ensure all catches are recorded are welcome and have our complete support, however full documentation of these catches will only be achieved through the use of REM with cameras and the current consultation does not include this proposal. It is therefore difficult to see how full accountability will be achieved. Without this there is a high risk of continued overfishing and potentially illegal activity.

It is vital all TAC deductions induced by exemptions are closely monitored to ensure those discards are accurately predicted and sufficiently accounted for by the deductions. Exemptions represent potential loopholes if not appropriately accounted for and monitored. Properly accounting for all exemptions requires sufficiently large deductions that ensure continuing discards are taken off the TAC. Where there is uncertainty about the actual discard levels (and a lack of robust monitoring/control), there is a serious concern whether any potential deduction level is indeed enough to cover continued discards. Therefore, if Marine Scotland intend to go down this route, in order to be precautionary deductions, they need to fully account for the amount of fish being caught. This would ensure TACs are based on what is being caught rather than landed.

In cases where this cannot be assessed we advise no quota top-up is made until reliable information on the actual discard levels is available. We also advise that access to quota top-ups should be conditional on demonstrated compliance, for example through REM with cameras, in order to ensure that illegal discards don't bring overall fishing levels above scientific advice for sustainable catches. Continued monitoring of the amount of discarded fish is essential and Marine Scotland should ensure transparency throughout this process. We may be supportive of the approach outlined in the consultation on the condition that REM with cameras is applied to all fleet segments benefiting from additional exemptions to ensure all catch is being effectively accounted for and overshoots of quota are avoided.

As the consultation itself states: "*However, we recognise the continuing challenges with effective implementation, and thus enforcement, that need to be addressed and that is one of the primary drivers behind the FCP*". We do not believe enough is being proposed to deliver this effective implementation and enforcement and therefore the confidence that things will change markedly in the fishery.

Offshore mixed fleet segment - please see above: our support and concerns are the same as stated above for the offshore whitefish fleet segment. We also believe that where relevant ICES mixed fishery

⁸ [mcsuk - goodfishguide/species/coley](https://mcsuk-goodfishguide/species/coley)

⁹ [gov.uk - technical-conservation-and-landing-obligation-rules-and-regulations-2021/landing-obligation-general-requirements/fishery-specific-exemptions](https://gov.uk-technical-conservation-and-landing-obligation-rules-and-regulations-2021/landing-obligation-general-requirements/fishery-specific-exemptions)

advice should be used to inform catch limits. In some cases, this may result in lower catch limits than the ICES single species catch advice to ensure all stocks in mixed fisheries are restored and maintained above biomass levels capable of producing MSY.

Small inshore mobile fleet segment - It is encouraging to see acknowledgement of where progress is being made within this sector to reduce unwanted catch through improved selectivity and it would be good to understand what these improvements have entailed and at what scale across the small inshore fleet, including what is considered 'small' in this context. We welcome recognition that spatial measures could also play an important role in avoiding unwanted catch but clear proposals need to be forthcoming in order to make the desired change at sea. We would also refer you to our answer below on the scallop fleet with respect to the transformation of management of all inshore fisheries needed in Scotland. We believe the sum total of existing policy commitments should deliver an inshore "low impact" zone around Scotland, in keeping with previous consultation responses by signatory organisations.

To build on recent progress it is important effective selectivity measures become mandatory across the fleet and financial assistance is provided to help the fleet transition to using the most selective gears. This would both help mitigate risks of choke and further avoid unwanted catches across the fleet.

Regarding spatial measures, the proposal only highlights the benefits relating to protecting spawning fish; we believe it should also recognise the use of spatial measures to protect other unwanted catch including large aggregations of stocks with scientific advice for no or low catches, and sensitive species.

With regard to the proposal for implementing an exemption to allow discarding of fish below MCRS, we share the same concerns as mentioned above for both the offshore whitefish and offshore mixed fleet segments. In particular we think it is important to have a clear understanding of the true extent of whitefish catches in this fleet segment. If this information exists it would be useful to share and if not then we believe the application of small vessel REM with cameras across the fleet would be a welcome move in order to fully understand the impact it represents.

As stated previously, our concerns regarding TAC deductions remain relevant to this fleet segment. Marine Scotland have stated that the "cumulative effect on fish stocks and therefore overall sustainability can be significant..." despite the low level of whitefish catch per individual vessel speculated. Without being able to accurately generate estimated levels of whitefish bycatch the failure to apply sufficiently large deductions which reflect the actual discard level runs the risk of allowing levels of fishing that do not correspond with scientifically recommended levels or the TAC set. Given the environmental risks presented by the bycatch of whitefish in this fleet segment this is not something that should be taken lightly and, as stated in this consultation "needs to be taken account of under the FCP development process".

Scallop fleet segment – We very much support the work that has taken place to introduce REM with cameras as a mandatory measure across the Scallop fleet and commend this first step being taken towards achieving full documentation of catches within this fleet segment. We would however like to draw attention to our response to the REM consultation where we recommend at least four cameras per boat which would allow monitoring of both the number of dredges towed per side and the level of bycatch, such as crabs, skates and rays, when the catch is being sorted. Nonetheless, we firmly support the ambition of roll-out of REM with cameras across the scallop fleet and hope this is an ambition that will be replicated across other fleet segments as it would provide equal benefits.

This fishery is among the most damaging when carried out in inappropriate locations such as stable, complex and biodiverse habitats, blue carbon habitats, critical fish and shellfish habitats and more (many of the remnant examples of which not already simplified by mobile bottom-towed gear activity can be found inshore). It is therefore essential that data is gathered from all scallop dredge vessels, regardless of species targeted, size, Scottish or non-Scottish, to give confidence to fishers, fishery managers (Marine

Scotland) and all stakeholders of the location and regulatory compliance of all vessels. Such an approach is essential to ensure that rogue operators are identified and prosecuted where a vessel has been proven to breach any licensing conditions, fishing orders or marine conservation orders.

We recognise that this consultation is taking place in parallel with the REM consultation, and we strongly believe that REM with cameras is essential to ensure compliance of the scallop fleet with existing, and possible future, regulations. For clarity, signatories to this response have long advocated for transformation of scallop fishery management, and indeed all fishery management, in the midst of an intertwined climate emergency and nature crisis, including measures to vastly improve spatial management of this environmentally high-risk fishery, and all fisheries. We emphasise this because the long-term sustainability of a fishery is a combination of: 1) ecosystem-based, precautionary fisheries management measures – for which we believe we have a long way to go in Scotland to develop and implement; 2) the means to monitor whether those measures are being adhered to – for which REM with cameras across the fleet is essential; and 3) effective fishery compliance measures – which again we believe Scotland currently falls short in. The gap between [rhetoric and reality](#) is currently a large one and we look forward to the Scottish Government delivering against its commitments, and urgently.¹⁰

We strongly support REM with cameras across the scallop dredge fleet, but this alone does not deliver environmental sustainability, and a transformation in spatial management and compliance capacity is also needed. We are responding to the REM consultation, in which we also make these points, and look forward to engaging in future consultations on an inshore cap in fishing effort, fisheries management measures in the remaining Marine Protected Areas, protection of Priority Marine Features beyond the MPA network and on the commitment to establish new Highly Protected Marine Areas in at least 10% of Scotland's seas. The sum total of inshore aspects of all these measures must help deliver an inshore low impact zone, comprising no-take zones, static only zones, MPAs, HPMA's and where much lower impact scallop dredging is only allowed and derogations applied in those areas, for example deeper and more mobile habitats, if carrying out the activity there can be proven to be sustainable, in line with long-standing recommendations to all UK administrations on managing the scallop industry.¹¹ The [principles for management of inshore scallop fisheries around the United Kingdom](#) suggest that "a reasonable fisheries management regime... would seem to be:

- Up to 3 miles: Limit dredging (and trawling) as much as possible, to create a zone with low impact users only. The zonation scheme should include some completely protected areas alongside areas for scallop divers and static gear fisheries.
- 3-6 miles inshore: Medium impact zone to include ownership system (spatial or catch based) for scallop dredgers, trawl fisheries, crab potters, other static gear types and completely protected areas..."

Signatories to this consultation response have supported these principles in more detail in response to the Future Fisheries Management discussion document (see [SELINK FFM response](#)) and in contributing to developing the Scottish Environment LINK Ocean Recovery Plan.^{12 13}

Pots and creel fleet segment - Pots and creel are known to have lower levels of unwanted and damaged catch than other fleet segments. We therefore agree with the decision to maintain the approach being

¹⁰ [Rhetoric to Reality Report](#)

¹¹ [Principles for management of inshore scallop fisheries around the United Kingdom \(whiterose.ac.uk\)](#)

¹² [Microsoft Word - SE LINK FFM Response_FINAL_12_07 \(scotlink.org\)](#)

¹³ [OceanRecoveryPlan_spreads-2.pdf \(scotlink.org\)](#)

taken by the current landing obligation. We are also supportive of the acknowledgement that additional measures are needed to reduce instances of entanglement and accidental bycatch of other marine species. In particular any moves to apply ropeless and weighted rope technology for purposes of reducing whale entanglements should be considered alongside limits on creels that continue to use ropes.¹⁴

Gillnets and longlines – we very much welcome the inclusion of sensitive species bycatch and entanglement in the FCP. However, we question the use of the statement ‘may be required’ in relation to measures needed. The ecosystem objective of the Fisheries Act requires that sensitive species bycatch is minimised and where possible eliminated. It is known that longlines and gillnets pose some of the greatest bycatch risks to sensitive species and as such the Scottish Government should take this opportunity to champion the implementation of effective monitoring and mitigation in an effort to meet this objective as solutions exist.

Seabird bycatch risk in longlines in Scottish waters is well established. The estimated annual mortality of seabirds (largely northern fulmar)¹⁵ and population impacts in Scotland¹⁶ give an initial indication of the potential scale of impact. Rouxel et al. (2022) also shows the technical bycatch risks associated with the Spanish longline system used in Scottish waters, which warrants urgent action from Scottish Government. Solutions in longline fisheries exist as demonstrated in the Agreement on the Conservation of Albatrosses and Petrels (ACAP) and Da Rocha et al. (2021). Action from the Scottish Government to tackle bycatch in this priority fleet segment should be ambitious and build upon the published literature to ensure best practice mitigation is identified and implemented and the fleet is effectively monitored to minimise and where possible eliminate seabird bycatch in longlines.¹⁷

6. Given the restrictions relating to available marine space and the need to manage displacement issues, do you think a restriction on gear soak time (the length of time static gear can be left in the water to fish) should be set? Yes / No

We believe a restriction on gear soak time should be set and that all gear should be electronically tagged in order to help monitor fishing activity and accountability. While this is aimed to manage displacement issues, and avoid potential gear conflicts, restricting soak time can also be used to minimise wildlife-fishery interactions, increasing the ability for vulnerable bycatch species to be released alive and also has benefits for the quality and freshness of the catch. When looking at the application of static gear such as gillnets consideration should be given to maximising the way in which setting gear can be deployed in order to meet the objective to minimise, and where possible eliminate, wildlife bycatch – see question 16 for detail.

Fleet Segments: Pots and Creels

7. Do you think there should be restrictions on the number of creels that can be deployed by a

¹⁴ https://media.fisheries.noaa.gov/dam-migration/best_practices_guide_potfisheries_wa_508.pdf

¹⁵ [Defra, UK - Science Search](#)

¹⁶ [Defra, UK - Science Search](#)

¹⁷ [Reduction in seabird mortality in Namibian fisheries following the introduction of bycatch regulation - ScienceDirect](#)

fishing vessel?

Yes / No

The implementation of creel limits is an important part of a suite of management measures used to sustainably manage crab and lobster fisheries in the UK. The best example of this can be seen in the management of brown crabs in Shetland which implemented creel limitations in 2017.¹⁸ Creel number limitations should be supplemented with Harvest Control Strategies tailored to meet the needs of the fishery, appropriate Minimum Conservation Reference Sizes (MCRS) and a review of licenced vessels operating within the fishery to ensure fishing opportunities match the number of vessels operating within the fishery. This is a position that signatory organisations have long-advocated.¹⁹

8. Do you think creel limits should be set according to geographical area, for example according to regional Inshore Fisheries Group (rIFG) area?

As outlined in SELINK's response to the Future Fisheries Management Discussion Paper, we believe there is a case for reformulated IFGs to include broader stakeholder representation. We support proposals for strengthening IFGs, including extending to 12nm which would improve integration with regional marine planning, provided they are adequately resourced and there is improved representation for all stakeholders. The English IFCAs are a valuable model, fulfilling many aims of the co-management agenda, with one study highlighting that 12 stakeholder groups were members of IFCA Committees or Boards compared to only two (mobile and static commercial fishing) for Scotland's IFGs.²⁰ A new local inshore fisheries management arrangement could at least be partly funded through cost recovery programmes or mechanisms.

10. Do you think a restriction on string length should be set for the Pots and Creels Segment?

The type of gear used, rather than the length would be a more effective way to reduce entanglements. Use of sinking groundline, is likely to have the greatest impact in reducing the number of entanglements in Scottish waters.

11. Are there any other additional management measures, such as escape panels soak time restrictions or measures to reduce entanglement of marine species, that we should be considering as part of a package of measures to improve management of the creel sector?

The FFA believe effective management will make use of a number of different management measures including escape panels, restrictions of soak times, and any other selectivity measures that would reduce interactions with other marine species and unwanted catches. Increased soak times do not improve the efficiency of catches and have been known to reduce the quality of catches.²¹ Creel number limitations should be supplemented with Harvest Control Strategies tailored to meet the needs of the fishery, appropriate Minimum Conservation Reference Sizes (MCRS) and a review of licences vessels operating

¹⁸ [mcsuk - goodfishguide/ratings/wild-capture/brown-crab](https://mcsuk-goodfishguide/ratings/wild-capture/brown-crab)

¹⁹ [LINKrespNephropsControls.pdf \(scotlink.org\)](#)

²⁰ [Towards deliberative and pragmatic co-management: a comparison between inshore fisheries authorities in England and Scotland \(bris.ac.uk\)](#)

²¹ [Influence of soak time on catch performance of commercial creels targeting Norway lobster \(Nephrops norvegicus\) in the Mediterranean Sea](#)

within the fishery to ensure fishing opportunities match the number of vessels operating within the fishery.

When new Fisheries Management plans are being developed these should consider all selectivity measures – particularly taking account of any that have been trialled for a specific fishery and use these to guide future use. For example, discounting those which were considered unsuccessful and therefore not worth trialling again or revisiting those which were found to be useful but were not adopted.

Fleet Segments: Gillnets and Longlines

12. Do you agree that we need to develop measures with regards to gillnets and longlines in order to ease the pressure on shared marine space and avoid conflict?

The FFA have no set views on this, we do believe however, that the FCP should take a holistic approach to minimising and monitoring all catch from fishing, including sensitive species bycatch which is a high risk in longlines, gillnets and creels in Scottish waters.

We believe a fundamental review should be undertaken of Scotland's fishing capacity and a full assessment of whether it is compatible with operating within environmental limits and whether or not the fleet is in balance to the fishing opportunities available to it as reflected in the sustainability objective of the Fisheries Act. Given the downward trend of many key stocks and a fundamental complaint levelled at the implementation of the landing obligation being that there is not enough quota to go around, it may be that there is too much fishing capacity in the water to meet current fishing opportunities. A thorough stock take is required and action to ensure a sustainable balance between capacity and fishing opportunities is essential. Access to quota is another area that would benefit from fresh eyes and a review in light of current pressures. In order to achieve maximum environmental and socio-economic benefit, access to fishing opportunities should be determined on the basis of transparent social, economic and environmental criteria in a way that incentivises the most sustainable fishing practices. Serious consideration should be given to the approach taken to fishing licenses by the Faroe Islands where they notified the fleet in 2008 that licenses would be terminated from January 1, 2018 and re-allocated on the basis of new criteria thereafter. Thus began a decadelong wide-ranging reform process.²²

13. Do you think we should set minimum separation distances between sets of nets or longlines in order to create corridors for mobile vessels to move through?

The FFA have no set views on this however, as noted above, we believe that all gear should be electronically tagged in order to help monitor fishing activity and deliver accountability, which could also help manage gear conflict.

14. Should we adjust the depth at which gillnets can be set (minimum and maximum) in order

²² [Microsoft Word - SE LINK FFM Response FINAL 12 07 \(scotlink.org\)](#)

to further utilise the marine space and avoid gear conflict?

Yes / No (choose one)

If so, to what?

As outlined below, The FFA believes there is merit in considering gillnet depth from the perspective of sensitive species bycatch risk, which may also help manage gear conflict.

Studies have identified gillnet depth as a potential mitigation option for reducing wildlife bycatch. Therefore, it should be given consideration in Scottish waters as part of a broader suite of measures to minimise gillnet bycatch risk (including technical measures, alternative gears, spatiotemporal fishing restrictions and innovative technologies).

In some fisheries the dropping of the net headline has been found to reduce wildlife bycatch.²³ Studies on gillnet fisheries in the Southern Baltic Sea and Norway have shown that the likelihood of seabird bycatch is higher in shallower waters, with most seabird bycatch occurring in depths of <20m.²⁴ Depth restrictions on gillnets in California and Canada have also had positive results for respectively reducing guillemot bycatch and increasing populations where reductions in inshore effort have been applied. An optimal net depth for Scottish waters would need to be explored through trials and research with relevant fisheries.

Northridge et al. (2016) reviewed casual and correlative factors associated with protected species bycatch in gillnet fisheries and found that factors such as water depth, mesh size and net height were associated with trends in bycatch rate for all three taxa considered (birds, mammals and turtles), suggesting that these measures could be priorities for further investigation. However, Northridge et al. outlined the need to identify optimal net height.²⁵

Considering the priority fisheries and areas identified for seabird bycatch minimisation in UK waters (offshore demersal longlines in Scottish waters and static nets in England.), Anderson et al. (2021) reviewed and identified potential mitigation options for these gears. No 'off the shelf' methods could be recommended for set nets. However, a range of potential mitigation options that could be trialed and refined for use in UK waters were identified, including depth restrictions. In the UK context, evidence needs were highlighted including assessing the effectiveness of depth restrictions for bycaught species and potential knock-on effects for target and other non-target species.²⁶

As highlighted in a recent study by Conservation Scientists at the RSPB, behavioural information can also be used to help understand bycatch risk and inform the design of bycatch mitigation measures including depth restrictions. A gill net risk mapping paper by Cleasby et al. (2022) includes an analysis of time-depth recorder data from UK-breeding guillemots, razorbills and shags. Seabird dive data was analysed to explore the relationship between dive behaviour, available depth and time of day, which could be used to inform the design of bycatch mitigation measures e.g. avoiding setting and leaving nets in the water at depths and times of day where seabird dive activity is high. Insight gained from Cleasby et al. (2022) suggest that 'it may be possible to reduce bycatch risk if the shallowest waters are avoided by netters... however, more fine-scale information is required on the areas, times and depths at which gillnets are set in conjunction with the detailed diving data presented here to formulate mitigation strategies fully

²³ [Setting the net lower: A potential low-cost mitigation method to reduce cetacean bycatch in drift gillnet fisheries - Kiszka - 2021 - Aquatic Conservation: Marine and Freshwater Ecosystems - Wiley Online Library](#)

²⁴ [Assessing bycatch risk from gillnet fisheries for three species of diving seabird in the UK](#)

²⁵ <https://conbio.onlinelibrary.wiley.com/doi/10.1111/cobi.12741>

²⁶ [Defra, UK - Science Search](#)

optimised to local conditions'.²⁷

15a. Do you see any need to restrict the numbers of gillnet and longline vessels operating in Scottish waters at any one time?

Restricting the number of vessels alone would not necessarily correlate to a reduction in fishing effort as vessels may set many sets of hooks or nets. As such the focus should be on overall fishing effort in the water and the use of effective mitigation measures.

15b. On the same basis should similar restrictions apply to vessels using mobile gear?

Yes / No (choose one)

As noted in answer to question 12 we believe that a fundamental review should be undertaken of Scotland's fishing capacity and a full assessment of whether it is compatible with operating within environmental limits and whether or not the fleet is in balance to the fishing opportunities available to it, as reflected in the sustainability objective of the Fisheries Act.

This point keenly applies in relation to the environmental footprint of the mobile sector, particularly on the benthic environment. Use of mobile fishing gear is recognised as the most widespread pressure on Scotland's seas,²⁸ and that the condition of the seafloor²⁹ and of biogenic habitats³⁰ in particular (which continue to decline) is also recognised as an area of much concern. Therefore, the carrying capacity of Scotland's seabed for the use of mobile bottom-towed fishing gear must be considered, particularly in the context of achieving Good Environmental Status for biodiversity and seafloor integrity.

Spatial management of mobile fishing gear, including recognition of the level of mobile fishing effort that Scotland's seabed can sustain, is essential if our seas are to meet Good Environmental Status. More detail on the spatial and technical considerations needed was provided in section 4.7 of the LINK response to the Future Fisheries Management discussion document: [Microsoft Word - SE LINK FFM Response FINAL 12_07 \(scotlink.org\)](#). Given the many concerns about seabed health and the declining condition of biogenic habitats in particular, we believe it will be impossible to meet GES, including for seafloor integrity, biodiversity and sea fisheries, and to underpin sustainable fishing into the future, without transformation of fisheries management, particularly of the bottom towed mobile gear sector. It is therefore essential that future catching policy for the mobile sector is linked to spatial management, which itself must consider the carrying capacity of Scotland's benthic environment in the context both of all fisheries management and in the context of cumulative impacts with other sectors. Spatial management must identify areas where it is suitable to deploy mobile fishing gear (and at what effort), areas that should be permanently protected from mobile gear, areas suitable for static gear (itself effort-capped), complete No-Take Zones and areas for nature conservation. For example, we would reiterate that there should be a presumption against the use of mobile fishing gear in a significant part of the

²⁷ [Inter Research » MEPS » v684 » p157-179 \(int-res.com\)](#)

²⁸ https://marine.gov.scot/sma/sites/default/files/hns_02_headlines_next_steps.pdf

²⁹ https://marine.gov.scot/sma/sites/default/files/hns_07_healthy_biologically_diverse.pdf

³⁰ [Biogenic habitats | Scotland's Marine Assessment 2020](#)

inshore area, but a spatial approach should be considered across Scotland's entire marine area.

15c. In consideration of questions Q15a and Q15b should these measures apply generically or in a specific geographical area?

High risk areas and fisheries for sensitive species bycatch have been identified in Scottish waters (see Northridge et al. (2020), Anderson et al. (2021), Evans et al. (2021), and Rouxel et al. (2022) for detailed analyses).^{31 32 33} Such high-risk fleets and areas must be prioritised for targeted mitigation and monitoring, however, where best practice measures are identified for bycatch minimisation, these should be applied as standard practice across Scottish waters, and by Scottish vessels fishing elsewhere. More broadly, within the toolbox of mitigation measures for bycatch minimisation, spatial and temporal restrictions should also be considered.

16. Are there additional measures that we should be considering, for example to help prevent entanglements in the gillnet and longline fishery?

Yes / No (choose one)

If yes, please specify:

Non-Governmental Organisations have been calling on governments to:

1. Publish an action plan which includes **ambitious, timebound targets** to minimise and where possible eliminate sensitive species bycatch, alongside the resources to make this happen
2. Change fishing practices to **ensure high-risk fleets use best practice mitigation measures and support for industry to trial new measures and gears** to prevent bycatch
3. Ensure there is **effective monitoring of fishing activity at sea through Remote Electronic Monitoring (REM) with cameras** and human observers

Holistically addressing sensitive species bycatch risk within the FCP by embedding the actions above offers an opportunity for the Scottish Government to show leadership by designing joined up policies that simultaneously deliver on obligations for both GES and fisheries targets, while offering an opportunity for collaboration and co-development with industry to identify effective mitigation measures in high-risk fleets. Through research commissioned as part of the Seabird Bycatch Plan of Action Bycatch (now Bycatch Mitigation Initiative) longlines in Scottish waters have been identified as the priority gears for bycatch minimisation and monitoring for seabirds in UK waters. Gillnets and creels are also known to have a high risk of non-target catch.

At least 10 seabird species have been recorded as bycatch in UK waters by UK registered vessels, nine of which are red or amber-listed Birds of Conservation Concern.³⁴ The highest diversity of seabird species caught is associated with static nets, with at least eight species recorded, compared to five in longlines and three in trawls. Each year somewhere between 2,200-9,100 fulmars are caught and killed by UK-

³¹ https://ec.europa.eu/environment/nature/natura2000/marine/docs/RISK_MAPPING_REPORT.pdf

³² [Defra, UK - Science Search](#)

³³ [Slow sink rate in floated-demersal longline and implications for seabird bycatch risk | PLOS ONE](#)

³⁴ [bocc-5-a5-4pp-single-pages.pdf \(bto.org\)](#)

registered longline vessels, which predominantly occurs in Scottish waters.³⁵ While gillnetting is known to be in operation in Scottish waters, information on the fleet effort and the impact including bycatch rates are not fully understood – gaining a better understanding of this fleet's impact is therefore vital. Generally, longlines with seabird bycatch risk are used in the north-west of Scotland and off the Shetland Islands.

Mitigation in longlines

This fleet has the highest known seabird bycatch mortality levels from UK-registered vessels in UK waters and is therefore a top priority for seabird bycatch mitigation. There is good information on the bycatch risk, technical nature of the issue and where vessels operating for this fleet, providing a solid basis for action.

A technical paper from Rouxel et al. (2022) identifies slow sink rates of hooks as the cause of seabird bycatch risk and outlines how seabird bycatch in the floated demersal longline fishery can begin to be addressed. Although Bird Scaring Lines are a commonly used mitigation measure to minimise seabird bycatch in longlines, the results from Rouxel et al. (2022) show that 'the distance astern of the vessel for hooks to sink beyond susceptible seabirds' reach largely exceeds optimum coverage of best practice design Bird Scaring Lines (100m)', indicating that hooks are readily available to seabird attacks. There is a clear need to adapt and test the effectiveness of existing mitigation measures to the floated-demersal longline gear and to develop novel mitigation to improve sink rates, without impacting target catch.

Proposed novel mitigation approaches from Rouxel et al. (2022) are focussed on improving sinking speed, in line with the best practice rates established by ACAP and include changing the longline weighting regime through design modifications such as alternative spacing between branchlines and between weights, using steel instead of concrete weights and pairing these with effective Bird Scaring Lines. Alternative gear configuration changes were identified including increasing weight however, the authors recognised the potential for associated challenge which would likely make them unpopular with fishers.

Anderson et al. (2021) came to a similar conclusion and based on the evidence at the time recommended that 'research trials be conducted into the efficacy of best practice guidelines on line-weighting and bird-scaring lines... as well as the effectiveness of night setting (noting in particular this might not be appropriate for fulmar) and offal management in reducing bycatch levels'. Anderson et al. further note the need to adapt such measures to the 'piedra bola' (floated-demersal longline) system used by UK vessels, and that these measures would build upon measures informally trialled and applied by some operators.

Mitigation in gillnets

There are no 'off the shelf' mitigation measures for static nets that can be recommended for widespread rollout in Scottish waters. However, there are a toolbox of measures that could be trialled and implemented. To address sensitive species bycatch in gillnets, a suite of measures must be considered including technical measures, alternative gears, spatiotemporal fishing restrictions (including socioeconomic and ecological considerations) and innovative technologies at the fleet level. Further detail on these can be found in a range of papers including:

- Rouxel (2021) - A workshop report from BirdLife International which brought together 90 multi-taxa and interdisciplinary experts from around the globe to understand the scale of the work

³⁵ [Defra, UK - Science Search](#)

required to tackle gillnet bycatch and identify priority actions to help tackle gillnet bycatch across taxa.³⁶ Recommendations were grouped by themes such as coordination, society, ecology and practices.

- O’Keefe et al. (2021) - a paper reviewing global case studies on time area fishing restrictions gear switching in order to understand the effectiveness of these measures in meeting seabird conservation objectives in relation to gillnet bycatch, ensuring fisher acceptance and avoiding unintended consequences.³⁷ Critically, this review found that both strategies have strengths and weaknesses, demonstrating the importance of a holistic approach to tackling seabird bycatch in gillnets, including consideration of socioeconomics, culture, species behaviour and ecology.
- Anderson et al. (2021) - a review of mitigation measures for use in UK fisheries which identifies the need for targeted experimental trials for gillnet bycatch minimisation and a series of other gillnet mitigation review studies have highlighted potential mitigation measures that should be tested (and ultimately implemented) in Scottish waters.
- Cleasby et al. (2022) - a gillnet risk mapping paper which also explores the potential relationship between seabird behaviour and gillnet fisheries. As noted in response to questions 6 and 14 behavioural data on the affected taxa can be used to design effective bycatch mitigation, as demonstrated in this study which shows how seabird dive data could be used to help inform depth and spatio-temporal measures.

Monitoring

Effective monitoring is critical for fleets with high bycatch risk. Fundamentally, gillnet and longline fisheries must be a monitoring priority for Remote Electronic Monitoring (REM) with cameras and human observer programmes to fully understand bycatch rates, mitigation use and effectiveness. If information on metrics such as bycatch rates, vessel tracking, fishing effort, gear configuration and mitigation use are currently recorded, they are difficult to obtain yet, this level of transparency and accountability is required to deliver the necessary level of monitoring to inform effective management and mitigation.

Additional Selectivity for Directed Fisheries

17. Of the options provided in this section, which option (or combination of options) do you think should be introduced, and why?

Option 1 / Option 2 / Option 3 / None (choose one)

Why?

1. Option 1: We have concerns about what the definition of 50% catch would be based on and how it would be evidenced. Is this 50% of total *landed catch* as has been in past which is not the same as *total catch*. If this were the chosen option we believe it would need to go hand in hand with cameras to provide evidence of application and understand the true nature of discarding

³⁶ [Tackling the bycatch of Marine Megafauna in global gillnet fisheries - Workshop Report \(researchgate.net\)](#)

³⁷ [Efficacy of Time-Area Fishing Restrictions and Gear-Switching as Solutions for Reducing Seabird Byca \(bmis-bycatch.org\)](#)

associated with vessels not using 120mm

2. Option 2: We believe there is merit in moving the *Nephrops* fleet to a minimum of 100mm mesh size but again believe that the use of cameras to evidence the consequences of this move would be important.
3. Option 3: Again while it is helpful to hear that an appropriately placed SMP would have the same effect as a 200mm mesh there have been cases of SMPs not being placed appropriately and possibly undermining the intention of the measure. Again we believe that if taken forward this measure would need to be applied alongside REM with cameras in order to demonstrate the impact and compliance of the fleet.

18. Do you foresee any unintended consequences of any of the options described within this section, particularly those intended to increase minimum mesh sizes and adjust the Square Mesh Panel requirements?

As noted above without the introduction of these measures in tandem with REM with cameras there have been instances where mandatory technical requirements are not applied in the required way and as a consequence have undermined the original intention of improving selectivity. As such we feel that any measures being brought forward should be done so with REM in order to provide the evidence not only to management authorities but also to civil society, the supply chain and the consumer that the fishery is operating in the most sustainable way possible.

19. Do you consider there should be an exception for low powered vessels working in inshore waters?

Yes / **No**

We are not aware of any evidence to support such an initiative. If there is then we would welcome seeing it.

Discard Exemptions

20. Do you foresee any significant issues or unintended consequences of accounting for discards in this way?

Yes / No

The success of these deductions is going to lie in the effectiveness of monitoring catches. The claim is made that “*the catch would be fully accounted for and factored into stock assessments and quotas*” but no indication is given as to how this will be achieved. Without effective monitoring through the use of REM and cameras to inform TAC deductions or quota top-ups, unintended overfishing may occur. It is vital access to quota top-ups is only given to vessels which can demonstrate compliance with the Future Catching Policy and all authorised discards are fully deducted from the TAC to prevent undermining efforts made to restore and protect fish stocks.

We are also concerned this approach may result in high grading and reduce the drive towards implementing other management measures such as improved gear selectivity, spatial management and closures to protect aggregations of spawning adults and juveniles. This was one of the major shortfalls of the current landing obligation. It is imperative Marine Scotland ensure all catches are fully documented

and base management decisions on the information gathered. REM is a cost effective and robust solution that must be used to fully document the amounts of fish being caught and ensure policies are successful and fit for purpose.

Stakeholder Engagement Process

21. Do you agree that this process is the best way to make management decisions in a cooperative manner?

We believe this represents a good stakeholder engagement process if the Working groups can bring in non FMAC members who may have expertise on certain areas of management beyond the FMAC individuals – gear experts, bycatch experts etc.

From an NGO perspective this may prove a heavy load being able to cover all relevant working groups. With the move to online meetings during Covid there was an ability to meet with greater ease which helped alleviate some of the issues associated with cost and time of convening meetings. Online convening may allow WGs to move at an appropriately swift pace as this action requires.

Timing and preparation of meetings will be vital for this model to work – papers prepared and sent out well in advance of meeting will be important to allow people time to consult with colleagues and seek views of those they represent. Perhaps have a meetings schedule that is clear for all participants to understand when and where meetings will take place.

22. Do you foresee any unintended consequences to making decisions this way?

As noted above there may be challenges to achieving adequate representation from the NGO sector to keep abreast of all decision making.

Additional Comments

23. Do you have any additional comments to make regarding the Future Catching Policy?

Yes / No (choose one)

One of the fundamental considerations for sustainable fisheries management whether or not the fleet is in balance to the fishing opportunities available to it as reflected in the sustainability objective of the Fisheries Act. It is not clear to us that an assessment has been undertaken to ensure that the Scottish fleet is in line with current catch opportunities. If a fleet is operating beyond the capacity of the opportunities available to it, it will place unwanted pressure not only on the target species but the wider marine environment and will undermine other management efforts.