BRIEFING SERIES: Recommendations to the EU and the UK on the setting of fishing opportunities

“Best available” is not good enough - addressing shortcomings in the current scientific advice

Briefing 3 of 11 **July 2025**

About this Briefing Series

This Briefing Series, supported by the 29 undersigned organisations, is designed to assist the responsible decision-makers in the European Union (the European Commission, the Council of the EU and the Member States) and the United Kingdom (the UK Government and devolved administrations) in managing fishing opportunities in a way that:

- Finally ends overfishing,
- Significantly contributes to restoring and/or maintaining all fish stocks above healthy levels and to minimising levels of incidental catches, and
- Safeguards marine ecosystem functioning and resilience, also in light of mounting pressures like climate change.

The Series consists of 11 Briefings covering the following topics related to the setting of fishing opportunities:[1,2]

- 1. Cover Briefing: Key recommendations on setting fishing opportunities
- 2. Context and legal framework
- 3. "Best available" is not good enough - addressing shortcomings in the current scientific advice (this briefing)
- 4. Shared fish stocks
- 5. Fishing opportunities in an ecosystem context
- 6. Mixed fisheries considerations
- 7. The fishing effort regime in the Western Mediterranean Sea
- 8. Landing obligation challenges
- 9. Depleted stocks with zero or very low catch advice
- 10. Stocks not managed by a Total Allowable Catch
- 11. Deep Sea stocks

In order to ensure that fishing opportunities support thriving fisheries while safeguarding ocean health, resilience and productivity, we call on decision-makers to follow all of our recommendations across the entire Briefing Series.

About this Briefing

This Briefing is also endorsed by the Low Impact Fishers of Europe (LIFE), the European Anglers Alliance (EAA), Baltic Salmon Fund and Baltic Salmon Rivers Association.[3] It highlights that fully recovery-focused, precautionary and ecosystem-based scientific advice is needed to form the bedrock of a healthy, resilient and productive ocean that can support thriving, sustainable fisheries and coastal communities. However, the current advice provided by the International Council for the Exploration of the Sea (ICES) on fishing opportunities – and fishery managers' requests that guide the provision of such advice – do not fully reflect all relevant EU and UK legal requirements and policy objectives. This Briefing explains some fundamental shortcomings that must be urgently addressed to ensure the scientific advice underpinning fisheries decisions is designed to boost stock recovery and safeguard ocean health. Concretely, we recommend that EU and UK decision-makers:

- Request ICES to a) provide clarifications of shortcomings in the advisory approach; b) address any identified issues, and c) provide interim recommendations on how the currently available advice can be used to meet all relevant legal requirements and objectives;
- Explicitly recognize the identified shortcomings;
- Work together and with ICES to develop a clear roadmap for how the shortcomings will be swiftly addressed; and
- Apply additional precaution until fully recovery-focused and ecosystem-based advice is available (see Briefing 1), by setting fishing opportunities well below the catch levels presented at the top of the single-stock advice.

The need for recovery-focused, ecosystem-based scientific advice

The emphasis in EU and UK reporting on progress towards ending overfishing[4,5] - often giving less attention to population and ecosystem health - masks fundamental flaws in European fisheries

1 Over the years, the NGOs working on fishing opportunities have been providing a range of annually updated recommendations for different sea basins and groups of species. Many of our key recommendations and concerns are cross-cutting and do not change from year to year. For 2025 onwards, we have consolidated these points into this Briefing Series which is intended to remain valid for years to come. The Series will be complemented by bespoke regionally or topically specific recommendations as appropriate and current scientific state of the art findings.
2 Cross-references will be included throughout the text using the relevant Briefing numbers. Full references to all Briefings are listed in ANNEX 1.
3 These four are in addition to the other 29 organisations which support the overall Briefing Series.
4 See for example the European Commission's communication on "Sustainable fishing in the EU: state of play and orientations for 2026". COM(2025) 296 final. 6 June 2025. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52025DC0296&qid=1749639945640. This states that "*EU fisheries continue their progress toward more sustainability*" and that "*Far fewer stocks are overfished in the EU today than 20 years ago*", based on a focus on progress towards Maximum Sustainable Yield (MSY). Also see the similarly positive narrative in the corresponding press release: https://oceans-and-fisheries.ec.europa.eu/news/eu-fish-populations-show-signs-recovery-more-efforts-needed-key-species-struggle-2025-06-06_en
5 See for example the indicator on "Sustainable fisheries: fish stocks harvested within safe limits" provided by the Joint Nature Conservation Committee (JNCC). https://jncc.gov.uk/our-work/ukbi-sustainable-fisheries/.

management and the way success is measured.[6] Monitoring that primarily focuses on fishing mortality compared to the MSY exploitation rate (F_{MSY}), without sufficient assessment of (1) biomass levels and trends, (2) fishing opportunities and (3) actual catch levels against biomass- and ecosystem-health-related targets and limits, is incomplete and potentially misleading. While the situation has improved since the early 2000s for some key commercial stocks, any narrative that everything is now (almost) fine is dangerously wrong.

Many fish populations remain overfished,[7] some in a dire state without tangible signs of recovery, putting at risk ocean health, the commercial and recreational fisheries and livelihoods that depend on it and the EU's and the UK's food sovereignty (see Briefings 1 and 9). This is not just a result of fishery managers[8] routinely setting fishing opportunities above the scientific advice (see Briefings 1 and 2), it is also linked to shortcomings in the International Council for the Exploration of the Sea (ICES) advisory approach itself that is in turn guided by requests from those same fishery managers.[9,10] A failure to recognise and address these shortcomings means a failure to ensure that fisheries decisions underpinned by such advice are truly sustainable, precautionary and ecosystem-based, as legally required.[11]

Fully recovery-focused and ecosystem-based scientific advice is needed to form the bedrock of a healthy, resilient and productive ocean that can support thriving, sustainable fisheries and coastal communities and ensure access to sustainable seafood for current and future generations. If the EU and the UK are serious about making this shared vision a reality,[12,13,14] they both must (1) urgently address shortcomings in the advisory process and (2) apply additional precaution until the necessary changes have been made, by setting fishing opportunities below the single-stock ICES "headline" advice,[15] informed by other catch options in the advice sheet (see Briefing 1).

The issue: shortcomings in the current advice on fishing opportunities

The current ICES advice on fishing opportunities - and fishery managers' requests that guide the provision of such advice[16] - do not fully reflect all relevant EU and UK legal requirements and policy objectives.[17,18,19]

6 ClientEarth's briefing explains why certain reporting approaches can be misleadingly positive. ClientEarth (2025). Let's get the numbers right: What proportion of fish stocks are sustainably managed in the EU? July 2020. https://www.clientearth.org/latest/documents/let-s-get-the-numbers-right-what-proportion-of-fish-stocks-are-sustainably-managed-in-the-eu/. Also see Video #EndOverfishing Don't Greenwash It. June 2019. Available on https://www.youtube.com/watch?v=VGUmJWC7ppI.

7 For example, key stocks such as mackerel and North Sea herring have repeatedly had their recoveries choked off and been reduced by millions of tonnes, and in the Baltic and Celtic Seas catch and stock levels have plummeted over the past decade.

8 The term "fishery managers" is used here to refer to those decision-makers who ultimately set the fishing opportunities or are involved in developing a country's position on the latter.

9 This briefing highlights three key shortcomings, but this list is not exhaustive. One additional example is the inherent prioritisation within the advisory system of commercially important stocks and a lack of a clear overarching process for (1) identifying stock assessments in need of improvements and (2) ensuring timely action. For example, the benchmark process tends to be slow and unreactive to failing stock assessment models and has little flexibility for scientists to correct errors. This means that lower priority stocks are prone to shortcomings in stock assessments not being systematically detected or addressed, meaning models with known issues (such as retrospective bias) are used to provide advice.

10 Froese et al. (2025) referred to the scientific advice as "*incomplete, risk-prone and biased*", highlighting the issue of "*phantom recoveries*" due to "*the regular overprediction of latest biomass in ICES assessments and the need to correct these downward in the subsequent years*". Froese, R; Steiner, N; Papaioannou, E; MacNeil, L; Reusch, T B H; Scotti, M (2025). Systemic failure of European fisheries management. Science 388(6749), pp. 826-828. DOI: 10.1126/science.adv4341. May 2025.

11 See Briefing 2 for further details on relevant legal requirements and objectives.

12 The European Oceans Pact (EOP) aims to "*maintain a healthy, resilient and productive ocean*" and "*thus the prosperity of the EU's coastal communities*". https://oceans-and-fisheries.ec.europa.eu/news/shaping-european-oceans-pact-commission-launches-call-evidence-2025-01-20_en.

13 The UK's Marine Strategy contains the vision of "*clean, healthy, safe, productive and biologically diverse seas*". Department for Environment, Food and Rural Affairs (DEFRA) (2019). Marine Strategy Part One: UK updated assessment and Good Environmental Status. October 2019.

14 This vision was also endorsed by the 140+ organisations that signed the Blue Manifesto: Roadmap to a Healthy Ocean in 2023. https://seas-at-risk.org/blue-manifesto/.

15 The "headline" advice refers to the advised catch levels presented at the top of the advice sheet. A range of other catch options, in addition to this headline advice, are usually presented in the catch options table further down in the advice sheet. Some of these are more precautionary than the headline advice, and Briefing 1 provides recommendations on how fishery managers should use these to integrate additional precaution into the setting of fishing opportunities where this is not sufficiently reflected in the headline advice.

16 This includes bilateral agreements or Memoranda of Understanding between ICES and its clients which guide the provision of scientific advice for fisheries management, as well as specific requests.

17 This concern was brought to the attention of EU Commissioner Kadis and his services in a joint letter co-signed by 17 organisations on 11 April 2025, calling for improvements in the advisory approach and decision-makers' requests for scientific advice to be initiated as part of the renewal of the annual Specific Grant Agreement between ICES and the EU's DG MARE which guides the provision of scientific advice on fishing opportunities. https://www.clientearth.org/latest/documents/letter-to-european-commissioner-kadis-regarding-the-renewal-of-the-specific-grant-agreement-with-ices/.

18 The Low Impact Fishers of Europe (LIFE) have also called for an urgent reform of the agreement between the EU's DG Mare and ICES to ensure scientific advice and the management it underpins promote stock growth and safeguard ecosystem health in line with the objectives of the CFP. LIFE letter to EU Commissioner Kadis, 8 May 2025. https://lifeplatform.eu/call-to-reform-the-agreement-with-ices-to-provide-scientific-advice-for-fisheries-management-external-inbox/.

19 Also see Froese et al. (2025) (see footnote 10 for full reference) who state that "*The harvest control rules (HCR) currently applied by ICES for TAC advice [...] are not aligned with existing laws and regulations*".

Specifically, they are not geared towards:

1. recovering fish populations within a concrete timeframe and maintaining them above sustainable levels in the near future;
2. preventing or minimising the risk of fish populations falling outside safe biological limits, despite legal safeguards in the EU's Multi-Annual Plans (MAPs), which are also part of Retained EU Law in the UK;[20] or
3. delivering on all relevant elements of "Good Environmental Status" (GES) under the Marine Strategy Framework Directive (MSFD) and the UK's Marine Strategy Regulations 2010, such as healthy population structures and/or food web integrity (e.g. leaving enough food in the sea for other marine life and maintaining the energy flow throughout the different trophic levels), in line with an ecosystem-based approach to fisheries management.

Shortcoming #1: Lack of focus on rebuilding and maintaining stocks above B_{MSY}

We are concerned that the current advisory framework and approach to setting fishing opportunities are not sufficiently precautionary, nor geared towards a rapid stock recovery, which is crucial in light of the dire state of many fish populations (see Briefing 9). For example, despite the clear legal requirement to restore and maintain all stocks above biomass levels capable of producing MSY (B_{MSY}), the ICES MSY approach heavily relies on the use of MSY $B_{trigger}$ as a proxy (where B_{MSY} is unknown).[21] In fact, even where B_{MSY} estimates are available, they are not systematically presented in the ICES advice sheet whereas the focus remains on MSY $B_{trigger}$.[22] This is problematic a) because MSY $B_{trigger}$ can be well below B_{MSY}, and b) in the absence of better estimates MSY $B_{trigger}$ is usually set at the B_{pa} level,[23] below which a stock is outside "safe biological limits" (i.e. there is a higher risk of the stock actually being below B_{lim}, the lowest reference point where recruitment is impaired).[24] Therefore, this approach is from the outset aimed towards a potentially much lower biomass level than the legally required one (i.e. biomass levels above B_{MSY}) as it at best targets MSY $B_{trigger}$.

An analysis of the advice provided by ICES in 2024 found that, for all stocks that are currently estimated to be below MSY $B_{trigger}$, the ICES headline advice is not projected to increase them to or above MSY $B_{trigger}$ in the short-term.[25] This is because the current ICES Advice Rule which guides the provision of advice on fishing

20 The relevant provisions are included in Articles 4(6) and 7 of the North Sea MAP, Articles 4(7) and 8 of the Western Waters MAP, Articles 4(6) and 5 of the Baltic Sea MAP and Article 6 of the Western Mediterranean MAP. Both the Western Waters MAP and North Sea MAP are part of Retained EU Law in the UK. North Sea MAP: Regulation (EU) 2018/973 of the European Parliament and of the Council of 4 July 2018 establishing a multiannual plan for demersal stocks in the North Sea and the fisheries exploiting those stocks. Western Waters MAP: Regulation (EU) 2019/472 of the European Parliament and of the Council of 19 March 2019 establishing a multiannual plan for stocks fished in the Western Waters and adjacent waters, and for fisheries exploiting those stocks. Baltic Sea MAP: Regulation (EU) 2016/1139 of the European Parliament and of the Council of 6 July 2016 establishing a multiannual plan for the stocks of cod, herring and sprat in the Baltic Sea and the fisheries exploiting those stocks. Western Mediterranean MAP: Regulation (EU) 2019/1022 of the European Parliament and of the Council of 20 June 2019 establishing a multiannual plan for the fisheries exploiting demersal stocks in the western Mediterranean Sea.

21 The biomass reference point B_{MSY} is defined as the Spawning Stock Biomass (SSB) that results from fishing at F_{MSY} (the fishing mortality consistent with achieving MSY) for a long time. This point marks the mid-point of fluctuation around B_{MSY}, meaning the likelihood that a stock estimated to be at B_{MSY} is actually above or below it is 50%, respectively. It effectively corresponds to the "*biomass capable of producing the MSY*", as referred to in EU and UK legislation (see Briefing 2). MSY $B_{trigger}$ is the point below which ICES advises a decrease in fishing mortality below F_{MSY} (compared to populations that are estimated to be at or above MSY $B_{trigger}$), i.e. this is the level which "triggers" a more cautious approach. For further explanations of biological reference points, please refer to ClientEarth (2020). Linking the law to biological reference points used in scientific advice when setting Total Allowable Catches (TACs). https://www.clientearth.org/latest/documents/linking-the-law-to-biological-reference-points-used-in-scientific-advice-when- setting-total-allowable-catches-tacs/.

22 For example, Froese et al. (2025) (see footnote 10 for full reference) note that "*For fully assessed stocks such as cod and herring the scientific advice provided by ICES did not show estimates of [...] MSY and B_{MSY}*" and that although both of these *"are standard outputs of models that ICES uses, ICES provides information that is requested by the COM, and these were not requested*". This clearly highlights the need for ICES clients such as the EU and the UK to request that such fundamental information is clearly presented in the advice sheet where it is already available or can be generated.

23 Based on an analysis of the ICES advice provided for 2024, this is the case for 42 of the 51 analysed stocks for which an MSY $B_{trigger}$ is specified, whereas only 9 have a bespoke MSY $B_{trigger}$ value linked to B_{MSY}. Data and further details available upon request.

24 Also see the explanation of B_{lim} and B_{pa} in the report on Workshop on ICES reference points (WKREF1): *"B_{lim}: A deterministic biomass limit below which a stock is considered to have reduced reproductive capacity. For stocks where quantitative information is available, a reference point B_{lim} may be identified as the stock size below which there is a high risk of reduced recruitment.*" and "*B_{pa}: A precautionary safety margin incorporating the uncertainty in ICES stock estimates leads to a precautionary reference point B_{pa}, which is a biomass reference point designed to have a low probability of being below B_{lim}.*" ICES (2022). Workshop on ICES reference points (WKREF1). ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.9822, p. 9.

25 All of the 21 stocks included in an analysis of the ICES advice provided for 2024 (see footnote 23), for which the latest SSB estimate was below MSY $B_{trigger}$, were projected to remain below MSY $B_{trigger}$ in the short-term (i.e. in the projection year), and 6 of them were projected to decrease further, even though other catch options that would have allowed for a stable SSB or an increase were available for most of them. Data and further details available upon request.

opportunities[26] merely decreases the advised fishing mortality below F_{MSY} when a stock falls below MSY $B_{trigger}$, but does not contain a concrete recovery target or timeframe.[27] Alleviating the fishing pressure may of course speed up stock increases or slow down declines, but on its own is not enough to target recovery in the short- or mid-term. Concretely, in many cases, such as West of Scotland whiting,[28] North Sea sole[29] and sea bass,[30] the ICES headline advice is projected to keep stocks below MSY $B_{trigger}$ in the short term or allow them to fall below it with a significant risk above 5% that the stock will be depleted below B_{lim}. This is despite other catch options being available that would allow stocks to remain at or above MSY $B_{trigger}$ or at least increase towards it.

In conclusion, **the approach for generating the headline advice is not designed to ensure overfished fish populations increase towards MSY $B_{trigger}$ or beyond in the short-term, or to prevent populations estimated to be above MSY $B_{trigger}$ from falling below it**.[31] This approach does not reflect the clear sense of urgency regarding stock recovery included in the safeguards in the MAPs to "*ensure rapid return*" of stocks estimated to be below MSY $B_{trigger}$ "*to levels above those capable of producing the MSY*".[32]

Shortcoming #2: Lack of sufficient precaution to minimise risks to stock health

Similarly, **while the current advisory approach aims to keep the risk of a stock falling below B_{lim} at less than 5% in the long-term, it often results in headline advice that is associated with a greater than 5% risk in the short-term**. This is despite a clear requirement in the MAPs that "*Fishing opportunities shall in any event be fixed in such a way as to ensure that there is less than a 5 % probability of the spawning stock biomass falling below B_{lim}*".[33] While the risk of the stock falling below B_{lim} associated with the various catch options is in some cases at least specified in the advice sheet, this means that the risk associated with the advised catch level may exceed the legal 5% limit.[34]

Moreover, the ICES advisory framework clearly states that ICES will give catch advice even when a stock is below B_{lim} if the projection is that the Spawning Stock Biomass (SSB) of the stock will be above B_{lim} after the fishing year in question with only 50% probability,[35] i.e. when there is still a 50% risk of the stock actually remaining below B_{lim}. This risks keeping fish populations in a precarious situation for longer than if their rapid recovery was prioritised. **ICES itself has confirmed that this part of its Advice Rule[36] is indeed not sufficiently precautionary for stocks below B_{lim}** and has proposed a way to address this, which still seems to be under discussion as of June 2025.

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26 For an explanation of the ICES Advice Rule for data-rich stocks, please refer to ICES (2023). Advice on fishing opportunities (2023). General ICES Advice guidelines. Report. https://doi.org/10.17895/ices.advice.22240624.v3, pp. 5-6.

27 *Ibid*. Part 2 of the Advice Rule specifies that for stocks below MSY $B_{trigger}$ the advised fishing mortality is decreased, by multiplying F_{MSY} with the quotient of the stock's estimated SSB and MSY $B_{trigger}$ (SSB/MSY $B_{trigger}$). This means that where the SSB is below MSY $B_{trigger}$, the advised F will be proportionately decreased - but there is no mechanism in the Advice Rule to test whether this decrease is sufficient to deliver recovery within a given timeframe, let alone in the short-term.

28 ICES (2024). Whiting (Merlangius merlangus) in Division 6.a (West of Scotland). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.25019723.v1. The headline advice of 5116 t is projected to result in a -7% SSB decrease (down from the 2025 SSB estimate of 23982 t), bringing the stock to 22315 t, which is only 87% of the MSY $B_{trigger}$ of 25597 t. Meanwhile, the SSB (2026) = B_{pa} = MSY $B_{trigger}$ scenario of 1469 t would allow the stock to increase to MSY $B_{trigger}$.

29 ICES (2024). Sole (Solea solea) in Subarea 4 (North Sea). ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.25019669.v1. The headline advice of 10196 t is projected to result in a -20% SSB decrease (down from the 2025 SSB estimate of 61320 t), bringing the stock to 48710 t in 2026, which is only 93% of the MSY $B_{trigger}$ of 52532 t. Meanwhile, the SSB (2026) = B_{pa} = MSY $B_{trigger}$ scenario of 5411 t would keep the stock at MSY $B_{trigger}$.

30 ICES (2024). Seabass (Dicentrarchus labrax) in Divisions 4.b–c, 7.a, and 7.d–h (central and southern North Sea, Irish Sea, English Channel, Bristol Channel, and Celtic Sea). Replacing advice provided in June 2024. ICES Advice: Recurrent Advice. Report. https://doi.org/10.17895/ices.advice.27222843.v1. The headline advice of 2620 t is projected to result in a -7.2% SSB decrease (down from the 2025 estimate of 13414 t), bringing the stock to 12450 t in 2025, which is only 86% of the MSY $B_{trigger}$ of 14439 t. Meanwhile, the SSB_{2026} = MSY $B_{trigger}$ scenario of 253 t would increase the stock to MSY $B_{trigger}$, and other scenarios are at least associated with a smaller decline than the headline advice.

31 There was one stock in the analysis of ICES advice from 2024 (see footnote 23), namely North Sea sole (see footnote 29), which was estimated to be above MSY $B_{trigger}$ but projected to decrease below it based on the ICES headline advice.

32 The relevant safeguards are included in Article 7 of the North Sea MAP, Article 8 of the Western Waters MAP, Article 5 of the Baltic Sea MAP and Article 6 of the Western Mediterranean MAP. Both the Western Waters MAP and North Sea MAP are part of Retained EU Law in the UK. See footnote 20 for the full references of these MAPs.

33 *Ibid*., this requirement is included in Article 4(6) of the North Sea MAP and the Baltic Sea MAP and Article 4(7) of the Western Waters MAP.

34 For 20 of the stocks included in an analysis of the ICES advice provided in 2024 (see footnotes 23 and 25), the risk associated with the headline advice of the stock falling below B_{lim}, was higher than 5%. This is based on the risk as specified in the advice sheet, or in some cases based on a comparison of the projected SSB with B_{pa}, below which the risk is higher than 5%. Data and further details available upon request.

35 The part of the Advice Rule (see footnote 26) referred to in this paragraph is part 3 which applies to stocks below B_{lim}.

36 *Ibid*.

Finally, the findings published in Science in 2024[37] and 2025,[38] that current scientific stock assessments tend to overestimate productivity and recovery trajectory, further underpin the need for additional caution if population rebuilding efforts are to be successful (also see Briefings 1 and 9).[39] Ignoring the possibility of so-called "phantom recoveries" that in hindsight, based on more recent information, turn out not to have materialised,[40] risks perpetuating or exacerbating an already precarious situation. More explicitly, as Froese & Pauly (2024) put it, "*managers need to be aware of the difficulties of predicting the status of an invisible resource and should apply their common sense when repeatedly confronted with phantom recoveries of a depleted resource*."[41]

In conclusion, **the current ICES advisory approach indeed reflects the EU's and the UK's shared requirement to exploit fish populations at or below the MSY exploitation rate - but it is not geared towards ensuring that stocks recover or are maintained above sustainable levels within any concrete timeframe, and it does not apply sufficient precaution to prevent risky stock declines**. Setting fishing opportunities at or - as is often still the case - even above ICES headline advice would fail to meet the CFP's MSY objective and the UK Fisheries Act's precautionary objective of recovering and maintaining all stocks above levels capable of producing MSY,[42] and does not respect key legal safeguards in the MAPs that apply to both the EU and the UK (also see Briefing 2).

Shortcoming #3: Lack of integration of ecosystem health objectives

ICES already undertakes a lot of scientific work to inform ecosystem-based management, such as its ecosystem overviews,[43] and aims "*in accordance with the aggregate of international guidelines, to inform policies for high, long-term yields while maintaining productive fish stocks in marine ecosystems that meet expected environmental standards (e.g. good environmental status [GES] in the EU)*".[44] However, **the ICES headline advice on fishing opportunities is still provided on a single-stock basis and based on the ICES MSY approach (for data-rich stocks with full assessments) or the precautionary approach (for data-limited stocks), unless otherwise requested,[45] without explicit integration of concrete ecological objectives**. In fact, the 2024 Specific Grant Agreement between ICES and the EU Commission's DG MARE which guides the provision of advice on fishing opportunities, explicitly recognises that "*Limitations on fisheries may be required to achieve environmental objectives, especially regarding biodiversity, habitat integrity and foodwebs*", and that "*ICES may, if requested, advise on the likely impact of such limitations on the catch but will, as explained, not include such considerations in the advice on fishing opportunities*."[46] This confirms that the current ICES advice on fishing opportunities is not designed to ensure that the advised catch levels are compatible with achieving ecological objectives, e.g. regarding GES.

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37 Edgar, G (2024). Investigation reveals global fisheries are in far worse shape than we thought – and many have already collapsed. 23 August 2024. https://theconversation.com/investigation-reveals-global-fisheries-are-in-far-worse-shape-than-we-thought-and-many-have-already-collapsed-237306. The underlying study is: Edgar et al. (2024). Stock assessment models overstate sustainability of the world's fisheries. Science, 385(6711), pp. 860-865. https://www.science.org/doi/10.1126/science.adl6282. Froese, R & Pauly, D (2024). Taking stock of global fisheries. Current stock assessment models overestimate productivity and recovery trajectory. Science, 385(6711), pp. 824-825. https://www.science.org/doi/10.1126/science.adr5487. This article presents a perspective on the above-mentioned paper by Edgar et al. (2024) published in the same Science issue.

38 Froese et al. (2025) (see footnote 10 for full reference). See figure on p. 827, showing "*examples of previous unrealistic estimates and forecasts made by ICES in 2015 and 2018 to 2021*".

39 There are indeed several European examples of this phenomenon that biomass increases for depleted stocks have repeatedly not materialised as projected, such as Celtic Sea cod and Irish Sea whiting. Froese et al. (2025) (see footnote 10 for full reference) also confirmed this phenomenon of repeated biomass overprediction for Western Baltic cod.

40 For example, Froese & Pauly (2024) stated that "*rising trends in biomass reported for overfished stocks were often inaccurate, resulting in so-called phantom recoveries for stocks where actual biomass was fluctuating at a low amount or even declining. In other words, overfished stocks that were in urgent need of catch reduction and rebuilding were instead displayed by models as increasing in biomass. […] On the basis of these data, fishery managers could reasonably conclude, albeit incorrectly, that the stock was recovering and able to support even higher catch levels*."

41 *Ibid.*

42 This is because MSY $B_{trigger}$ - where an estimate of B_{MSY} is available - is usually set at the 5th percentile of fluctuation around B_{MSY}, meaning it marks the lower boundary of such fluctuation. In other words, this means that a stock below this MSY $B_{trigger}$ level is very unlikely to actually be at or above B_{MSY}. Therefore, setting fishing limits that push stocks below MSY $B_{trigger}$ (or prevent those that are below it from increasing back to MSY $B_{trigger}$ or above it) is not in line with the objective of "maintaining" them above levels capable of producing the MSY.

43 https://www.ices.dk/advice/ESD/Pages/Ecosystem-overviews.aspx.

44 ICES (2023). Advice on fishing opportunities (2023). General ICES Advice guidelines. Report. https://doi.org/10.17895/ices.advice.22240624.v3

45 *Ibid*.

46 Specific Grant Agreement 512.918553 under Framework Partnership Agreement MARE/2023/ICES. https://www.ices.dk/about-ICES/Documents/Cooperation%20agreements/EU/2024_DGMARE-ICES_Grant_web.pdf, p. 79.

Concretely, **the current advisory approach does not yet incorporate key requirements under the EU's MSFD and the UK's Marine Strategy Regulations regarding population health and food web integrity** (also see Briefing 5). This means that the current ICES headline advice is neither geared towards ensuring that stocks exhibit "*a population age and size distribution that is indicative of a healthy stock*" (MSFD Descriptor 3), nor that "*all elements of the marine food webs, to the extent that they are known, occur at normal abundance and diversity and levels capable of ensuring the long-term abundance of the species and the retention of their full reproductive capacity*" (MSFD Descriptor 4). To address this shortcoming, an explicit request from EU and UK decision-makers (and other relevant third countries) to ICES is needed to ensure that the advice ICES provides on fishing opportunities aims to achieve these important shared environmental objectives.[47] Briefing 5 of this series provides further explanations and recommendations on the setting of ecosystem-based fishing opportunities, including regarding the scientific advice used to underpin them.

The solution: address shortcomings and apply sufficient precaution

In order to address these issues and ensure policy coherence, the European Commission, the UK and other ICES advice clients need to explicitly request advice that aims to rebuild fish populations and maintain ocean health while minimising risks to both. Positive initiatives that could at least partially address some of the above shortcomings are already underway within ICES, such as work on rebuilding advice,[48] improving precaution for depleted stocks,[49] and the 2024 guidelines for advice on fisheries that concurrently catch a mix of stocks of the same species.[50] However, their swift integration into the formal advisory process needs the EU's and the UK's full and urgent support and obstacles to the necessary changes must be identified and removed. To this end, we provide the following recommendations, alongside our suggestions in Briefing 1 for how the currently available scientific can be used in a more precautionary way.

Recommendations for addressing and accounting for shortcomings in scientific advice on fishing opportunities

Meaningful progress towards truly recovery-focused, precautionary and ecosystem-based advice on fishing opportunities must become a core priority for EU and UK decision-makers in their approach to fisheries management. To achieve this, we recommend that they:

1. **Request ICES (through incorporation into EU and UK agreements with ICES on the provision of fisheries advice and/or via bespoke requests, as appropriate) to**
    a. **provide concrete, specific clarifications of shortcomings** in the current advisory approach, highlighting where advised catch levels do not fully reflect all relevant legal requirements and policy objectives, i.e. are not fully recovery-focused, precautionary and ecosystem-based;

47 In the absence of truly ecosystem-based advice, TACs for lower trophic level species could for example be based on a fishing pressure of no more than 50% of F_{MSY} in order to support adequate energy transfers throughout ecosystem, improve stock resilience, ensure prey availability higher up the food web and reduce the risk of stock collapse and fishery closure.

48 For example, the WKREBUILD2 process developed concrete suggestions for a path towards advice aimed at rebuilding depleted or struggling fish populations, but these have not been implemented yet. ICES (2023). Workshop on guidelines and methods for the design and evaluation of rebuilding plans for category 1-2 stocks (WKREBUILD2). ICES Scientific Reports. Report. https://doi.org/10.17895/ices.pub.24763293.v2. Moreover, in response to WKREBUILD2 emphasising "*the need to think about rebuilding at an earlier stage below B_{pa}, not just B_{lim}*", fisheries managers involved in MIRIA (Meeting between ICES and Requesters of ICES Advice) "*expressed concern about starting rebuilding when a stock is below B_{pa}*" and instead "*thought that rebuilding should start below B_{lim}, as in the current framework*", i.e. only once stocks are already in a dire state, also expressing "*misgivings concerning some of the rebuilding criteria*". This indicates a degree of scepticism towards ICES' recommendations on the rebuilding topic, rather than the necessary sense of urgency to progress this.

49 ICES found part of its Advice Rule (see footnote 26) which guides the production of ICES advice on fishing opportunities to not be precautionary for depleted stocks. It has proposed a way to address this, which still seems to be under discussion as of June 2025.

50 ICES (2024). ICES Guidelines for advice on fisheries that concurrently catch a mix of stocks of the same species. ICES Technical Guidelines. Report. https://doi.org/10.17895/ices.pub.25764972.v6. These guidelines are a clear step towards visibly accounting for fisheries impacts on other stocks.

b. **address any identified issues** based on a clear roadmap (see point 3 below); and
c. **provide interim recommendations** on how the currently available advice on fishing opportunities can be used in a sufficiently precautionary way to meet all relevant legal requirements and objectives.

2. **Explicitly recognise shortcomings** in the current advisory approach and their own requests for ICES advice, support ICES in addressing them and refrain from sustainability claims that cannot be validated based on the currently available scientific advice;
3. **Work together and with ICES to develop a clear roadmap for how shortcomings in the advisory approach will be swiftly addressed** and dealt with when setting fishing opportunities. This roadmap needs to include concrete steps and timeframes for their completion, specify who is responsible for each action and outline anticipated obstacles and how they will be overcome. Relevant discussions between the EU and the UK regarding shared stocks could be advanced through the Specialised Committee for Fisheries and/or other relevant groups or processes like the Meeting between ICES and Requesters of ICES Advice (MIRIA). Also see Briefing 9 on depleted stocks for further recommendations regarding rebuilding and Briefing 5 for details on fishing opportunities in an ecosystem context.
4. **Apply additional precaution until fully recovery-focused and ecosystem-based advice is available**, by setting fishing opportunities well below the catch levels presented at the top of the single-stock advice. See Briefing 1 for suggestions on how this could be done based on the currently available advice sheets, while issues in the underlying advisory approach are reviewed and addressed.

Specifically, concretising the first recommendation above, we urge the European Commission (represented by DG MARE and/or DG ENV as appropriate) and the UK, where necessary involving collaboration with other ICES advice clients, to request ICES to:

- **Provide advice on fishing opportunities that is explicitly geared towards rebuilding fish populations above sustainable levels within concrete and ambitious timeframes, and that respects safeguards in the EU's MAPs and the equivalent Retained EU law in the UK.** ICES could begin to roll out a rebuilding advice approach based on existing work and international best practice as a default (also see Briefing 9 on depleted stocks and our suggestions in Briefing 1 for how the existing advice sheets could be used in the meantime to target a minimum biomass increase for the following year). Fishery-specific conversations regarding bespoke rebuilding plans could continue in parallel to inform the advice basis in future and could be linked to the development of Fisheries Management Plans (FMPs) in the UK. To underpin progress towards rebuilding-focused advice, we also recommend that the EU and the UK:
    - **Request ICES to provide additional information that could help underpin further rebuilding discussions.** This could include plots regarding a stock's biomass trajectory and/or the time it is projected to take to reach various biomass reference points depending on the fishing pressure F and/or for the different scenarios presented in the catch options table.
    - **Request ICES to present B_{MSY} estimates in the advice sheet** where these are available, to provide a clear and transparent indication of how close to or far away each stock is from achieving the shared objective of restoring stocks "*above levels capable of producing the MSY*".
    - **Endorse the exploration of relevant proxies to replace the current habit of setting MSY $B_{trigger}$ at B_{pa}** where B_{MSY} estimates are lacking. This habit means that the advised fishing pressure is only decreased when a stock has already fallen outside safe biological limits such that the risk of it actually being below B_{lim} is higher than 5%. Using higher biomass proxies as $B_{trigger}$ values instead would help mitigate the risk of stock declines below sustainable levels.

- **Visibly include additional elements in the ICES advice sheet to support fisheries decisions that factor in mid- and longer-term implications.** The current focus on short-term biomass projections and catch advice does not reflect the potential mid- or longer-term costs and benefits of different catch options. Integrating and visualising these aspects would support more informed decisions aiming for larger, more productive populations that could sustain larger catches in the future, which may outweigh short-term impacts of quota cuts. Management Strategy Evaluations (MSEs) that assess likely outcomes of different harvest control rules based on agreed management objectives - which can be co-developed between decision-makers and scientists with input from relevant stakeholders - could play a key role here. Such work should explicitly integrate all relevant legal requirements and policy objectives, including regarding stock rebuilding, sufficient precaution (not just in the long-term) and ecosystem health.
- **Fully and coherently integrate broader policy objectives regarding population and ecosystem health (beyond single-stock maximum sustainable yield exploitation).** The catch levels that ICES advises must be compatible with other EU and UK commitments, such as GES under the MSFD and the UK Marine Strategy Regulations. This is also in line with the holistic approach to Ocean Governance promoted by the European Commission under the European Ocean Pact. For example, the advised catch levels should leave enough food in the sea for thriving populations of dependent predators, such as other fish, seabirds and cetaceans, and be compatible with healthy population structures. See Briefing 5 on ecosystem-based fishing opportunities for further detail.
- **Enhance the presentation of the ICES advice to minimise the risk of misinterpretation, improve the science-policy interface and foster transparency in fisheries management.** The "headline" advice at the top of the advice sheet should be complemented with an executive summary that a) highlights key caveats and uncertainties where the advised catch level does not fully reflect all relevant legal requirements and policy objectives and b) indicates what the impact of that may be. This may require a targeted assessment by ICES of the extent to which its current advisory approach (and its clients' requests for advice) meet relevant criteria based on existing legal requirements and policy objectives. Concretely, we propose that the EU and the UK request ICES to reply to the following catalogue of questions. The responses (yes / no / partially / not assessed) could be presented on a stock-by-stock basis in a standardised format in the respective advice sheet, and complemented with further detail or explanations as appropriate: Does the advised catch level presented in the headline advice...
    - restore or maintain the stock above MSY $B_{trigger}$ in the short-term (i.e. the projection year)? If not, within what timeframe is the stock projected to recover above MSY $B_{trigger}$?
    - keep the risk of the stock falling below B_{lim} in the short-term below 5%?
    - aim for a healthy population structure in terms of age and size? Where thresholds for what constitutes a "healthy" population structure are not available, could proxies be provided, e.g. regarding the direction of travel in relation to the long-term average throughout the time series that the advised catch level would be associated with?
    - ensure a sufficient food supply is left in the sea for thriving dependent predator populations? (also see Briefing 5 for details)
    - safeguard the resilience of the stock in the face of climate change?
    - safeguard other stocks of the same species caught in concurrent fisheries? (i.e. is the advice designed not to overshoot the single-stock advice for other stocks?)
    - safeguard other stocks of other species caught in mixed fisheries? (i.e. is the advice designed not to overshoot the single-stock advice for other stocks?)
    - factor in impacts of other pressures than fishing on stock health or productivity?

Finally, while this briefing is primarily focused on shortcomings in the advice provided by ICES and fishery managers' requests for it, the same concerns and principles also apply to the advice requested from the Scientific, Technical and Economic Committee for Fisheries (STECF) regarding fishing mortality in the Mediterranean. In this regard we therefore urge the European Commission to

- **Work with STECF to move towards fully ecosystem-based and recovery-focused scientific advice on fishing mortality and catches,**[51] as well as incorporating the necessary precaution in the face of uncertainty and knowledge gaps about ecosystem integrity and dynamics.

Environmental organisations remain committed to the objectives of the Common Fisheries Policy, the UK Fisheries Act, the Marine Strategy Framework Directive and the UK's Marine Strategy Regulations 2010, as well as the Trade and Cooperation Agreement and other international agreements. We will continue to scrutinise the progress in ending overfishing and boosting long-term population and ecosystem health and resilience as we urge the European Commission, the Council of the EU, the Member States, the UK Government and devolved administrations to finally deliver the EU's and UK's transition to truly sustainable fisheries. This Briefing Series provides a clear and comprehensive list of recommendations on how to get there.

CONTACT DETAILS

With the exception of Low Impact Fishers of Europe (LIFE), European Anglers Alliance (EAA), Baltic Salmon Fund and Baltic Salmon Rivers Association, which specifically endorse the present Briefing, the below contact details refer to the main contacts for each of the organisations supporting the overall Briefing Series, and are not Briefing-specific. We can help redirect any queries to the most appropriate colleagues for each individual Briefing.

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51 In the case of the species covered by the West Med MAP, reductions in fishing days are the primary tool to reach the target fishing mortality. However, the link between fishing mortality and fishing days is still unclear. Further research should be carried out to provide robust guidance on the setting of fishing effort restrictions that ensures that target fishing mortality is not exceeded.

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ANNEX 1 - FULL REFERENCES TO ALL BRIEFINGS IN THIS SERIES

This Briefing Series is supported by 29 organisations, including environmental NGOs and recreational representatives. Briefing 3 is additionally supported by the Low Impact Fishers of Europe (LIFE), European Anglers Alliance (EAA), Baltic Salmon Fund and Baltic Salmon Rivers Association. Briefing 7 about fisheries management in the Western Mediterranean Sea features fewer logos than the rest of the series since not all of the NGOs signatory to the Briefing Series are active in the Mediterranean.

Briefing 1: Cover briefing: Key recommendations on setting fishing opportunities. Briefing 1 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-1-cover-briefing-key-recommendations-on-setting-fishing-opportunities/

Briefing 2: Context and legal framework. Briefing 2 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-2-context-and-legal-framework/

Briefing 3: "Best available" is not good enough - addressing shortcomings in the current scientific advice. Briefing 3 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-3-addressing-shortcomings-in-the-current-scientific-advice/

Briefing 4: Shared fish stocks. Briefing 4 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-4-shared-fish-stocks/

Briefing 5: Fishing opportunities in an ecosystem context. Briefing 5 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-5-fishing-opportunities-in-an-ecosystem-context/

Briefing 6: Mixed fisheries considerations. Briefing 6 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-6-mixed-fisheries-considerations/

Briefing 7: The fishing effort regime in the Western Mediterranean Sea. Briefing 7 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-7-the-fishing-effort-regime-in-the-western-mediterranean-sea/

Briefing 8: Landing obligation challenges. Briefing 8 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-8-landing-obligation-challenges/

Briefing 9: Depleted stocks with zero or very low catch advice. Briefing 9 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-9-depleted-stocks-with-zero-or-very-low-catch-advice/

Briefing 10: Stocks not managed by a Total Allowable Catch. Briefing 10 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-10-stocks-not-managed-by-a-total-allowable-catch/

Briefing 11: Deep-sea stocks. Briefing 11 of 11 in the Briefing Series "Recommendations to the EU and the UK on the setting of fishing opportunities". July 2025. https://www.clientearth.org/latest/documents/joint-briefing-series-recommendations-on-fishing-opportunities-briefing-11-deep-sea-stocks/