Joint NGO recommendations on Baltic Sea fishing opportunities for 2026

1. INTRODUCTION

The poor status and decline of many Baltic Sea fish populations have been thoroughly documented over several decades, indicating that the entire ecosystem is in great distress.[1] So far, policy interventions have not reversed, or even halted, the negative trend concerning most of these populations.

Fish populations that once formed the cornerstone of the Baltic Sea fishery, such as the eastern and western Baltic cod and the western Baltic herring are now doing so poorly that the International Council for the Exploration of the Sea (ICES) is advising zero catch for these stocks.[2] Yet, even with the targeted fishery being closed for some years now, none of these three stocks are showing sufficient signs of recovery.[3]

The condition (such as weight-at-age) of many flatfish populations, such as plaice, also raises alarm bells. The salmon spawning migration has fallen short of the target level in the past two years. As a result, even the healthiest salmon stocks are now unlikely to produce enough smolts corresponding to sustainable levels in the coming years. Even in cases where populations show minor signs of anticipated increased biomass, such as the Baltic sprat,[4] these presumed increases are tied to a number of scientific uncertainties.[5,6]

Disregarding the scientific uncertainties, and the warning signals that scientists have been pointing out for years, will have devastating consequences for the ecosystem and those who depend on it. Political will and ambition is needed to improve current fisheries management in the Baltic Sea to address the crisis facing its fish populations and the broader marine ecosystem.

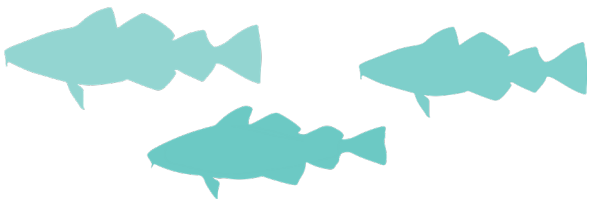
This document presents the joint NGO recommendations regarding fishing opportunities for 2026, prioritising long-term ecosystem health and sustainable fisheries management over short-term economic interests. The recommendations are based on the ICES advice, the requirements of the Common Fisheries Policy (CFP)[7] and the Baltic Multiannual Plan (MAP)[8] to apply the precautionary approach and implement an ecosystem-based approach to fisheries management, and the objective of achieving Good Environmental Status (GES) under the Marine Strategy Framework Directive (MSFD)[9].

2. URGENT NEED FOR RECOVERY-FOCUSED, PRECAUTIONARY AND ECOSYSTEM-BASED FISHING OPPORTUNITIES

The prevailing political response to declining fish stocks in the Baltic Sea has been problematic, characterised by the Council of Ministers' reluctance to adhere[10] to the spawning stock biomass safeguard rules in the legally binding Baltic Sea MAP. For two consecutive years, the Council has set fishing limits for certain stocks at levels that are higher than permitted[11] under Art 4.6[12] of the MAP, thereby increasing the risk of fish populations falling dangerously low on biomass. Furthermore, despite the CFP mandating that fishing opportunities must be based on the precautionary approach (Art 2.2) and that fisheries management must implement the ecosystem-based approach (Art. 2.3.), the Council has repeatedly set fishing opportunities negligently high for a number of stocks[13].

Persistently fishing declining and vulnerable fish populations is fundamentally unsustainable in the long term, both for the fishing sector that depends on healthy stocks and for the wider marine ecosystem. Fishing depleted or vulnerable fish populations at, or even above, the Maximum Sustainable Yield (MSY) -based single-stock headline advice provided by ICES, including up to $F_{MSY\ upper}$, may jeopardise or delay their recovery and fails to prevent them from falling outside safe biological limits. **This is because the advice is not designed to rebuild stocks within any concrete timeframe, let alone in the near future, nor to prevent unsustainable stock declines**.[14,15]

A recent study in the journal *Science* (Edgar et al. 2024[16]) shows that fisheries management projections have been overly optimistic and that there is substantial uncertainty in modeled stock estimates, particularly for already overfished stocks. Furthermore, this well-documented concern that stock conditions are worse than previously reported[17] highlights the urgent need for more precautionary fisheries management to mitigate the risks from overly optimistic stock assessments. The uncertainty with the models is further exacerbated in the Baltic Sea by the current geopolitical situation, where limited data of Russian Federation catches is available.



The current ICES advice on fishing opportunities - and the requests (by fishery managers like the European Commission) that guide the provision of such advice - do not fully reflect all relevant legal requirements and policy objectives applicable to the EU. Concretely, 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 fish populations from, or minimising the risk of, falling outside safe biological limits, despite legal safeguards in the EU's MAPs, including the Baltic Sea MAP; or
3. Delivering on all relevant elements of "Good Environmental Status" (GES) under the Marine Strategy Framework Directive (MSFD), such as healthy population structures and/or food web integrity (e.g. leaving enough food in the sea for other marine life).

EU decision-makers must urgently work with ICES to recognise and address these fundamental shortcomings in the advisory approach, and apply additional precaution by setting fishing opportunities below the ICES headline advice, until the necessary changes have been made. **Fishing at or above advised MSY-based catch levels will not set the Baltic Sea on a clear path out of the crisis.** We need a management system, underpinned by fully recovery-focused, precautionary and ecosystem-based advice, that goes beyond short-term fishing interests, and instead protects ecosystem functions, fisheries and coastal communities, in the long term.[18]

To improve the scientific advice underpinning fishing opportunities, NGOs recommend that the European Commission should:

- Work with ICES and other relevant ICES advice clients to develop and implement a clear roadmap for how current shortcomings[19] will be swiftly addressed and dealt with when setting fishing opportunities.
- Work with other relevant decision-makers to agree on ecosystem-based fisheries management objectives to inform the ICES advice request process.[20] International commitments on biodiversity conservation, such as Global Biodiversity Framework Directive, Baltic Sea Action Plan (BSAP) of HELCOM Commission as well as the MSFD should provide a basis for these ecological objectives and be considered alongside the rules and objectives of the CFP.
- Change the requests for ICES advice on fishing opportunities to:

  a) aim for rapid recovery of fish populations, particularly depleted or at-risk stocks, within a concrete timeframe and for maintaining them above sustainable levels in the near future,

  b) prevent or minimise the risk of fish populations falling outside safe biological limits, in line with the legal safeguard in the Baltic MAP to keep the risk of stocks falling below B_{lim} below 5%,

  c) fully reflect ecosystem dynamics and needs and multispecies considerations, also delivering on all relevant elements of Good Environmental Status (GES) under the Marine Strategy Framework Directive (MSFD), such as healthy population structures and/or food web integrity (i.e. leaving enough food in the sea for other marine life), in line with an ecosystem-based approach to fisheries management, and

  d) provide sufficiently precautionary alternative catch options where a full incorporation of these aspects is not yet possible, to minimise risks to stocks and the overall ecosystem.

3. NGO RECOMMENDATIONS ON BALTIC SEA FISHING OPPORTUNITIES FOR 2026

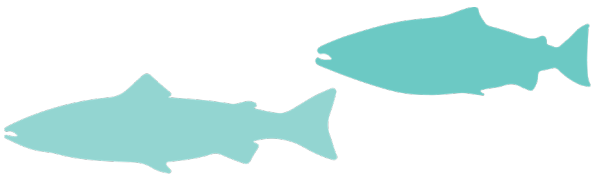
We urge the European Commission to propose, and fisheries ministers to adopt, fishing opportunities at levels well below the F_{MSY} point value, where available, to allow for the rapid recovery of Baltic Sea fish populations. This would ensure sufficient precaution, and safeguard long-term population and ecosystem health, resilience and productivity.

This means the following for the setting of Baltic Sea fishing opportunities for 2026:[21]

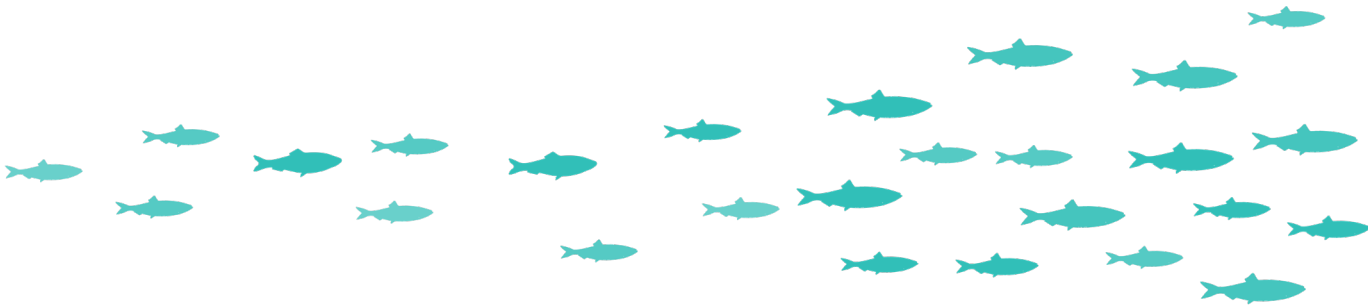
- Fishing opportunities should be set well below the scientific headline advice provided by ICES, regardless of whether this is based on the ICES MSY approach or the ICES precautionary approach for data-limited stocks.
- TACs must not be set at or above catch levels that are estimated to exceed the legal 5% risk limit, in Article 4.6 of the Baltic Sea MAP of the stock falling below B_{lim}. The range given in the headline advice on catches in 2026 for two of the Baltic Sea stocks, central Baltic herring and Bothnian herring, do not account for this legally binding safeguard, and the corresponding TACs must therefore be set below the advised levels to respect it.
- A certain precautionary safeguard percentage or amount should be deducted from the headline advice to account for scientific uncertainties, low recruitment trends, inter-species dynamics, mixed fisheries interactions, known and documented misreporting and other pressures. The size of this precautionary safeguard would depend on the population's status.[22] This approach would allow fish populations to fulfil their important role in the food web, benefitting the entire Baltic Sea ecosystem.

NGOs recommend additional management measures to help the recovery of fish populations:

- Request ICES advice on closures for fish populations in the areas with high mixing, where the impacts on individual populations or sub-populations are not well understood in order to protect depleted and vulnerable populations or sub-populations and minimise the risk of genetic depletion.
- Consider spatial management measures, such as closures, in areas with high mixing to protect depleted and vulnerable populations or sub-populations to minimise the risk of genetic depletion.[23]
- Consider fishing closures during critical periods, such as during spawning and aggregation seasons.



- Consider the lack of implementation of the Landing Obligation (LO)[24] by setting TACs sufficiently below ICES catch advice to ensure illegal, unreported discarding does not result in actual catches exceeding ICES catch advice.[25,26]
- Provide transparent calculations for TACs based on the ICES advice on fishing opportunities.
- Develop and implement effective rebuilding plans based on the findings of ICES WKREBUILD2[27] for all populations below MSY $B_{trigger}$. These should be geared towards rapidly rebuilding stocks above biomass levels that can produce MSY (i.e. above B_{MSY}), as required by the CFP, include strong safeguards to prevent future population declines or stagnation below MSY $B_{trigger}$, and be subject to close monitoring and enforcement using Remote Electronic Monitoring (REM).
- Underpin sustainable TAC-setting by robust controls and full catch documentation using REM (supported by observer coverage as appropriate) for all vessels above 12 m and for medium and high-risk vessels below 12 m.



SUMMARY OF NGO RECOMMENDATIONS ON BALTIC SEA TACS AND ADDITIONAL MEASURES FOR 2026

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Eastern Baltic cod **(SDs 25-32)[29]**	430 t (by-catch only)	Precautionary Approach	0 t	n/a[30]	**0 t** - Develop a rebuilding plan to ensure rapid recovery above B_{MSY}. - Increase monitoring and control on all vessels using active gears in all areas but prioritised in cod concentration areas (combining REM and traditional controls). - As cod is caught as bycatch in the plaice fishery, set the plaice TAC well below the respective single-stock headline advice in order to prioritise cod protection and recovery. - Ensure that any vessels targeting flatfish use gear that successfully minimises cod bycatch and implement additional measures to avoid and minimise cod bycatch in any fisheries using active gears. Access to the plaice TAC must be conditional on the use of such gear. - Implement habitat restoration efforts, focused on improving bottom oxygen content, as advised by ICES[31]. - Request scientific advice on the changed spawning period. - Continue with recreational measures agreed for 2025.[32]
Western Baltic cod **(SDs 22-24)[33]**	266 t (by-catch only)	Precautionary Approach	0 t	n/a	**0 t** - Develop a rebuilding plan to ensure rapid recovery above B_{MSY}. - Implement habitat restoration efforts, focused on the reduction of eutrophication to improve bottom oxygen content, as advised by ICES.[34] - Increase at-sea monitoring and control on all vessels using active gears in all areas but prioritised in cod concentration areas, combining both REM and traditional controls. - Ensure that any vessels targeting flatfish use gear that successfully minimises cod bycatch,[35] and implement additional measures to avoid and minimise cod bycatches in active demersal flatfish fisheries. Access to the plaice TAC must be conditional on the use of such gear. - Set the plaice TAC well below the respective single-stock headline advice in order to prioritise cod protection and recovery. - Introduce trawl-free areas in essential cod habitats and spawning areas. - Continue with recreational measures agreed for 2025.

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Western Baltic herring **(SDs 20-24)[36]**	788 t (by-catch only)	MSY Approach and Precautionary Approach	0 t	n/a	**0 t** - Develop a rebuilding plan to ensure rapid recovery above B_{MSY}. - Implement additional measures to protect and restore known spawning habitats and nursery areas, as advised by ICES.[37] - Consider implementing additional area and/or time restrictions on the herring fishery in the eastern parts of the North Sea divisions 4a, 4b and in division 3a based on scientific advice, as catches of Western Baltic Spring Spawning herring in the fishery for North Sea herring will be inevitable.[38] - Request ICES advice on possible temporal and spatial management measures, in order to avoid by-catch of WBSS herring and secure a reduction of unwanted fishing pressure on this stock.
Central Baltic herring **(SD 25-27, 28.2, 29 and 32)[39]**	83 881 t	EU MAP (F_{MSY})	Up to 154 542 t (taking into account stock mixing)	Add 636 t for Gulf of Riga herring to be taken in SD 28.2 and deduct 4 090 t for Central Baltic herring to be taken in the Gulf of Riga (SD 28.1)[40] Deduct 9,5% Russian share.	**< 89 827 t** **In order to comply with the law, the probability of the spawning stock biomass falling below B_{lim} in 2027 must be below 5%, corresponding to a TAC below 89 827 t.[41]** - Our recommendation is based on the p(SSB(2027)<B_{lim})=5% scenario in the ICES catch option table (103 073 t), in order to respect the legal 5% risk limit in the Baltic MAP and also taking into account the stock mixing with Gulf of Riga herring and deducting the Russian share.[42] - With the F ranges in the ICES headline advice, the probability of the population staying below MSY $B_{trigger}$ in 2027 is 59-63% and the percent probability of SSB being below B_{lim} in 2027 is 5.9-8.1%,[43] which exceeds the legal 5% risk limit in Article 4.6 of the Baltic MAP. **Additional recommended actions:** - Develop a rebuilding plan to ensure rapid recovery above B_{MSY}, for instance based on the findings of ICES WKREBUILD2,[44] including rebuilding a healthy age-size structure of the stock. - Request ICES to provide management measures to protect the genetically vulnerable sub-populations. - Improve control, enforcement, onboard monitoring and sampling of landings to ensure that the misreporting of sprat as herring and other types of misreporting do not occur. - Reserve the TAC exclusively for low-impact coastal fishers catching herring for direct human consumption.

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Gulf of Riga herring **(SD 28.1)**[45]	41 635 t	EU MAP (F_{MSY})	Up to 34 367 t (taking into account stock mixing)	Stock mixing with central Baltic herring is accounted for in advice. Deduct 636 t for Gulf of Riga herring to be taken in SD 28.2 and add 4 090 t for Central Baltic herring to be taken in the Gulf of Riga (SD 28.1).[46]	**≤ 27 416 t**[47] - Consider setting the TAC within or below the lower end of the F_{MSY} range in order to build ecosystem resilience by allowing the stock biomass to increase more substantially.
Gulf of Bothnia herring **(SDs 30-31)**[48]	66 466 t	EU MAP (F_{MSY})	Up to 62 684 t	n/a	**≤ 25 560 t** **To comply with the law, the probability of the spawning stock biomass falling below B_{lim} in 2027 must be less than 5%, corresponding to a catch of no more than 25 560 t.** - MSY $B_{trigger}$ cannot be achieved in 2027 for this stock, even with zero catch in 2026. With the F ranges in the ICES headline advice, the probability of the population being below MSY $B_{trigger}$ in 2027 is 84–86% and the percent probability of SSB being below B_{lim} in 2027 is 9–10% (Table 2 of GoBH advice). **Additional Recommended actions:** - Further research is needed, e.g. on the role of Bothnian herring as part of the Baltic Sea food web. In its advice, ICES states that "*The decreased catch advice is due to a combination of the downscaled recruitment and declining stock size in recent years*".[49] Size, species composition and location of available zooplankton could affect both size and condition of Gulf of Bothnia herring.[50] - Consider setting TACs and implement measures that increase the share of older fish in the stock, which over the past decade has been very low. At the current target fishing mortality rate, it is unlikely that the proportion of older individuals will increase, according to ICES.[51] - Request scientific advice on dividing the Gulf of Bothnia herring stock into two separately managed herring populations; a north and a south one.

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Baltic sprat **(SDs 22-32)[52]**	139 500 t	EU MAP (F_{MSY})	Up to 230 518 t	Deduct 10,08% Russian share	**We recommend that managers wait with the decision on TAC until the latest knowledge from the spring trawl surveys is available.** Due to the mixing with the degraded herring stocks in the central Baltic we cannot provide a quantitative catch recommendation, but we emphasise that the TAC should be set below the lower end of the F_{MSY} range. Considering that recruitment for three previous year classes (2021 – 2023) was among the lowest in the time series, combined with the uncertainty of the latest recruitment estimate[53], as well as the ongoing issues with misreporting and mixed fisheries considerations for sprat and herring, the TAC for sprat should be set well below $F_{MSY\ lower}$ and taking into account the Russian share (≤ 158 310 t). **Additional recommended actions:** - Develop a rebuilding plan to ensure rapid recovery above B_{MSY}. - Implement spatial management and measures to account for species interaction (such as spatial or temporal limitations). - Increase control, enforcement, onboard monitoring and sampling of landings to ensure that the widespread misreporting of sprat as herring and of sprat as non-quota species such as flounder[54] does not continue.

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Plaice **(SDs 21-32)**[55]	11 313 t	MSY Approach	16 533 t	Apply the same method as detailed in the ICES advice.[56]	**Prioritise protection and recovery of both Baltic cod stocks by setting the plaice TAC well below single-stock headline advice and in no event allowing the fishing level to increase (≤ 4 894 t).** - At the very least, the fishing level must not increase, i.e. the plaice TAC must not exceed the $F=F_{2024}$ scenario (≤ 4 894 t), but in order to minimise the bycatch impact on cod it should be set even lower. **Additional recommended actions:** - Implement measures to improve plaice condition, such as efforts to restore habitats with a focus on improving bottom oxygen content, as recommended by ICES.[57] - Request ICES to provide advice on relevant mixed fisheries considerations to ensure future plaice TAC-setting does not jeopardise the recovery of depleted cod stocks. - Consider a spatial closure for vessels operating with bottom towed gear in SDs 22, 24, 25 and 26 where eastern Baltic cod is most abundant to avoid bycatch.[58] - Install mandatory REM on all vessels in the targeted flatfish fishery because of the high volumes of cod bycatches. - The most selective fishing gears (both existing and new) designed for flatfish must be tested and used to avoid cod bycatch in the flatfish fisheries,[59,60,61] and access to the plaice TAC must be conditional on the use of such gear. - Consider the high catches of plaice below minimum size in demersal fisheries and the increased discarding due to the decreasing condition of plaice.

TAC by area - species	TAC set for 2025	ICES advice basis	ICES stock catch advice for 2026 (tonnes)[28]	ICES advice adjusted for - Third Country shares - Stock & TAC area mixing	NGO recommendations on TACs and additional measures for 2026
Main Basin salmon **(SD 22-31)**[62]	34 787 salmon	MSY Approach	0 for mixed stock fisheries at sea 0 for wild salmon in weak rivers in AU 5 If spatial management is used, then ≤ 30,000 salmon can be taken in 29N-31 (both commercial and recreational)	Deduct 1.9% Russian share	**We recommend that there should be no targeted salmon fishery in 2026 unless the new assessment shows that this year's spawner numbers exceed the levels required to produce MSY.** - The forecast for this year overall is not looking positive, if this trend continues over the summer no fishing should be allowed. - The current approach of setting TACs on an annual basis and including technical measures in the TAC Regulation does not deliver sustainable long-term management of the stocks. Therefore, a holistic management approach, covering TAC-setting as well as relevant technical measures, should be developed as part of a comprehensive new multiannual management plan.
Gulf of Finland salmon **(SD 32)**[63]	10 144 salmon	Precautionary Approach	10 480 reared salmon	Apply the 86% of reported landings[64] Deduct 9.3% Russian share	**≤ 10 480 reared salmon** - No wild salmon should be targeted in the Gulf of Finland (GoF). To avoid wild salmon from the Gulf of Bothnia stocks, the start of the fishing season should be postponed. Salmon in the GoF can be targeted only by fishing gear that is proven to do no harm to released wild salmon bycatch. - Salmon from GoF mix with main basin salmon stocks at sea. The mixed stock sea fishery must be stopped to safeguard the GoF stocks. - The current approach of setting TACs on an annual basis and including technical measures in the TAC Regulation does not deliver sustainable long-term management of the stocks. Therefore, a holistic management approach, covering TAC-setting as well as relevant technical measures, should be developed as part of a comprehensive new multiannual management plan.

Note: Pending a formal sharing agreement between the EU and Russia, the assumed Russian shares are those used under the former International Baltic Sea Fisheries Commission (IBSFC).

RECOMMENDATIONS ON BALTIC SEA TACS AND ADDITIONAL MEASURES FOR 2026

Eastern Baltic cod in SDs 25-32

We recommend that the TAC for 2026 should be set at zero tonnes both in subdivisions (SDs) 25-32 and in SD 24 based on the ICES advice for 2026, which states that "ICES advises that when the precautionary approach is applied, there should be zero catch in 2025 and 2026. This advice applies to all catches from the stock in subdivisions 24–32".[65]

ICES states that "*At the current low productivity, the stock is estimated to remain below B_{lim} in the short term, even with no fishing*".[66] In order to help eastern Baltic cod recover, setting a zero-TAC must be combined with additional conservation measures.

Since Baltic cod is a top predator and important to the entire Baltic Sea ecosystem, we recommend developing an ecosystem-based restoration plan to bring Baltic cod back to GES, taking into account interspecies considerations and all threats to the stock, including eutrophication, pollution, climate change, habitat loss as well as the general state of the Baltic Sea ecosystem.[67] In its advice, ICES recommends habitat restoration efforts for eastern Baltic cod "*with a focus on improving bottom oxygen content*" as such efforts are expected to affect the mortality and (indirectly) the biomass.[68]

Cod is no longer a target species but caught in the flatfish fisheries. It is of critical importance that the gears and methods that are most effective at avoiding and minimising cod bycatch are immediately mandated in all flatfish fisheries. In addition, the plaice TAC should be set well below the single-stock advice in order to prioritise cod protection and recovery.

We urge that the implications for cod are considered when setting the TAC for plaice and the time and area plaice is fished,[69] and that a combination of traditional controls and mandatory REM on vessels using active gears is used in all areas the stock is found.

Western Baltic cod in SDs 22-24

We recommend that the TAC for 2026 should also be set at zero tonnes (commercial and recreational), based on the ICES advice for 2026 which states that "ICES advises that when the precautionary approach is applied, there should be zero catch in each of the years 2026 and 2027. The fishery for western Baltic cod includes fish from eastern Baltic cod, which is below B_{lim}".[70]

Due to the degraded state of this stock, and as the stock is not expected to recover above B_{lim} in the short term, even with zero catch, ICES advises that when the precautionary approach is applied there should be zero catch in 2026 and 2027 (neither commercial nor recreational).

ICES advice stresses the need of improving the Baltic Sea environment: "*western Baltic cod conservation should be considered within the context of a degraded ecosystem resulting from cumulative anthropogenic pressures and climate change. Habitat restoration efforts, focused on the reduction of eutrophication to improve bottom oxygen content, are recommended. These are expected to have both direct and indirect effects on mortality and individual condition*".[71]

Western Baltic Spring Spawning (WBSS) herring in SDs 20-24

We recommend that the TAC for 2026 should be set at zero tonnes as ICES has consistently advised zero-catch based on the MSY approach[72] for seven consecutive years. In addition, we recommend implementing additional area and/or time restrictions on the herring fishery in the eastern parts of the North Sea divisions 4a, 4b and in division 3a, as catches of Western Baltic Spring Spawning herring in the fishery for North Sea herring will be inevitable and will prevent the recovery of the stock.

The spawning stock biomass (SSB) of the WBSS herring stock has been below the reference value B_{lim} since 2007. There has been no strong recruitment since 2013 and ICES advice states that there are no catch scenarios that will rebuild the stock above B_{lim} by 2027, and "*therefore, zero catch is advised for 2026*".[73]

Under "*Issues relevant for the advice"* in the advice sheet, ICES also notes that "*Catches of WBSS herring in 2025 are expected to continue to be considerably larger in the North Sea than in subdivisions 20–24 (around three times as large). Without additional area and seasonal restrictions on the herring fishery in the North Sea in 2026, catches of WBSS herring in the North Sea will be unavoidable, delaying the recovery of the WBSS herring stock*". Additionally, non-fishing impacts are substantial for this stock, *"particularly for the survival of early life-stages"*. ICES is not able to "*quantify the level and relative impact of cumulative non-fisheries anthropogenic factors on the reproductive capacity of the stock*" but lists climate change–related effects affecting the Rügen spawning component and eutrophication and spawning habitat degradation as negative drivers.[74] Under conservation aspects in the advice sheet, ICES advises that "*measures to protect and restore known spawning habitats and nursery areas are needed*".[75]

Central Baltic Sea (excluding Gulf of Riga) herring in SDs 25-29 & 32

The 2026 TAC for Central Baltic herring must be set below 89 827 tonnes when adjusted for mixing and the Russian share[76] as any higher TAC would not be in line with the Baltic Sea MAP 5% safeguard rule in Article 4.6 for ensuring that the spawning stock biomass does not fall below the critical limit (B_{lim}).

In the latest advice for Central Baltic herring, ICES advised a further increase of the catch, which is explained by a large year class from 2022 contributing to the increase in estimations for the spawning stock biomass, together with the increasing trend of weight-at-age over the last years. However, this stock has a relative spawning-stock size below MSY $B_{trigger}$ and below the precautionary limit B_{pa} and is barely higher than the critical limit reference point below which reproduction is likely to be impaired (B_{lim}).

Article 4.6 of the Baltic Sea MAP requires that fishing opportunities (which includes TACs) shall be set so that there is a less than 5% probability of the stocks falling below the biomass limit value B_{lim}. For Central Baltic herring, this is not possible with the F ranges given in the ICES headline advice, which lead to a 5.9-8.1% probability of SSB being below B_{lim} in 2027. In order to keep the risk under 5% and comply with the law, the catch for 2026 must be set below 89 827 tonnes.[77]

Additionally, we have concerns about the following aspects which justify a more precautionary approach for Central Baltic herring:

- The stock is not stable, SSB is currently below MSY $B_{trigger}$ and below B_{pa}, and barely above B_{lim}
- Central Baltic herring contains several sub-populations and there is therefore a large vulnerability to genetic depletion
- Misreporting between herring and sprat
- Misreporting of herring/sprat as non-quota species, such as flounder
- Russian Federation outtakes of Central Baltic herring are uncertain or unknown
- Multispecies considerations and the mixing with the sprat fishery
- Ecosystem considerations such as the important role of herring in the Baltic Sea ecosystem's food web, including food availability for predators, such as the critically endangered Baltic Proper harbour porpoise.

The Central Baltic herring stock consists of several genetic spawning components which differ in migration routes, growth and maturity, making the Central Baltic herring particularly vulnerable to loss in genetic diversity which should be accounted for: "*The herring stock in the management area consists of several different spawning components that have been shown to be genetically distinct. Differences in genetics and migration routes between spawning components, as well as spatial differences in growth and maturity, make the central Baltic herring stock complex vulnerable to loss in both genetic diversity and overall productivity*".[78]

ICES notes that misreporting between sprat and herring remains an ongoing issue as is misreporting with flounder, although the latter likely has a smaller impact in recent years, since reported landings of flounder from pelagic trawler landings in SD 24–26 has decreased to approximately 300 tonnes in 2024 compared to > 3 000 tonnes in 2020–2021.[79] "*A proportion of these catches is suspected to be misreported sprat and herring but so far this has not been included in the flounder, central Baltic herring, or Baltic sprat assessments*".[80] However, all forms of misreporting bring some uncertainty into the stock assessments and advice, justifying a more precautionary approach when using such advice.

Gulf of Riga herring in SD 28.1

Consider setting the TAC within or below the lower end of the FMSY range and not exceed 27 416 t in order to build ecosystem resilience by allowing the stock biomass to increase more substantially.

This is based on the lower end of the FMSY range in ICES advice[81] "*assuming the same proportion of the Gulf of Riga herring and central Baltic herring stocks is taken in subdivision 28.1 as was estimated for 2020–2024".*[82]

Gulf of Bothnia herring in SDs 30-31

The TAC for Gulf of Bothnia herring must not exceed 25 560 tonnes as any higher TAC would not be in line with the requirement in Article 4.6 of the Baltic MAP to keep the risk of the stock falling below B_{lim} below 5%.

Similarly to Central Baltic herring, the F ranges listed in the ICES headline advice do not comply with the Baltic MAP. Article 4.6 of the Baltic Sea MAP states that fishing opportunities (which includes TACs) shall be set so that there is a less than 5% probability of the stocks falling below the critical biomass limit value B_{lim}. For Bothnian herring, this is not possible with the F ranges given in the ICES advice sheet, which lead to a 9-10% probability of SSB being below B_{lim} in 2027. In order to stay below 5% in line with the law, the catch for 2026 must not exceed 25 560 tonnes.[83]

The spawning-stock size is above B_{lim} and barely above B_{pa}. ICES acoustic survey for the Bothnian herring has difficulties "*tracking young age groups from year to year*" which "*generates a high level of uncertainty in the estimates of young age classes in recent years, and the uncertainty is in turn propagated into the assessment and forecast*". Additionally, ICES states that the quality of the advice is affected by a variability in estimated weight-at age which affects SSB estimates and "*could be driven by the availability of important zooplankton prey, which underlines the need for improved information on the food web related to herring*".

Baltic Sea sprat in SDs 22-32

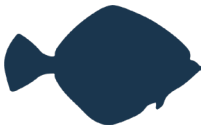
We recommend that managers wait with the decision on TAC until the latest knowledge from the spring trawl surveys is available.

Due to the mixing with the degraded herring stocks in the central Baltic we cannot provide a quantitative catch recommendation, but emphasise that the TAC should be set below the lower end of the F_{MSY} range.

Under the section *"Issues relevant to the advice*" ICES states that "*The year classes 2021–2023 are among the lowest in the time-series. The 2024 year class (recruitment at age 1 in 2025) is estimated to be strong. However, in the autumn acoustic survey, this year class was distributed mainly in northeastern areas, which increases the uncertainty of its future contribution to the overall sprat biomass. The 2024 year-class estimate is currently based on this one survey, and the year-class strength is uncertain until confirmed by the next survey (conducted in May 2025). The 2024 year-class has a large contribution to the forecasted spawning-stock biomass (SSB) and catch, so the probability that biomass will be below reference points could be underestimated*"[84]. It thus remains to be seen whether the recruitment estimate is representative of the larger stock area. Due to the uncertainty behind the promising recruitment values more precaution must be taken when setting the TAC for sprat.

Further, the Russian share needs to be taken into account as the uncertainties regarding this share have further increased for sprat, as no information on catches for 2022–2024 was officially reported to ICES. Therefore *"the Russian Federation catches for these years included in the assessment were based on publicly available information, the quality of which cannot be quantified*".[85]

Plaice in SDs 22-32



We recommend prioritising the protection and recovery of both Baltic cod stocks by setting the plaice TAC for 2026 well below the single-stock headline advice and in no event allowing the fishing level to increase (≤ 4 894 t)

Baltic plaice was previously assessed as two stocks (ple.27.3a.21-23 and ple.27.24-32) but is now assessed jointly by ICES for the entire area (SDs 22-32) after a benchmarking in 2024 (WKBPLAICE[86]), which means that "*This new stock has no history of assessments to which it may be directly compared*".

It can also be noted that plaice and other flatfish/demersal fish in the Baltic Sea have shown decreases in stock weight-at-age and condition over the last five years.

There is a likelihood of significant bycatch of Eastern Baltic cod when catching plaice in SDs 24-26. The setting of the plaice TAC needs to be carefully considered in the context of conservation measures and a rebuilding plan for eastern Baltic cod, including mandating more selective fishing gears to avoid cod bycatch.

Given the dire state of the Baltic cod stocks (which are below B_{lim} and for which zero catch is advised), the fishing level of plaice must not increase, i.e. the plaice TAC must not exceed the $F=F_{2024}$ scenario (≤ 4 894 tonnes),[87] but in order to minimise the bycatch impact on cod it should be set even lower. In order to inform the setting of a plaice TAC going forward that does not jeopardise the recovery of the depleted cod stocks (a significant bycatch is likely when catching plaice[88]), ICES should be requested to provide the relevant mixed fisheries considerations.

Further, best available gear and mandatory REM on vessels in the targeted flatfish fishery should be used to mitigate cod bycatches.

Baltic Sea (excluding the Gulf of Finland) salmon in SDs 22-31

We recommend that there should be no targeted salmon fishery in 2026 unless the new assessment shows that this year's spawner numbers exceed the levels required to produce MSY.

If the number of returning spawners remains below the spawning stock targets again this summer, all targeted salmon fishing must be completely suspended in 2026.

Due to decreased survival of wild post-smolts, the salmon spawning migration to the rivers flowing into the Bothnian Bay has clearly fallen short of the target level in the past two years. This means that even the strongest salmon stocks are unlikely to produce a number of smolts corresponding to the MSY levels in the coming years. The situation is especially critical in the smaller salmon rivers flowing into the Bothnian Bay, which have so far failed to reach the MSY level.

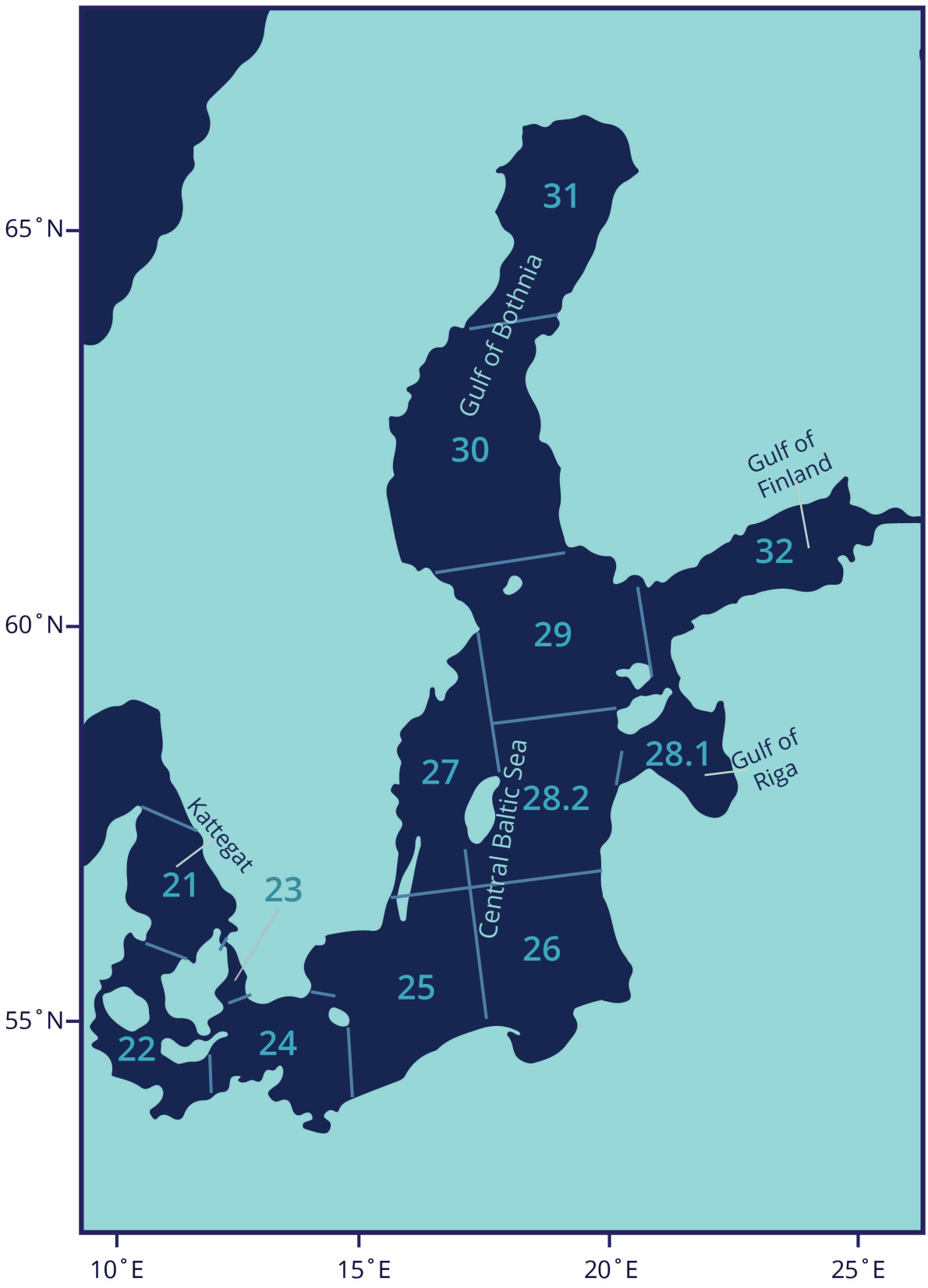
Gulf of Finland salmon in SD 32

We recommend that the TAC for 2024 should not exceed 10 480 salmon.

The salmon in the Gulf of Finland are dominated by released salmon and fishing on the wild salmon is not sustainable. The TAC number we recommend is calculated from the ICES division of wanted reported catch and the Russian share deducted from the total. The fishery should target only reared fin-clipped salmon to keep fisheries-related mortality on wild salmon as low as possible.[89] Currently fishing early in the season catches a substantial amount of wild salmon from Gulf of Bothnia populations. In order to avoid wild salmon, the season start should be postponed until the wild salmon from the Gulf of Bothnia has already passed the Gulf of Finland.

ICES advice states that "*when the precautionary approach is applied, commercial sea catches of Atlantic salmon in 2026 should be no more than 11 800 salmon. Applying the same catch proportions as those estimated to have occurred in 2024, this would correspond to reported commercial landings of no more than 10 480 salmon.*"[90]

MAP OF BALTIC SUBDIVISIONS (SDs)



Map of the Baltic Sea showing the subdivisions of the Belt, the Sound, and the Baltic for the reporting of catch statistics.

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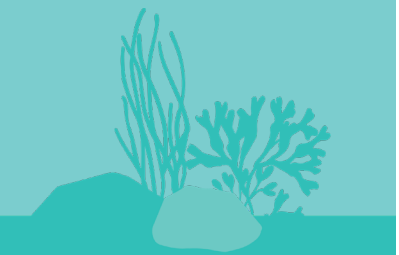

ENDNOTES

1. See for instance the HELCOM HOLAS assessment (HELCOM (2023): State of the Baltic Sea. Third HELCOM holistic assessment 2016-2021. Baltic Sea Environment Proceedings n°194).
2. This has been the case since 2019 for western Baltic herring, 2020 for eastern Baltic cod, and for the first time this year for western Baltic cod.
3. We are also concerned about the phenomenon of "phantom recoveries", where biomass increases for depleted stocks do not materialise as projected, and/or the stock situation in hindsight turns out to be worse than previously assumed. For example, a recent study by Froese et al. highlights that indeed the biomass of Western Baltic cod has been repeatedly overpredicted. 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. See figure on p. 827, showing "examples of previous unrealistic estimates and forecasts made by ICES in 2015 and 2018 to 2021".
4. The strong 2024 year class was distributed mainly in northeastern areas, which increases the uncertainty of its future contribution to the overall sprat biomass. ICES. 2025. Sprat (*Sprattus sprattus*) in subdivisions 22-32 (Baltic Sea). (In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, spr.27.22-32. https://doi.org/10.17895/ices.advice.27202893).
5. See Froese et al as referenced in footnote 3. Also see several scientific papers from last year which highlighted the phenomenon of "phantom recoveries" of depleted stocks, due to an overestimation of biomass levels and recovery trajectories, particularly for depleted stocks. 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.
6. Rosciszewski-Dodgson, M. J., & Cirella, G. T. (2024). Environmental drivers affecting the status of top commercial fish stocks in the Baltic Sea. Frontiers in Marine Science, 11, 1399707. https://doi.org/10.3389/fmars.2024.1399707
7. Regulation (EU) No 1380/2013 of the European Parliament and of the Council of 11 December 2013 on the Common Fisheries Policy, amending Council Regulations (EC) No 1954/2003 and (EC) No 1224/2009 and repealing Council Regulations (EC) No 2371/2002 and (EC) No 639/2004 and Council Decision 2004/585/EC https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32013R1380
8. Consolidated text: 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, amending Council Regulation (EC) No 2187/2005 and repealing Council Regulation (EC) No 1098/2007 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32016R1139
9. Directive 2008/56/EC of the European Parliament and of the Council of 17 June 2008 establishing a framework for community action in the field of marine environmental policy (Marine Strategy Framework Directive) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32008L0056&qid=1749646185087
10. Coalition Clean Baltic submitted an application to the General Court of the European Union (GCEU) to invalidate the EU fisheries ministers' decision on the 2024 fishing quotas for the Baltic herring https://www.ccb.se/environmental-organizations-appeal-to-eu-court-to-invalidate-fishing-quotas-due-to-baltic-herring-stocks-collapse
11. BalticWaters (2024). Report: Are EU Fisheries Ministers Breaking the Law?
12. Art. 4.6 of the Baltic Sea Multiannual Plan requires fishing opportunities to be set in such a way that there is less than a 5% probability of the stock's spawning biomass (SSB) falling below critical biomass levels (B_{lim}). ICES headline advice for Central Baltic herring and Gulf of Bothnia herring on catches in 2026 does not take into account this safeguard, as it is associated with a higher than the legally allowed 5% risk. If fishing limits for Bothnian herring are set in line with the ICES headline advice of 55,869 to 62,684 tonnes, the probability of the spawning stock biomass falling below B_{lim} in 2027 is 9-10%, well above the 5% legal limit. To comply with the law, the total catch in 2026 cannot exceed 25,560 tonnes. For Central Baltic herring, the probability of spawning biomass being below critical levels in 2027 after fishing the advised 120,378 to 157,996 tonnes is 5.9-8.1%—also above the 5% legal limit. To comply, the total catch in 2026 must be set below 103,073 tonnes.

13. For example, a doubling of the total allowable catch (TAC) of herring in the central Baltic Sea and a substantial increase of 21% in the Gulf of Bothnia, in addition to an increase of 10% for the Gulf of Riga herring were among the outcomes of the negotiations on catch limits for 2025 in the EU Council of Ministers last year. In addition, despite a zero catch advice from ICES; the Council continued to set bycatch quotas for eastern Baltic Cod and western Baltic Herring, at levels that are above reported landings. Thus maintaining unsustainably high bycatch quota.

14. This is because the current ICES Advice Rule which guides the provision of the advice on fishing opportunities merely decreases the advised fishing mortality below FMSY when a stock falls below MSY $B_{trigger}$, but does not contain a concrete recovery target or timeframe. 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. 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.v2, pp. 5-6.

15. For example, there would be a 59%-63% probability that the Central Baltic herring stays below MSY $B_{trigger}$ and B_{pa} (i.e. outside safe biological limits), if it was fished at the ICES headline advice level, and even a 70% probability if it was fished at FMSY upper in 2026. Similarly, for Bothnian herring fishing at the ICES headline advice level is associated with a 84%-86% probability of the stock remaining below MSY $B_{trigger}$ and B_{pa} in 2027, and a 89% probability if it was fished at FMSY upper.

16. Edgar, G. J., Bates, A. E., Krueck, N. C., Baker, S. C., Stuart-Smith, R. D., & Brown, C. J. (2024). Stock assessment models overstate sustainability of the world's fisheries. Science, 385(6711), 860-865. https://www.science.org/doi/10.1126/science.adl6282

17. 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. See figure on p. 827, showing "*examples of previous unrealistic estimates and forecasts made by ICES in 2015 and 2018 to 2021*". Ibid. Referencing cod and herring in the Baltic Sea, This study also refers to the scientific advice as "*incomplete, risk-prone and biased*" and state that scientists from the national fisheries research institutes who are involved in the development of the ICES advice "*were aware of the regular overprediction of latest biomass in ICES assessments and the need to correct these downward in the subsequent years*".

18. *Ibid*. Froese et al. (2025) concluded that "*it should be understood and accepted that the scientific estimate of the maximum catch that a stock can support given its ecosystem role and environmental conditions is a hard upper limit that is not open for political negotiation or compromise. Instead, political and societal discussions of allowed catch can focus on debating how far TACs shall be set below the scientific limit to account for uncertainty and to maximise resilience, minimize risks, and ensure long-term profitable fisheries.*"

19. An overview of key shortcomings and recommendations how the European Commission, as well as other ICES advice clients, could help to address them, is provided in a recent joint letter to EU Commissioner Kadis (2025), co-signed by 17 organisations. https://www.clientearth.org/latest/documents/letter-to-european-commissioner-kadis-regarding-the-renewal-of-the-specific-grant-agreement-with-ices/. An upcoming briefing series, which will consolidate various cross-cutting concerns and recommendations presented by the NGOs regarding the setting of fishing opportunities, will contain a bespoke briefing on this topic and be shared in due course.

20. The Pew Charitable Trusts. 2024. To Improve Fisheries Management and Protect Ecosystems, Decision Makers Must Ask Better Questions. Link.

21. *N.B.* Further background, context, and concerns that remain valid from the joint NGO recommendations for 2025 can be found here.

22. This approach could be informed by other catch options in the advice sheet and their associated biomass projections. For example, where no bespoke rebuilding scenario is available, the TAC could be informed by the catch option corresponding to or closest to the mid-point between the biomass increase projected for zero catch and that for FMSY lower or FMSY lower × SSB 2025/MSY $B_{trigger}$, or could be set halfway between the corresponding catch options. Generally, the TAC could be set at a maximum at a certain fraction, such as 80% (or another, lower level, depending on the stock situation), of the ICES single-stock headline advice.

23. The principles behind ICES salmon advice, that Member States support, is a good example of closing a mixed stock fishery and only allowing fishing close to their origins to mitigate risks to individual stocks or stock components.

24. Communication from the Commission to the European Parliament and the Council Towards more sustainable fishing in the EU: state of play and orientations for 2023.

25. ClientEarth, 2020. Setting Total Allowable Catches (TACs) in the context of the Landing Obligation. July 2020. Also see this short presentation (starting at 15:30) which visualises the risk that "topped up" catch-based TACs pose in combination with illegal discards: https://youtu.be/Cw783NtRdCg?t=930.

26. Borges, L., 2020. The unintended impact of the European discard ban. ICES Journal of Marine Science, ICES Journal of Marine Science, Volume 78, Issue 1: 134-141, https://doi.org/10.1093/icesjms/fsaa200

27. 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

28. For Baltic and Gulf of Finland salmon, we have interpreted ICES advice as the 'Commercial Landings' (the reported projected landings) of individual fish. This is the 'Total Commercial Sea Catch' with deductions for the unreported, misreported (i.e., IUU) and unwanted catch (i.e. seal damage and discards), as estimated by ICES.

29. ICES. 2025. Cod (*Gadus morhua*) in subdivisions 24-32, eastern Baltic stock (eastern Baltic Sea). Replacing advice provided in May 2024. In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, cod.27.24-32. https://doi.org/10.17895/ices.advice.27202563

30. Deduct Russian share from the advice for eastern Baltic cod. Deduct catches of eastern Baltic cod in SD 24 (i.e., those caught in the western Baltic cod TAC area). Not applicable with zero catch advice.

31. ICES. 2025. Cod (*Gadus morhua*) in subdivisions 24-32, eastern Baltic stock (eastern Baltic Sea). Replacing advice provided in May 2024. In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, cod.27.24-32. https://doi.org/10.17895/ices.advice.27202563

32. COUNCIL REGULATION (EU) 2024/2903 of 18 November 2024 fixing the fishing opportunities for certain fish stocks and groups of fish stocks applicable in the Baltic Sea for 2025 and amending Regulation (EU) 2024/257 as regards certain fishing opportunities in other waters

33. ICES. 2025. Cod (*Gadus morhua*) in subdivisions 22-24, western Baltic stock (western Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, cod.27.22-24. https://doi.org/10.17895/ices.advice.27202560

34. ICES Advice 2025 – cod.27.22-24 – https://doi.org/10.17895/ices.advice.27202560

35. ICES states in the advice for plaice in subdivisions 21-32 that "Increased fishing opportunities for plaice may lead to an increase in the bycatch of cod. There are gears available that successfully reduce cod bycatches in the flatfish fisheries; however, these gears were not in use up to quarter 1, 2025. Reducing the bycatch of cod in flatfish fisheries may enhance the recovery of the cod stocks" (ICES. 2025. Plaice (*Pleuronectes platessa*) in subdivisions 21-32 (Kattegat and Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, ple.27.21-32. https://doi.org/10.17895/ices.advice.27202773)

36. ICES. 2025. Herring (*Clupea harengus*) in subdivisions 20-24, spring spawners (Skagerrak, Kattegat, and western Baltic). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.20-24. https://doi.org/10.17895/ices.advice.27202614

37. "*ICES advises that measures to protect and restore known spawning habitats and nursery areas are needed*" ICES Advice 2025 – her.27.20-24– https://doi.org/10.17895/ices.advice.27202614

38. ICES. 2025. Herring (*Clupea harengus*) in subdivisions 20-24, spring spawners (Skagerrak, Kattegat, and western Baltic). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.20-24. https://doi.org/10.17895/ices.advice.27202614

39. ICES. 2025. Herring (*Clupea harengus*) in subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.25-2932. https://doi.org/10.17895/ices.advice.27202617

40. In the latest advice, ICES accounts for mixing between Central Baltic and Riga herring with a catch of 154 542 tonnes in 2026 (corresponding to FMSY × SSB2026/MSY $B_{trigger}$) "*assuming the same proportion of the Gulf of Riga herring and central Baltic herring stocks is taken in subdivisions 25–29 and 32 as was estimated for 2020–2024*". https://doi.org/10.17895/ices.advice.27202617

41. See Table 2 of Central Baltic herring advice: % probability of SSB (2027) < B_{lim}* is 5% for a total catch of 103 073 tonnes in 2026 (ICES. 2025. Herring (Clupea harengus) in subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.25-2932. https://doi.org/10.17895/ices.advice.27202617) - We have accounted for mixing and deducted a Russian share to produce the recommended value 89 827t (see endnote 42 below).

42. Ibid. An estimated catch of 103 073 t corresponds to 5% for p(SSB(2027)<B_{lim})=5% (Central Baltic herring advice sheet, Table 2). After adding 636 t for Riga herring to be taken in SD 28.2 and deducting 4 090 t for Central Baltic herring to be taken in the Gulf of Riga (SD 28.1) we deducted the Russian share (9.5% of 103 073t = 9 791,935t) giving the final value 89 827t.

43. See Table 2 of Central Baltic herring advice (ICES. 2025. Herring (*Clupea harengus*) in subdivisions 25-29 and 32, excluding the Gulf of Riga (central Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.25-2932. https://doi.org/10.17895/ices.advice.27202617).
44. 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
45. ICES. 2025. Herring (*Clupea harengus*) in Subdivision 28.1 (Gulf of Riga). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.28. https://doi.org/10.17895/ices.advice.27202620
46. In the latest advice, ICES accounts for mixing between Central Baltic and Riga herring stating "The above advice corresponds to catches of herring in subdivision 28.1 of no more than 34 367 tonnes (corresponding to FMSY) in 2026, assuming the same proportion of the Gulf of Riga herring and central Baltic herring stocks is taken in subdivision 28.1 as was estimated for 2020–2024." (ICES. 2025. Herring (*Clupea harengus*) in Subdivision 28.1 (Gulf of Riga). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.28. https://doi.org/10.17895/ices.advice.27202620).
47. Calculated based on F_{lower} (23 962t), and taking into account mixing by deducting 636 t for Gulf of Riga herring to be taken in SD 28.2 and adding 4 090 t for Central Baltic herring taken in the Gulf of Riga = 27 416 t.
48. ICES. 2025. Herring (*Clupea harengus*) in Subdivisions 30 and 31 (Gulf of Bothnia). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.3031. https://doi.org/10.17895/ices.advice.27202623
49. ICES. 2025. Herring (*Clupea harengus*) in Subdivisions 30 and 31 (Gulf of Bothnia). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.3031. https://doi.org/10.17895/ices.advice.27202623
50. ICES. 2024. Workshop on establishing a roadmap for possible conservation measures for herring in the Baltic (WKHERBAL). ICES Scientific Reports. 6:14. 46 pp. https://doi.org/10.17895/ices.pub.25310959
51. ICES. 2025. Herring (*Clupea harengus*) in Subdivisions 30 and 31 (Gulf of Bothnia). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, her.27.3031. https://doi.org/10.17895/ices.advice.27202623
52. ICES. 2025. Sprat (*Sprattus sprattus*) in subdivisions 22-32 (Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, spr.27.22-32. https://doi.org/10.17895/ices.advice.27202893
53. ICES's increased sprat advice for 2026 is based on promising recruitment data from just one northeastern survey that may not reliably predict biomass increases across the entire Baltic sprat stock area. "*The 2024 year-class estimate is currently based on this one survey, and the year-class strength is uncertain until confirmed by the next survey (conducted in May 2025). The 2024 year-class has a large contribution to the forecasted spawning-stock biomass (SSB) and catch, so the probability that biomass will be below reference points could be underestimated*" (ICES. 2025. Sprat (*Sprattus sprattus*) in subdivisions 22-32 (Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, spr.27.22-32. https://doi.org/10.17895/ices.advice.27202893).
54. In their latest advice, ICES notes that the "*impact of misreporting as flounder in recent years on the sprat assessment is likely minor, given low reported catch of flounder*" as the reported landings of flounder from pelagic trawler landings in SD 24-26 has decreased to approximately 300 tonnes in 2024 compared to >3 000 tonnes in 2020–2021. "*A proportion of these catches is suspected to be misreported sprat and herring but so far this has not been included in the flounder, central Baltic herring, or Baltic sprat assessments*". (ICES. 2025. Sprat (*Sprattus sprattus*) in subdivisions 22-32 (Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, spr.27.22-32. https://doi.org/10.17895/ices.advice.27202893).
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56. "*No more than 5 562 tonnes in subdivision 21 and of 10 971 tonnes in subdivisions 22–32*" (ICES. 2025. Plaice (*Pleuronectes platessa*) in subdivisions 21-32 (Kattegat and Baltic Sea). In Report of the ICES Advisory Committee, 2025. ICES Advice 2025, ple.27.21-32. https://doi.org/10.17895/ices.advice.27202773).
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77. *Ibid.* Based on the Table 2 catch value of 103 073 tonnes (% probability of SSB (2027) < B_{lim}* is = 5%), we have added 636 t for Riga herring to be taken in SD 28.2 and deducted 4 090 t for Central Baltic herring to be taken in the Gulf of Riga (SD 28.1) and deducted the Russian share (9.5% for from 103 073t) giving the final value 89 827t (see endnote 42).
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