# Marin naturgenopretning uden store rovfisk. Sisyfos eller sund fornuft?

**Jon C. Svendsen**
Seniorforsker
Email: jos@aqua.dtu.dk
Tlf. 22 81 65 45






naturpark LILLEBÆLT

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Den Europæiske Hav- og Fiskerifond

Energistyrelsen

SAMSØ KOMMUNE
- vi gør det sammen

# Greater Consideration of Animals Will Enhance Coastal Restoration Outcomes

MICHAEL SIEVERS, CHRISTOPHER J. BROWN, CHRISTINA A. BUELOW, ROBIN HALE, ANDRIA OSTROWSKI, MEGAN I. SAUNDERS, BRIAN R. SILLIMAN, STEPHEN E. SWEARER, MISCHA P. TURSCHWELL, STEPHANIE R. VALDEZ, AND ROD M. CONNOLLY

*As efforts to restore coastal habitats accelerate, it is critical that investments are targeted to most effectively mitigate and reverse habitat loss and its impacts on biodiversity. One likely but largely overlooked impediment to effective restoration of habitat-forming organisms is failing to explicitly consider non-habitat-forming animals in restoration planning, implementation, and monitoring. These animals can greatly enhance or degrade ecosystem function, persistence, and resilience. Bivalves, for instance, can reduce sulfide stress in seagrass habitats and increase drought tolerance of saltmarsh vegetation, whereas megaherbivores can detrimentally overgraze seagrass or improve seagrass seed germination, depending on the context. Therefore, understanding when, why, and how to directly manipulate or support animals can enhance coastal restoration outcomes. In support of this expanded restoration approach, we provide a conceptual framework, incorporating lessons from structured decision-making, and describe potential actions that could lead to better restoration outcomes using case studies to illustrate practical approaches.*

*Keywords: decision science, ecological restoration, rehabilitation, translocation, transplantation*

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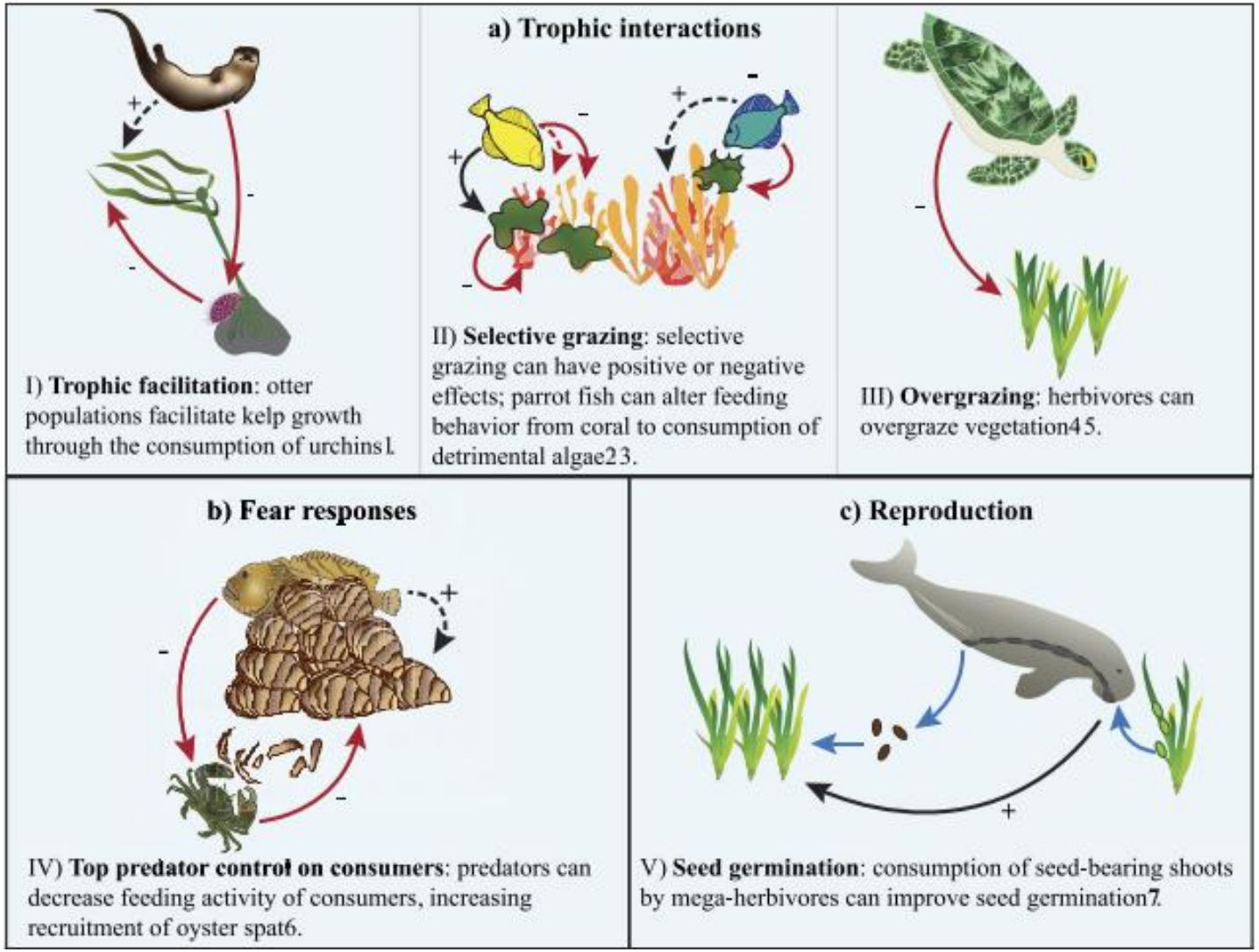

Contents lists available at ScienceDirect

Estuarine, Coastal and Shelf Science

journal homepage: www.elsevier.com/locate/ecss


# Ecological restoration measures for shallow coastal habitats of the Baltic Sea and the Skagerrak – effectiveness, costs and knowledge gaps

P. Kraufvelin [a,b,c,2,1], J. Olsson [a], L. Bergström [a], U. Bergström [a], A.C. Bryhn [a,*]

[a] Swedish University of Agricultural Sciences, Department of Aquatic Resources, Box 7070, SE-75007, Uppsala, Sweden
[b] Åland University of Applied Sciences, PB 1010, AX-22111, Mariehamn, Finland
[c] Metsähallitus Parks & Wildlife Finland, Itsenäisyydenaukio 2, 20800, Turku, Finland

Among the measures reviewed, three stand out as having especially low costs per area/effort, i.e.,

1) Restoration of coastal wetlands and flads/lagoons,

2) Strengthening populations of predatory fish

3) Habitat protection.

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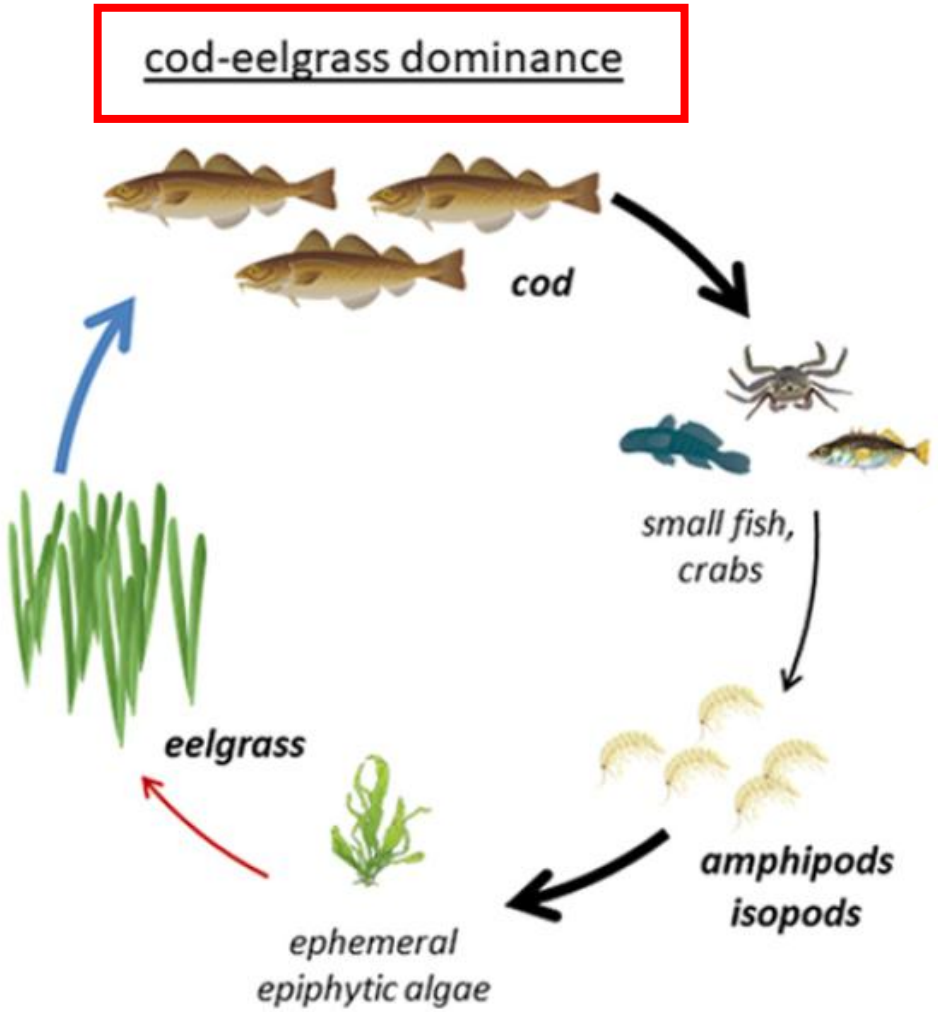
# Trophic Cascades in Coastal Ecosystems

**Britas Klemens Eriksson,** Groningen Institute for Evolutionary Life-Sciences, University of Groningen, Groningen, The Netherlands
**Ulf Bergström,** Department of Aquatic Resources, Swedish University of Agricultural Sciences, Sweden
**Laura L Govers,** Groningen Institute for Evolutionary Life-Sciences, University of Groningen, Groningen, The Netherlands and Department of Coastal Systems (COS), Royal Netherlands Institute for Sea Research (NIOZ) Texel, The Netherlands
**Johan S Eklöf,** Department of Ecology, Environment and Plant Sciences, Stockholm University, Stockholm, Sweden





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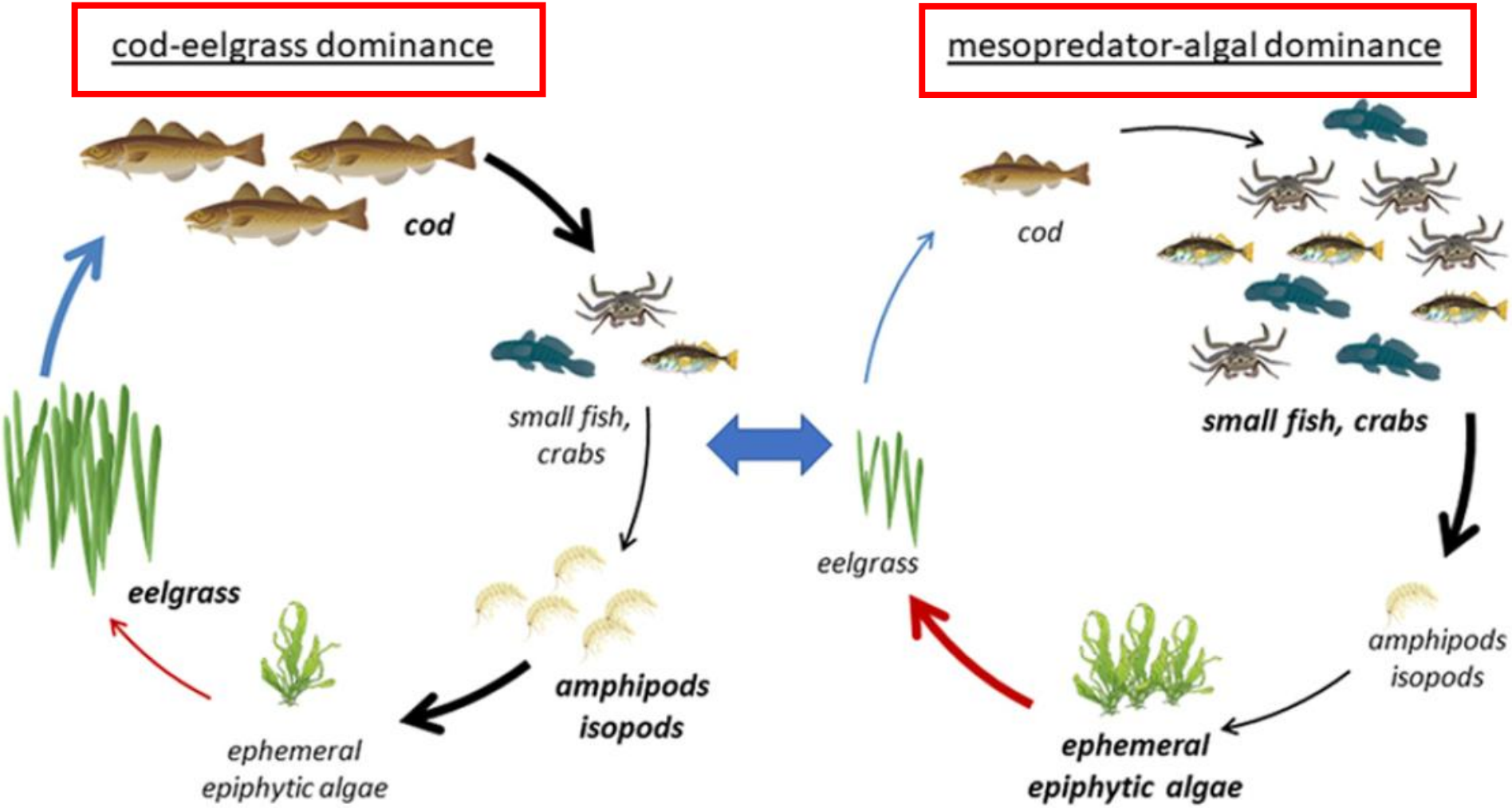
**Miljøet ændrer sig, hvis en bestand af torsk reduceres meget.**



Journal of Applied Ecology

British Ecological Society

*Journal of Applied Ecology* 2016, **53,** 1138–1147 doi: 10.1111/1365-2664.12654

REVIEW

# Top-down control as important as nutrient enrichment for eutrophication effects in North Atlantic coastal ecosystems

Örjan Östman[1]*, Johan Eklöf[2], Britas Klemens Eriksson[3], Jens Olsson[1], Per-Olav Moksnes[4] and Ulf Bergström[1]

**Store rovfisk som torsk er vigtige for økosystemet i havet**




Trekantområdet

# Krabber har overtaget herredømmet i Vejle Fjord

REGULAR PAPER

JOURNAL OF FISH BIOLOGY fsbi

# The forgotten feeding ground: patterns in seasonal and depth-specific food intake of adult cod *Gadus morhua* in the western Baltic Sea

Steffen Funk[1] | Romain Frelat[1,2] | Christian Möllmann[1] | Axel Temming[1] | Uwe Krumme[3]

**Torsk æder mange krabber**

Estuarine, Coastal and Shelf Science 322 (2025) 109374

Contents lists available at ScienceDirect

Estuarine, Coastal and Shelf Science

journal homepage: www.elsevier.com/locate/ecss

# Factors influencing the abundance of European green crab *Carcinus maenas*: combined effects of temperature, habitat and predator release

Mikkel Steen Nielsen [a], Jon C. Svendsen [a,b,*], Tim Wilms [c], Jeannet L. Bertelsen [a,b], Bo Mammen Kruse [d], Martin Lindegren [a]

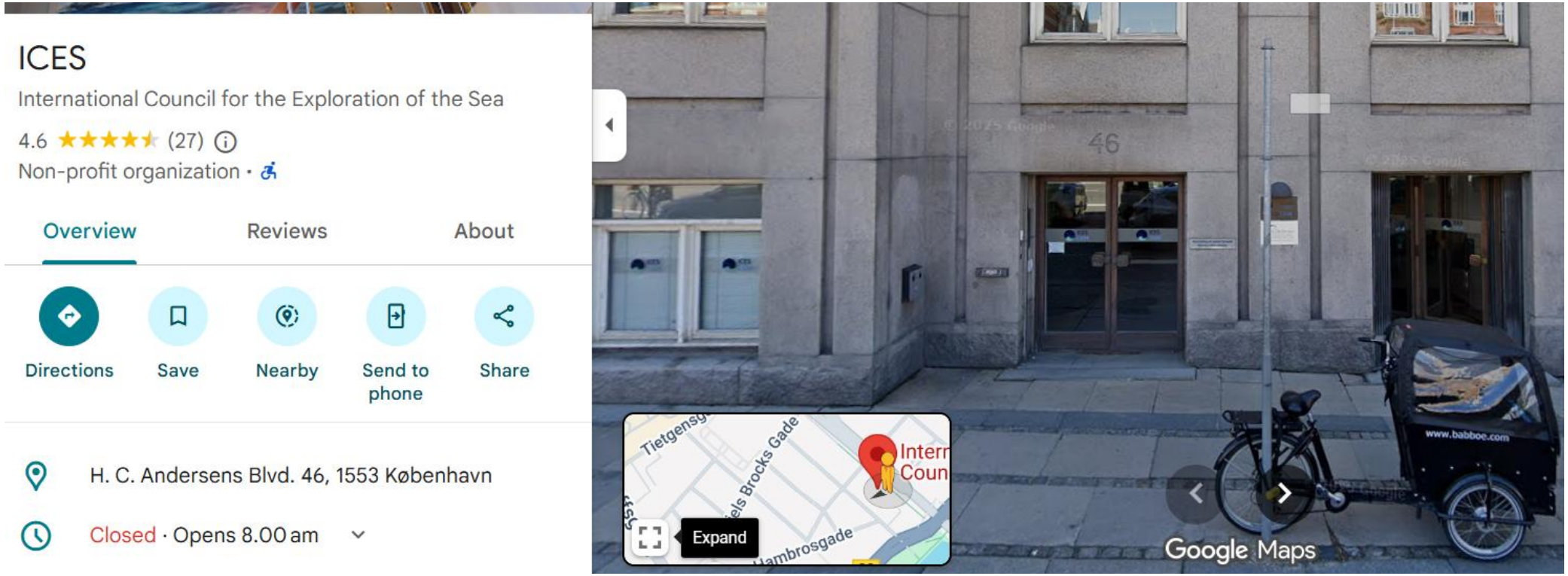
[a] National Institute of Aquatic Resources, Technical University of Denmark (DTU Aqua), Kemitorvet Bygning 202, 2800, Kgs. Lyngby, Denmark
[b] National Institute of Aquatic Resources, Technical University of Denmark (DTU Aqua), Vejlsøvej 39, 8600, Silkeborg, Denmark
[c] Environment and Sustainability Unit, Vattenfall A/S, Ørestads Boulevard 114, 2300, Copenhagen, Denmark
[d] Foreningen Als Stenrev, Sønderborg, Denmark

**Kamera-undersøgelser:**
**Færre torsk = flere krabber**

# Ekspert-rådgivning fra ICES

ICES

CIEM



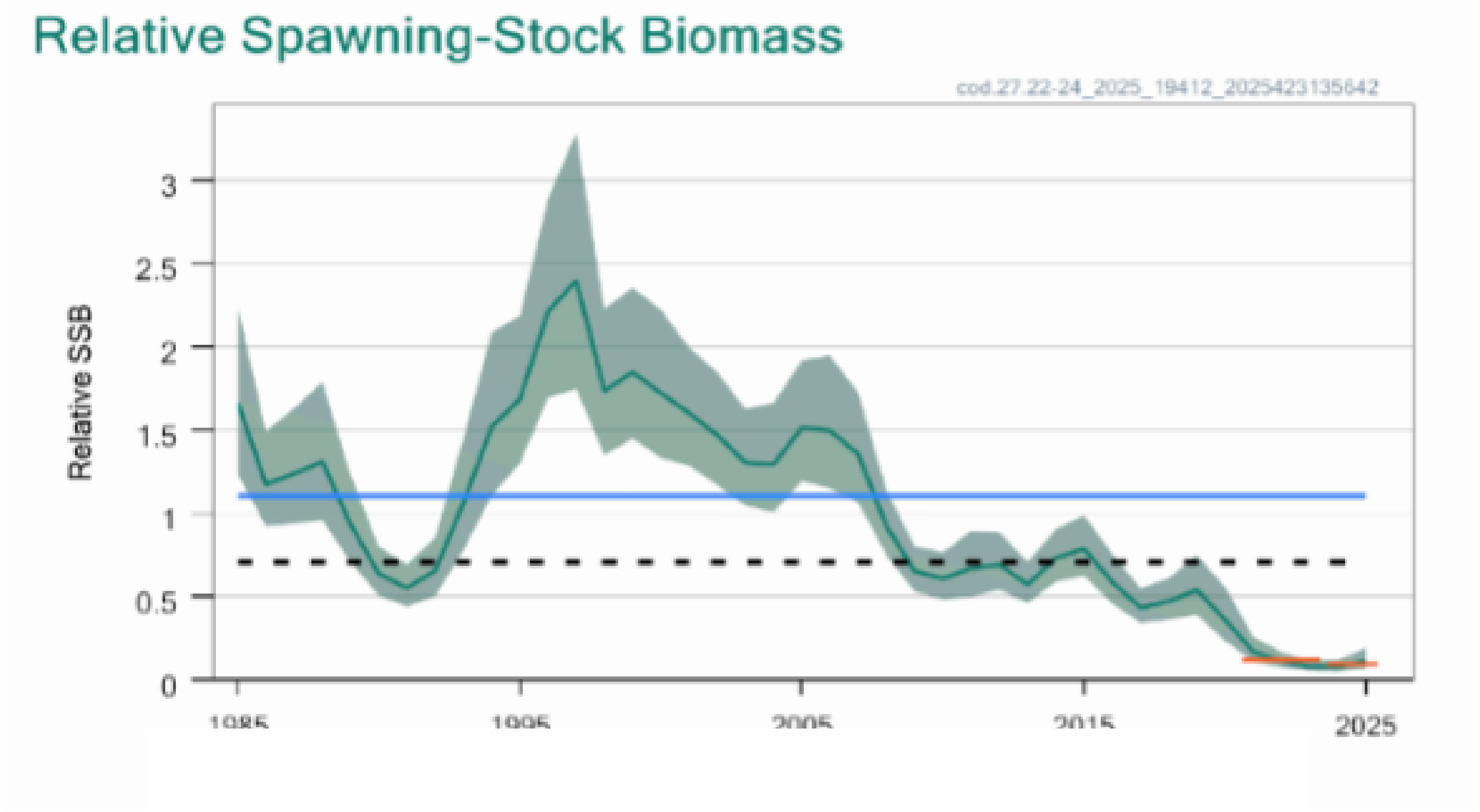
*ICES Advice on fishing opportunities, catch, and effort*
*Baltic Sea ecoregion*
*Published 28 May 2025*

# Cod (*Gadus morhua*) in subdivisions 22–24, western Baltic stock (western Baltic Sea)

## ICES advice on fishing opportunities

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 $B_{lim}$. To be consistent with ICES advice, catches of eastern Baltic cod should be zero tonnes. ICES cannot advise on measures to avoid catch of eastern Baltic cod in the fishery for western Baltic cod.


# Gyde-bestanden af torsk i Vestlige Østersø



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# BSAC recommendations for the fishery in the Baltic Sea in 2026

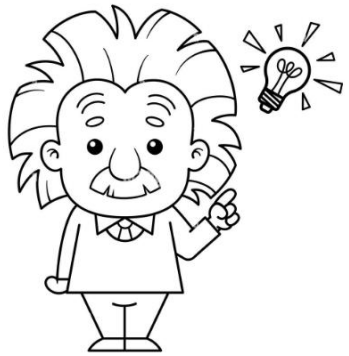
| Stock | ICES advice on fishing opportunities 2026[1] | | BSAC recommendation for EU TAC 2026 |
|---|---|---|---|
| Cod SDs 22-24 | 0 t (Advice for 2026 and 2027) | Precautionary approach | 266 t (by-catch only) (roll-over of 2025 bycatch TAC)[2] |


**Erhvervsfiskeri: 266 tons**
**Rekreativt fiskeri: 0 tons**

# Havnaturfonden

Aftalen om etableringen af Havnaturfonden er Danmarkshistoriens største genopretningsindsats til havs. Det danske havmiljø skal opprioriteres og genoprettes med initiativer, der bidrager til øget natur- og biodiversitet.

Miljø- og Ligestillingsministeriet
Miljøstyrelsen


ICES
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BSAC
Baltic Sea Advisory Council

## Konklusioner

- International opmærksomhed på betydningen af fisk i forhold til marin genopretning

- Stigende forståelse af de underliggende mekanismer i Østersøen og Skagerrak
- Udenlandske forskere anbefaler styrkelse af fiskebestande som værktøj til marin genopretning
- Vigtigheden af fisk rejser nogle svære dilemmaer, bl.a. i forhold til marin genopretning, finansiering, og fiskeri

- **Forslag**: fremtidig marin genopretning tester virkning af fisk og integrerer fisk, og andre trofiske kaskader, i genopretningen