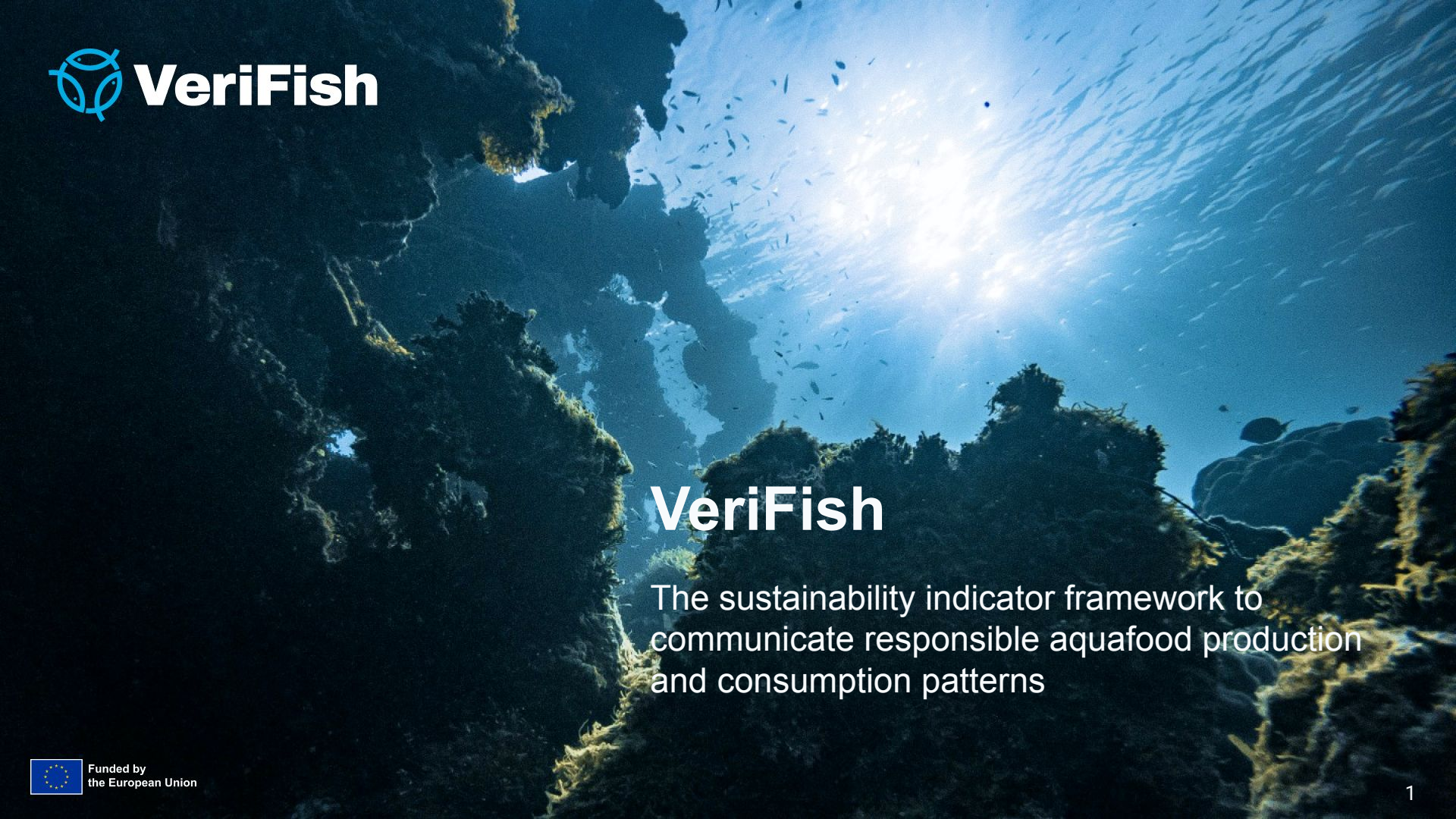


VeriFish

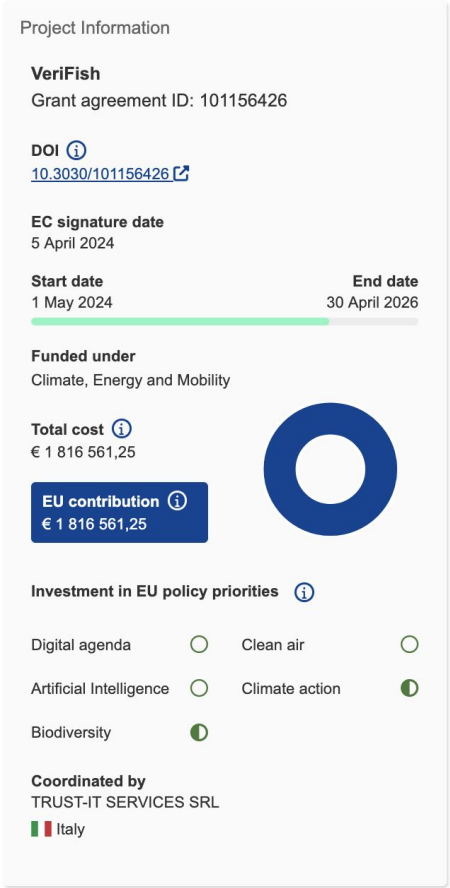
VeriFish

The sustainability indicator framework to communicate responsible aquafood production and consumption patterns

Funded by
the European Union

VeriFish is a project funded by the European Commission that is transforming this landscape by providing the tools and infrastructure necessary for **transparent, verifiable sustainability communication**

HORIZON-MISS-2023-OCEAN-01-10 - Choose your fish: a campaign for responsible consumption of products from the sea

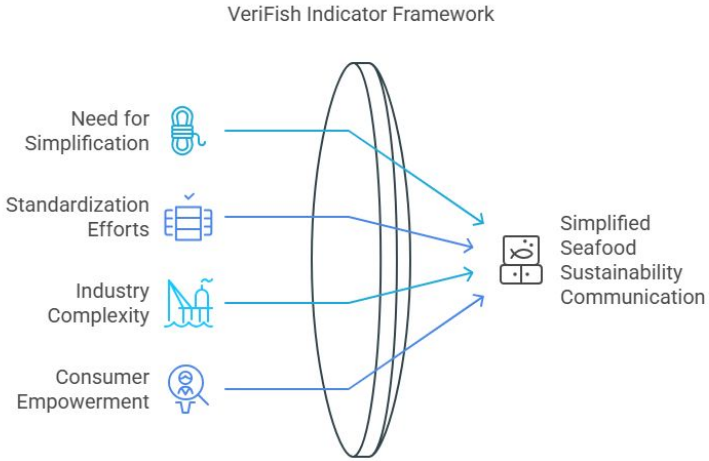


Background and Rationale

Rationale: Need to **simplify** and **standardise communication** to consumer by those in the food chain about sustainability and help increase **consumption of sustainable seafood**.

There are **no unified indicators** to inform consumers about **sustainability, nutrients and health, or climate impacts** of seafood.

Complexity of the food chains make it challenging for actors to present accurate and understandable information, limiting consumer choice.



- Consumers can trust nutritional quality of seafood products
- Impacts on biodiversity and the environment are minimised
- Use of natural resources does not to exceed what is sustainable

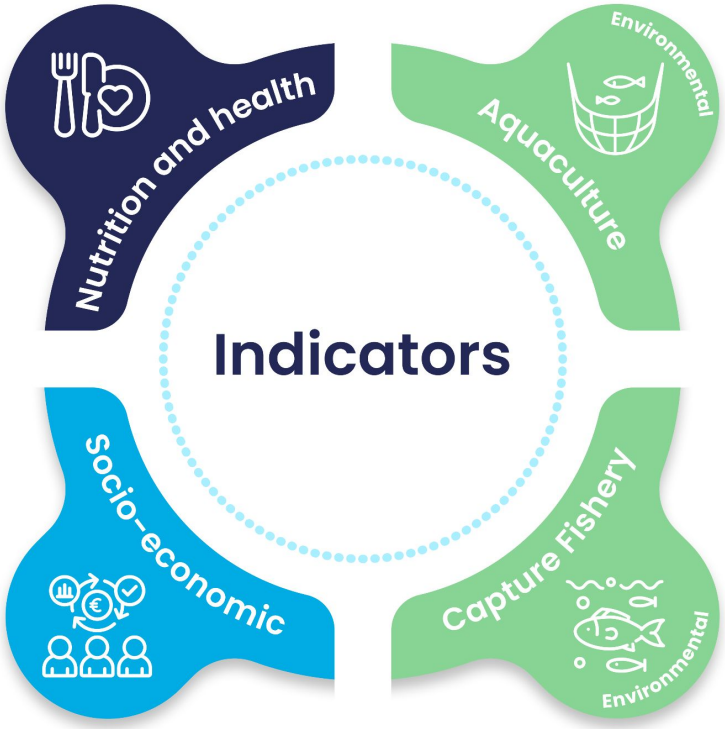
Astley et al. (2024) VeriFish Indicator Framework defined - D2.1

DOI 10.5281/zenodo.14384281

VeriFish Indicator Framework

36 attributes covering:
Macronutrient and micronutrients and links to human health
(not contaminants or allergens – safety issues)

4 social x 4 economic attributes covering:
Governance; Labour practices & rights; Health & safety of workers; Non-discrimination & Indigenous Peoples' rights



21 attributes covering:
Habitat impact, biosecurity, welfare, resource use and waste management

21 attributes covering:
Stock status, climate impact, ecosystem effects, management, welfare

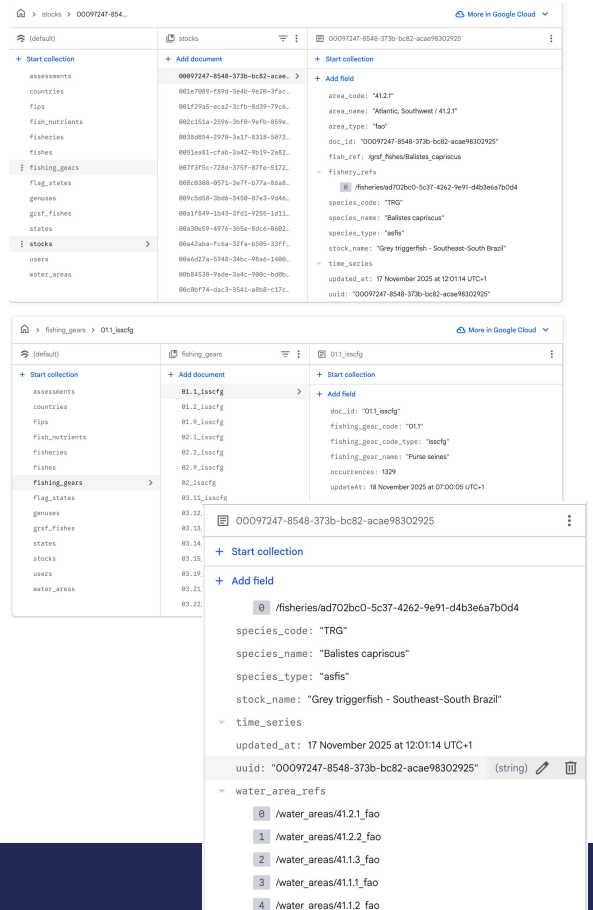
Astley et al. (2024) VeriFish Indicator Framework defined - D2.1 DOI 10.5281/zenodo.14384281

A tiered data system

Tier 1 data comprises **publicly available data from global, regional or even country-level repositories.** These datasets are highly **accessible, free and scientifically validated.**

Tier 2 data sources can be **attributed to specific value chains**, detailing **production methods, practices, and proprietary information**, with relatively high degree of granularity.

Data are consolidated in the VeriFish Knowledge Base, where this information is aggregated for unified access and analysis.



The VeriFish Knowledge Base – The Data Sources

Environmental

Global Record of Stocks & Fisheries (GRSF)
Stocks, fisheries, water areas, flag states, fishing gears, timeseries.

Global Biodiversity Facility
Species, common names, taxonomies.

FishBase
Species, pictures, biology, habitats, indicators.

IUCN Red List of Threatened Species
Endangered species, threat levels.

VeriFish KB

Nutrition & Health

FoodEXplorer
Food items, groups, descriptors, nutritional information.

FishEUTrust & SeaFood TOMORROW
Curated nutritional data.

Socio-Economic

IUU Fishing Risk Index
Registered vessels with foreign or unknown ownership.

Corruption Transparency Index
Country corruption scores.

FAO-UN Agreement on Port State Measures
Countries particip.

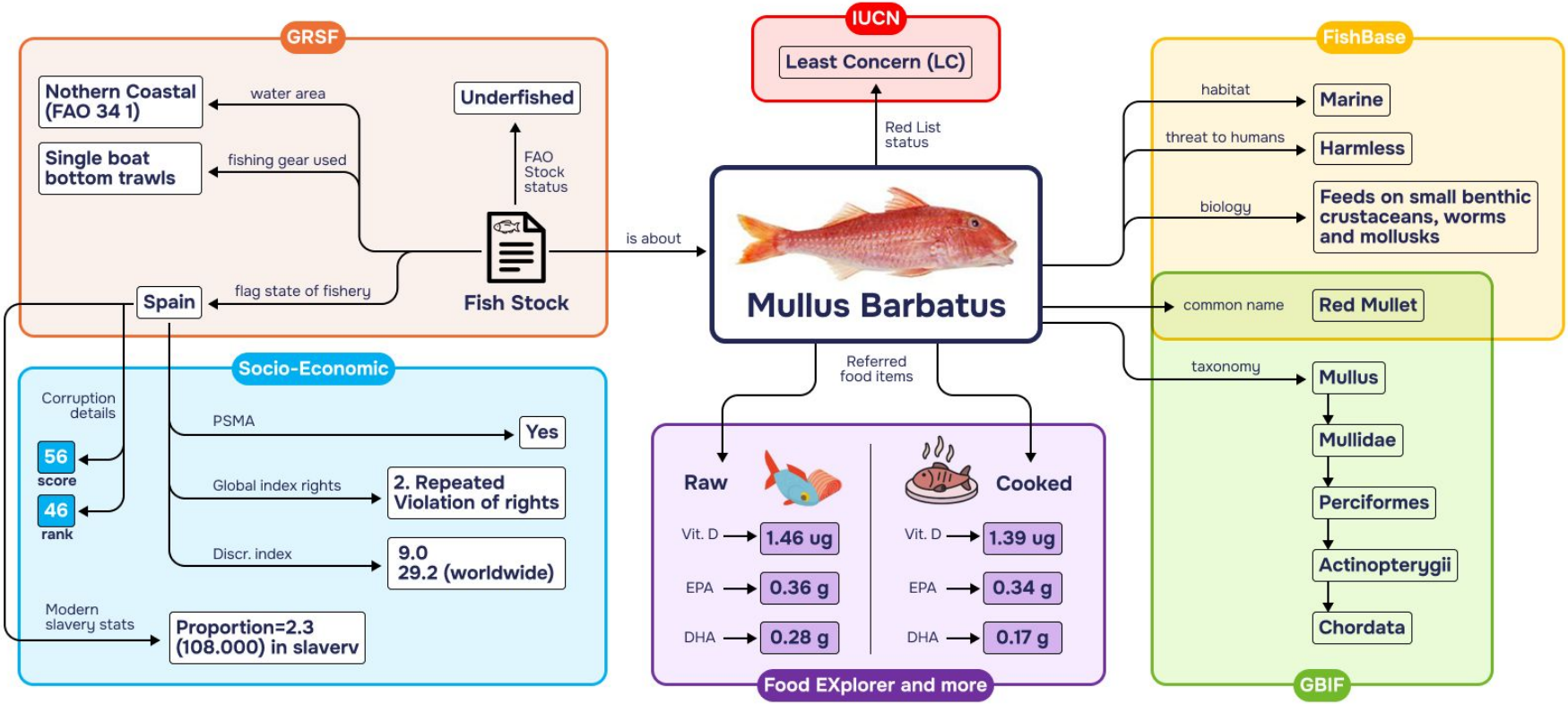
ILO Conventions
ILO Conventions ratifications per country
- Freedom of association
- Access to healthcare
- Child labour
- Forced labour
- Human trafficking
- Respect for indigenous people
- Equality and prevention of discrimination

ITUC Global Index Rights
Country scores.

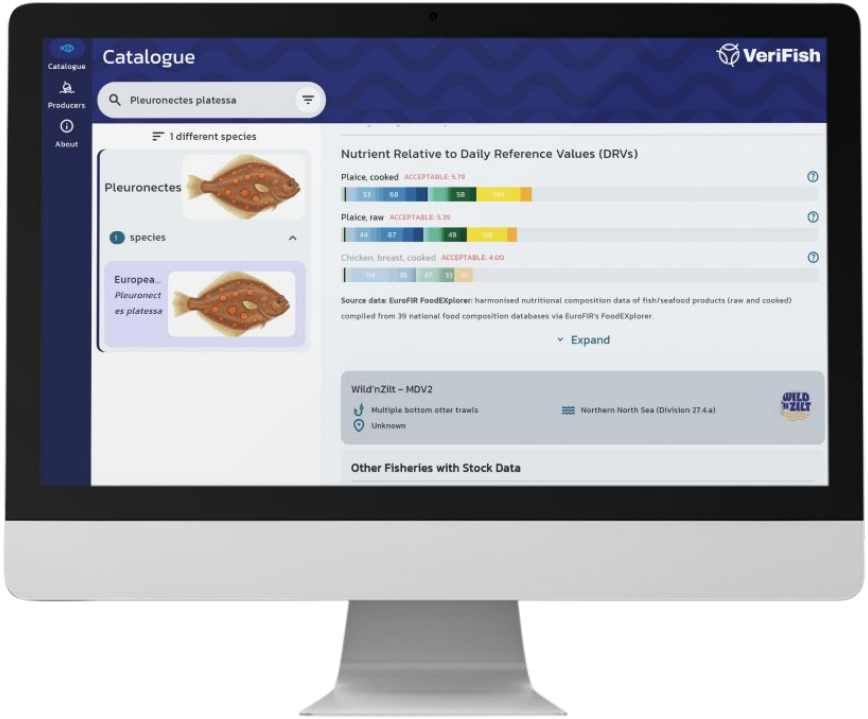
Global Slavery Index
Population in slavery.

OECD Social Institutions and Gender Index

The VeriFish KB – the pieces of content



Prototype of the VeriFish web app



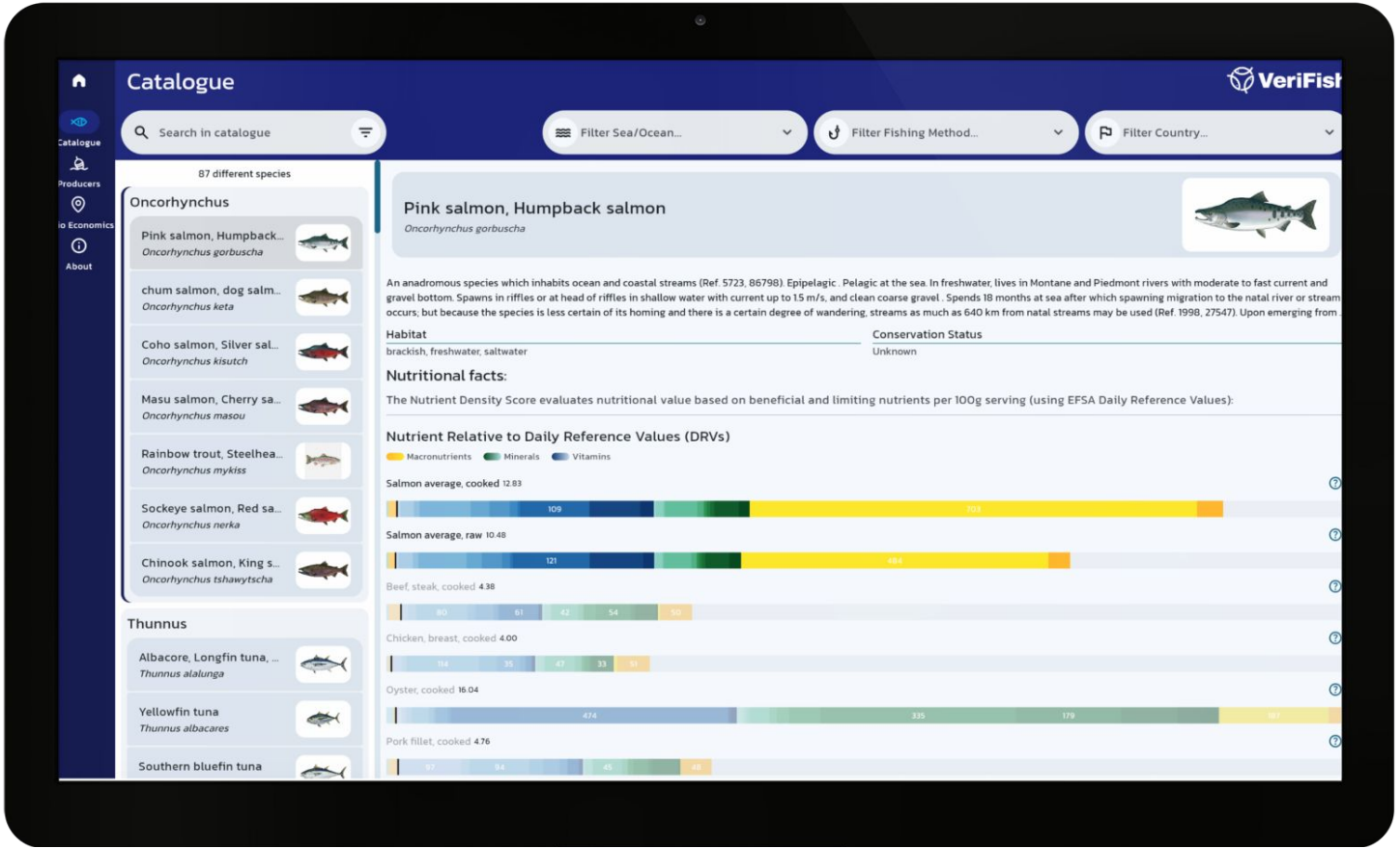
By reproducing the VeriFish indicator framework in an easy-to-navigate format, the app provides information describing the status of stocks, activities, food composition information, biological characteristics of species as well as environmental information, to guide users towards informed choices.

Continuous assessment

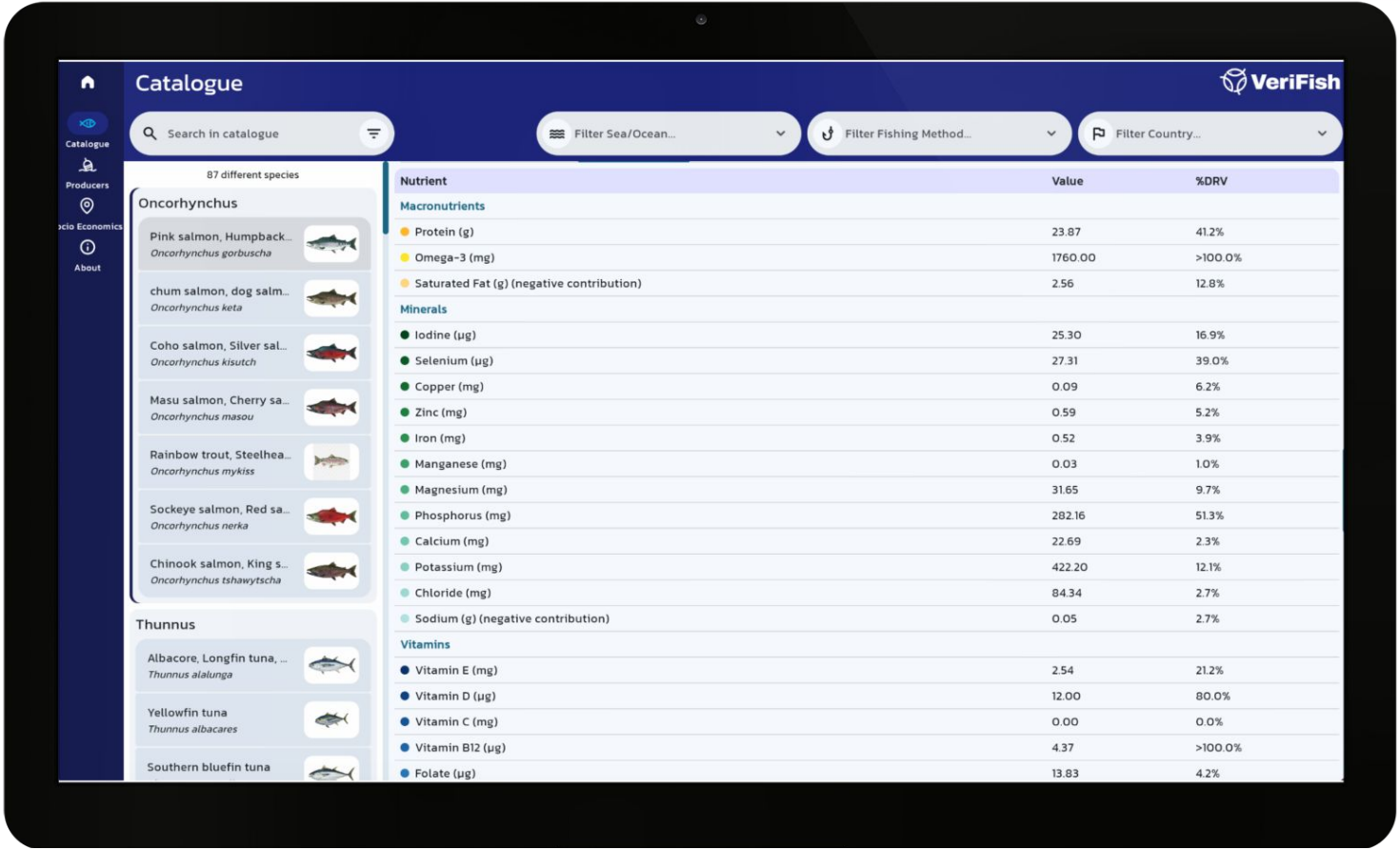
Catch Welfare PLATFORM

Funded by
the European Union

Nutrient density scores - Visualisation



Nutrient density scores - Further nutrient data



NDS Breakdown: Tuna, canned in oil

Total NDS Score: 6.01
Category: GOOD

How NDS is Calculated

Final NDS Calculation
NDS = (Beneficial Points) - (Limiting Points)

Score Interpretation

Acceptable — Basic nutritional value	< 6 points
Good — Above average nutritional density	6–13 points
Very Good — Excellent nutritional profile	> 13 points

Beneficial Nutrients (Positive Score)
Total Positive Score: +6.31 points

Niacin
Amount: 14.66 mg | DRV: 13.20 mg
111.1% of DRV

Selenium
Amount: 68.34 µg | DRV: 70.00 µg
97.6% of DRV

Omega-3
Amount: 230.00 mg | DRV: 250.00 mg
92.0% of DRV

Vitamin B12
Amount: 3.04 µg | DRV: 4.00 µg
76.0% of DRV

Protein
Amount: 24.04 g | DRV: 58.00 g
41.4% of DRV

Phosphorus
Amount: 227.00 mg | DRV: 550.00 mg
41.3% of DRV

VeriFish

Socio-economic indicators

Funded by
the European Union

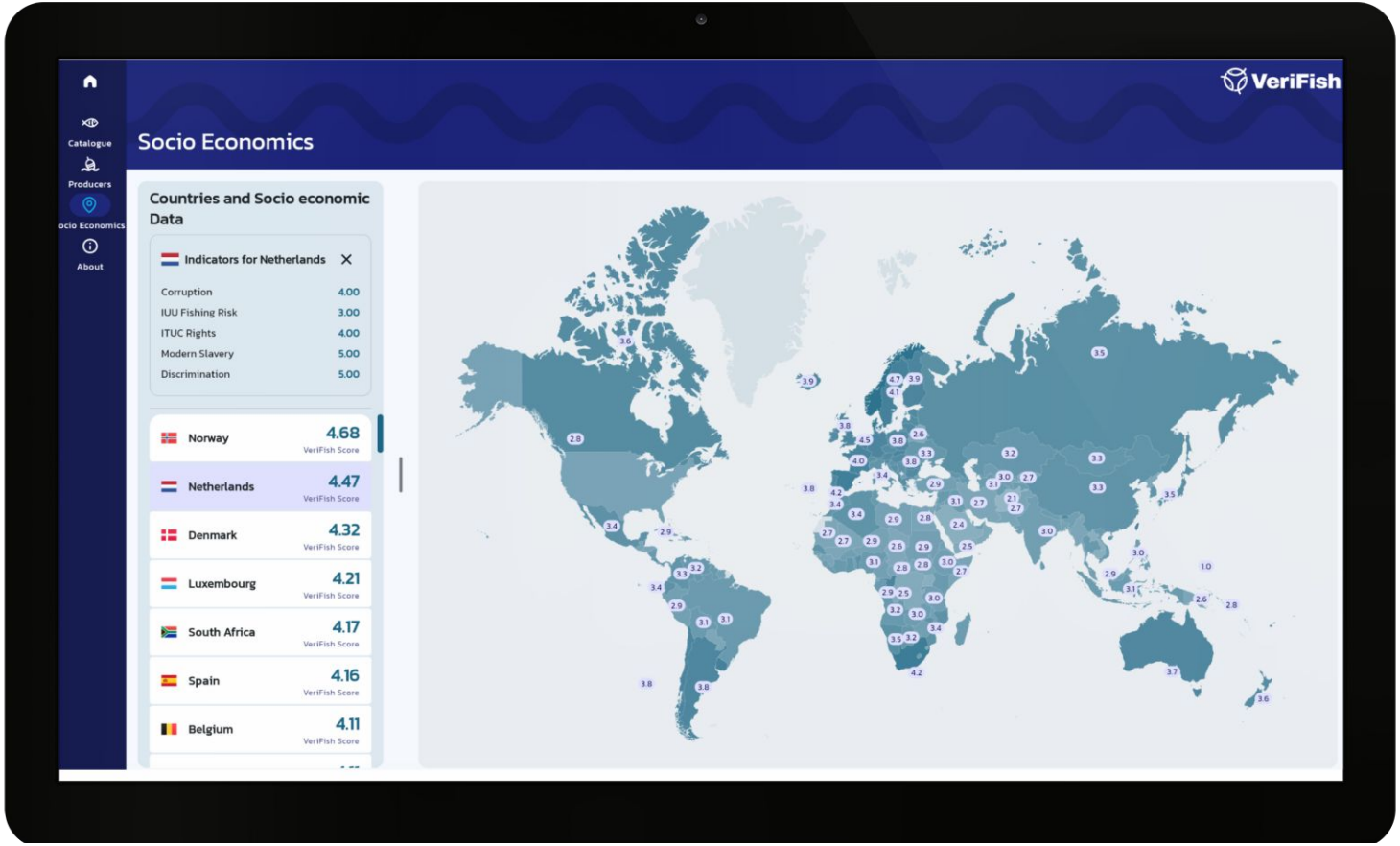
Case Studies - Socio-economic scores

Three case studies:

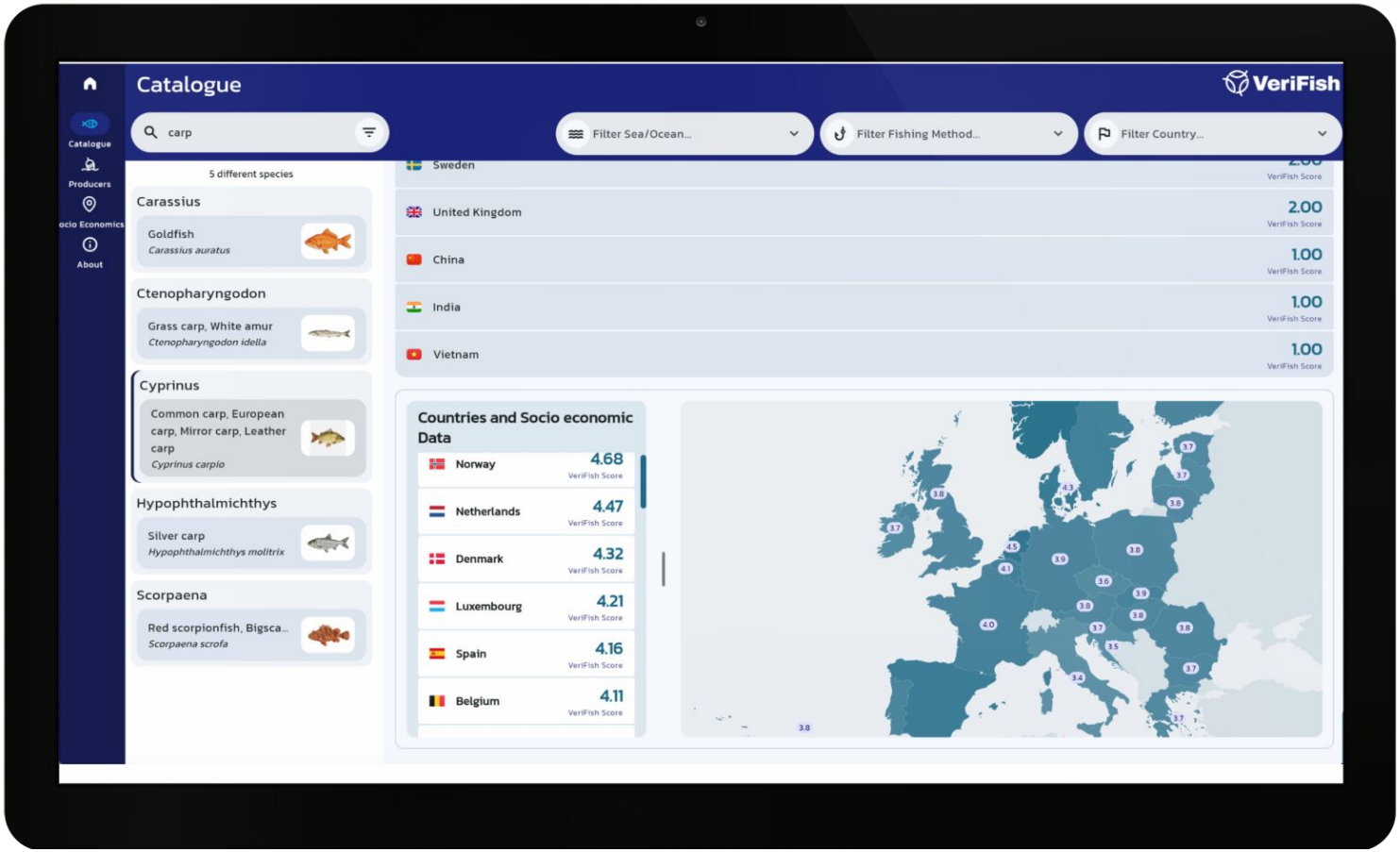
1. **Fisheries**: Spanish-caught skipjack tuna from the Indian Ocean
2. **Aquaculture**: Salmon pen farming in Norway
3. **Aquaculture**: Pond raised shrimp in Vietnam

Indicator		Spanish Indian Ocean skipjack	Norway Farmed Salmon	Vietnam Farmed Shrimp
1	Vessel engaged in IUU fishing	5	n/a	n/a
2	Vessel flagged to a country with high levels of foreign ownership	3	n/a	n/a
3	Perception of levels of corruption	3	5	3
4	Vessel from a country that is a party to the PSMA	5	n/a	n/a
5	Decent wages and working conditions	4	5	2
6	Freedom of association and collective bargaining	5	5	3
7	Prevention of child labour (1)	5	5	5
8	Prevention of child labour (2)	n/a	n/a	2
9	Prevention of child labour (3)	5	5	1
10	Prevention of forced labour, modern slavery & human trafficking (1)	5	5	5
11	Prevention of forced labour, modern slavery & human trafficking (1)	4	5	3
12	Access to healthcare and medical facilities	3	5	1
13	Occupational H&S at work	5	4	4
14	Equality & prevention of discrimination (1)	5	5	5
15	Equality & prevention of discrimination (2)	5	5	4
16	Respect for indigenous peoples	5	5	1
Total		**67**	**59**	**39**
Average		**4.47**	**4.92**	**3.00**

Socio-economic data



Socio-economic data - sample case



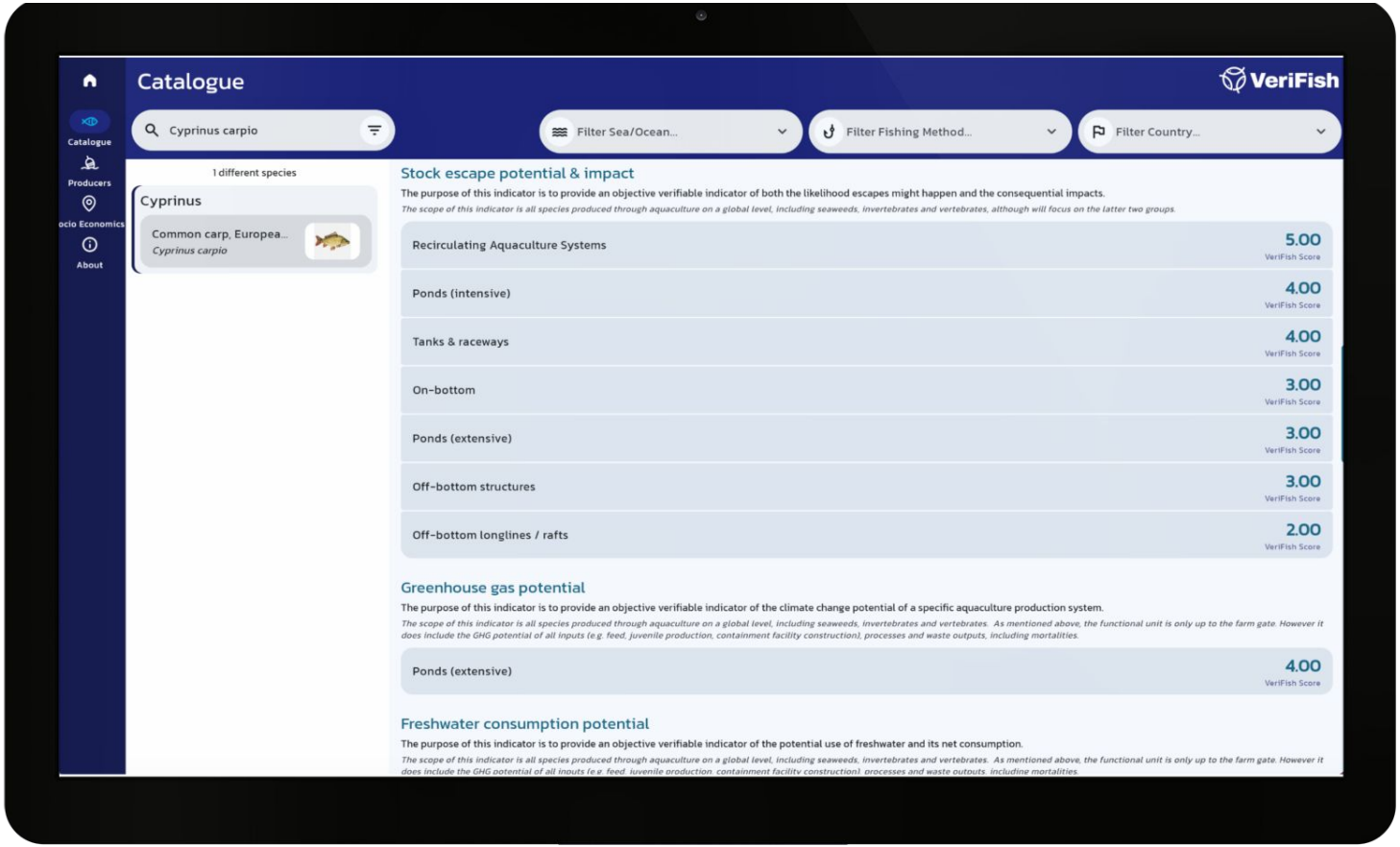
Environmental indicators

Funded by
the European Union

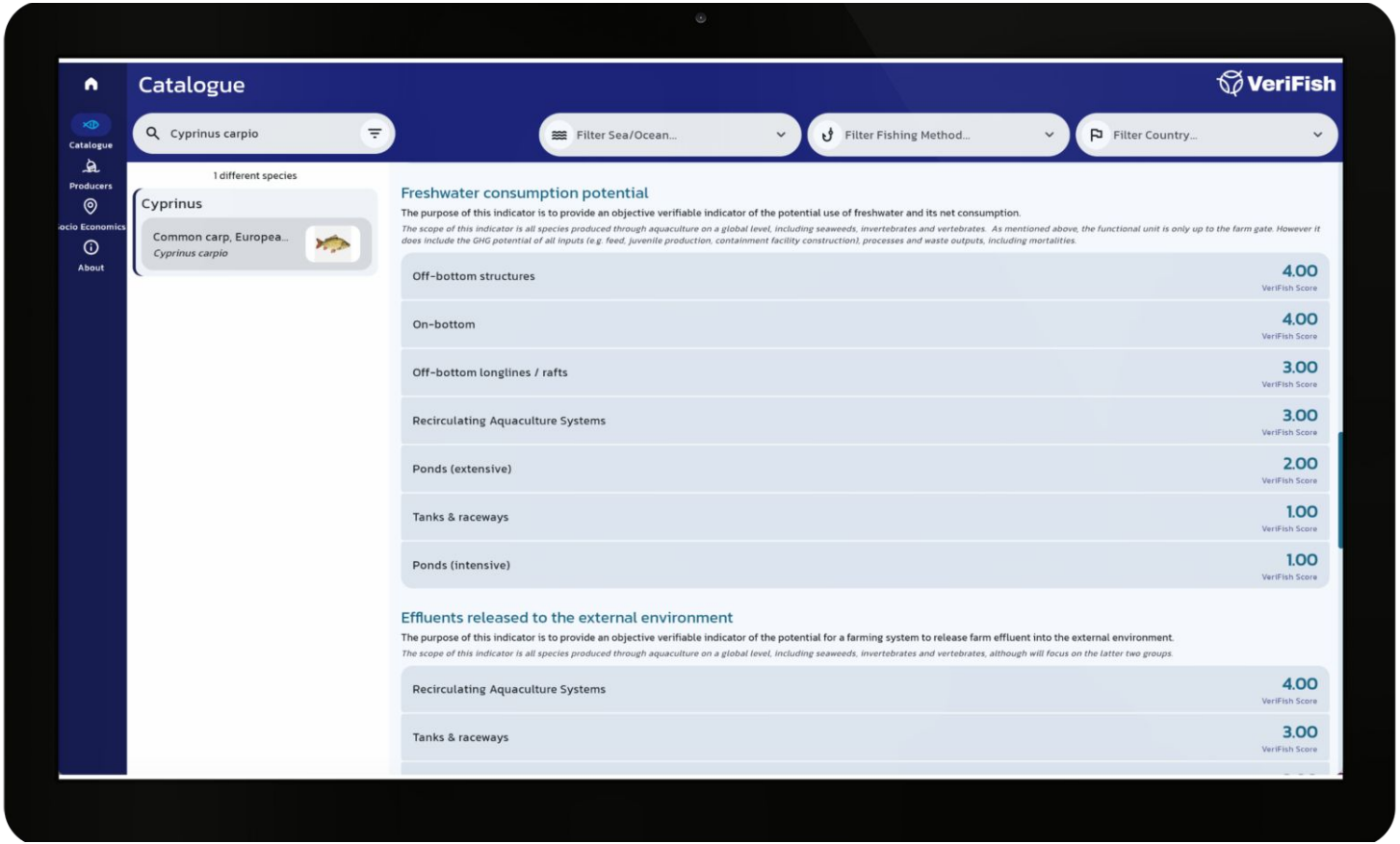
Aquaculture cumulative scoring of case studies

#	Indicator	Sub-pillar	Longline Mediterranean mussel in Atlantic Spain	Open pen Atlantic salmon in Norway	Extensive pond-raised carp in Hungary	Intensive pond raised shrimp in Vietnam
1	Humane and ethical slaughter	Animal welfare	4	3	2	1
2	Stocking density during grow-out	Animal welfare	4	4	4	4
3	Greenhuouse gas (GHG) potrential	Climate impact	4	1	3	1
4	Habitat alteration for site	Habitat impact	4	4	4	2
5	Escape potential & impact	Impact on marine food webs	4	1	2	2
6	Freshwater consumption	Resource use	5	3	4	3
7	Effluents released externally	Waste & pollution	4	1	4	2
8	Antimicrobial therapeutic treatments used	Biosecurity				
9	Use of GMO feed materials	Biosecurity				
10	Circularity: proportion plastics reused / recycled	Waste & pollution				
		Average	4.1	2.4	3.3	2.1

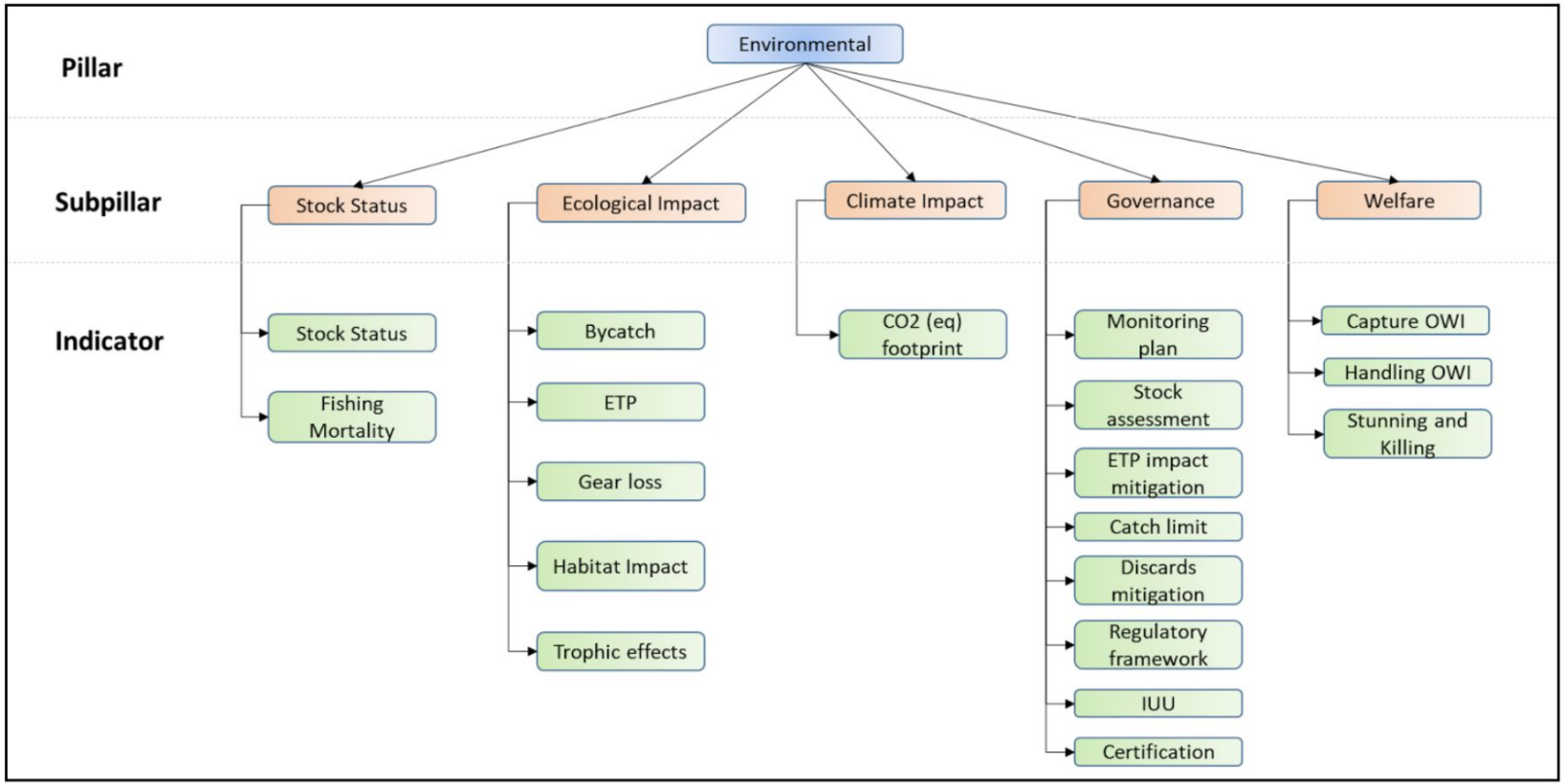
Aquaculture environmental score



Aquaculture environmental score



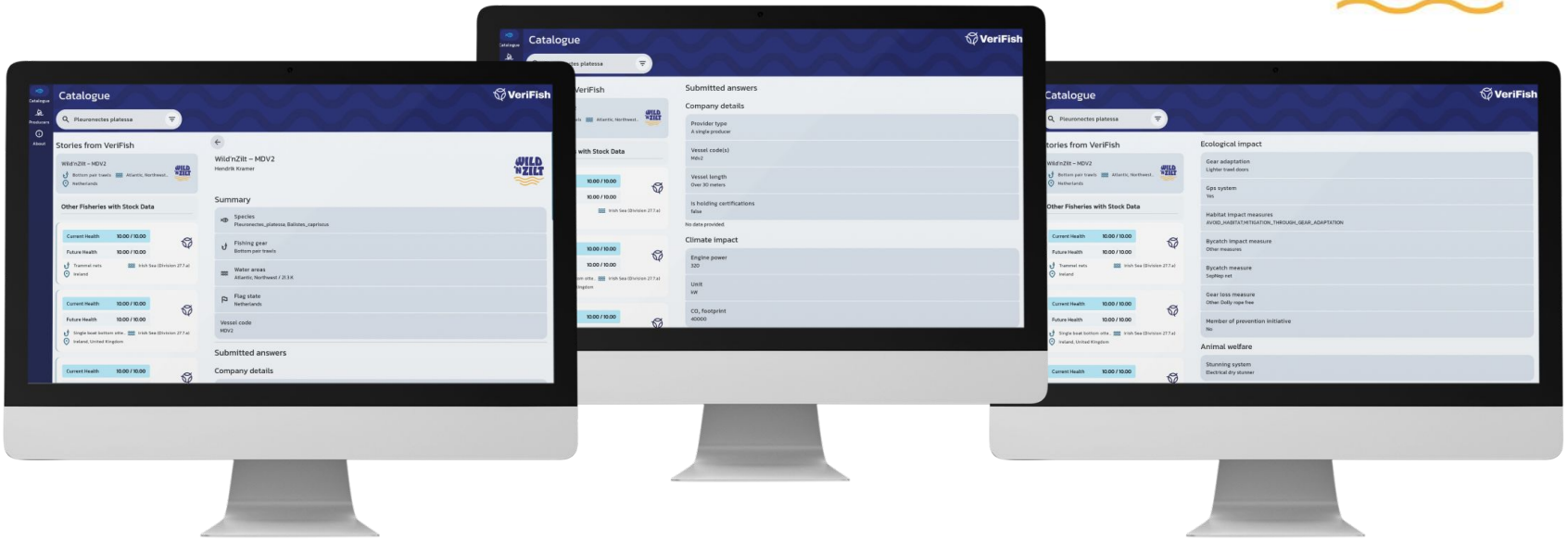
Wild Capture Indicators



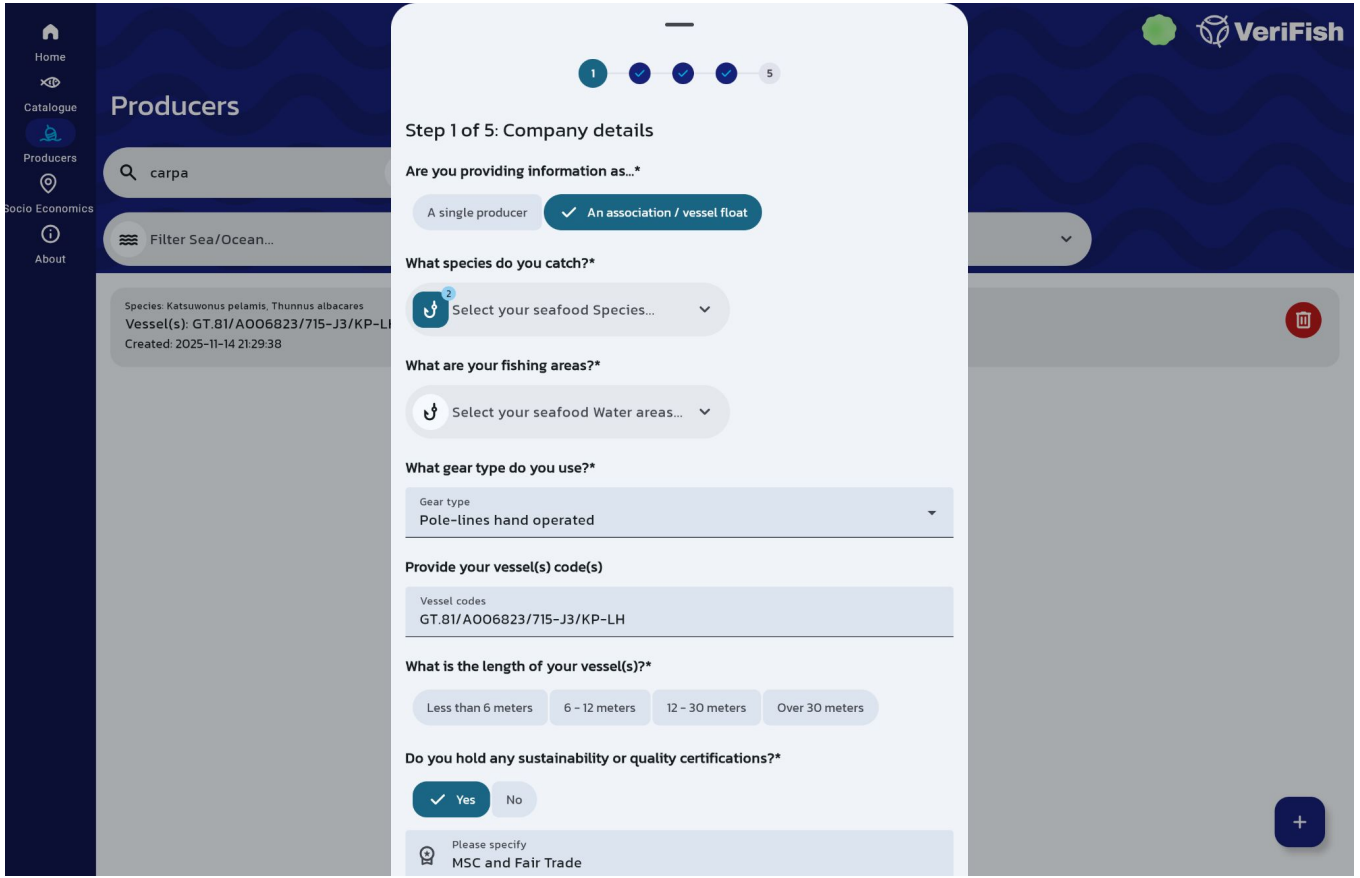
Producer’s data

Funded by
the European Union

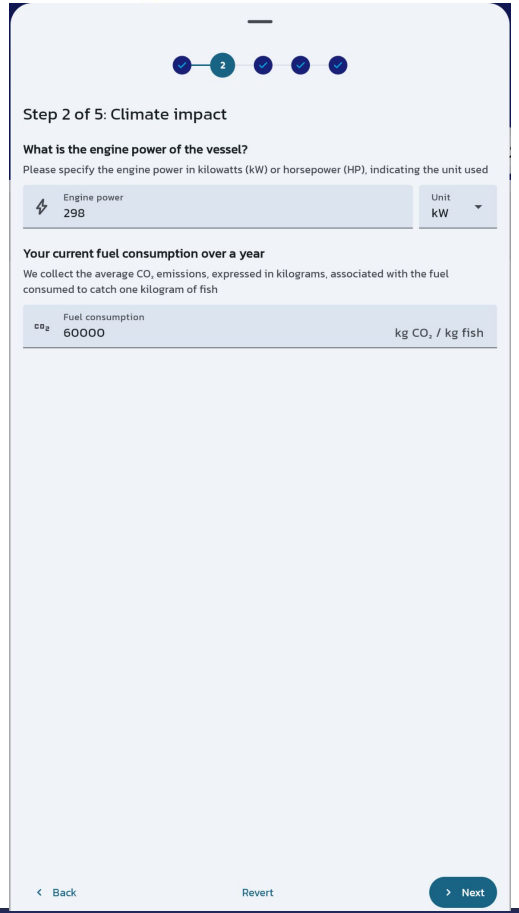
Producer's data

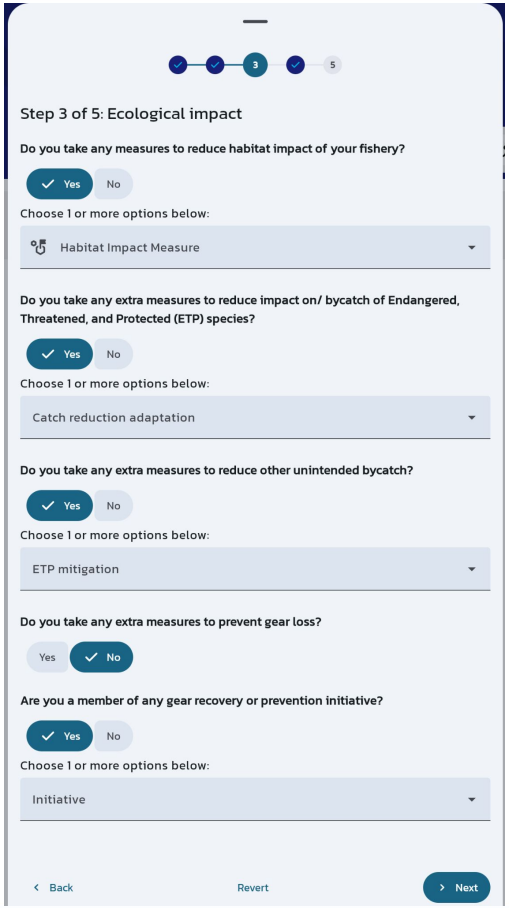


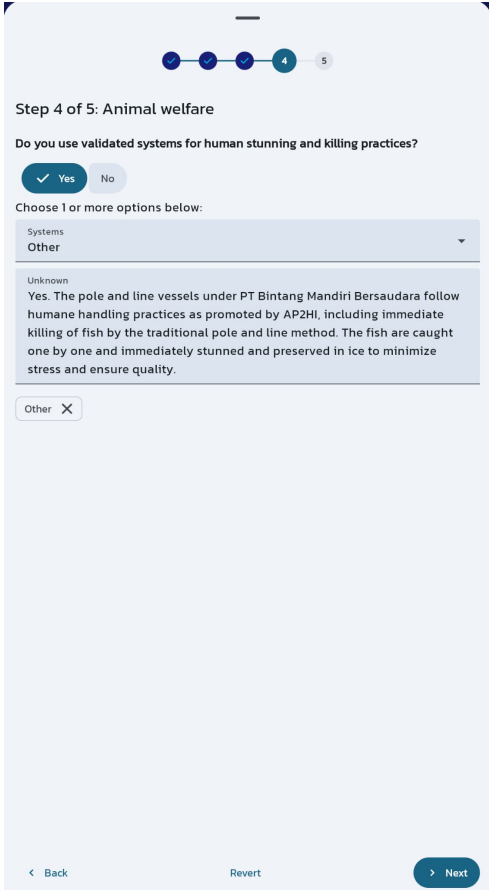
Submit your data - fishing



Submit your data - fishing







VeriFish

Submit your data - fishing

Producers

Vessel: GT.81/A006823/715-J3/KP-LH

Pole-lines hand operated

N/A

N/A

Summary

Species
Skipjack tuna, Skipjack, Oceanic bonito, Arctic bonito, Striped tuna, Yellowfin tuna

Fishing gear
Pole-lines hand operated

Water areas
-

Flag state
-

Vessel code
GT.81/A006823/715-J3/KP-LH

Submitted answers

Company details

Provider type
An association / vessel float

Vessel code(s)
Gt.81/a006823/715-j3/kp-lh

Vessel length

Submit your data - aquaculture

Work in progress:

Humane and ethical slaughter
Stocking density during grow-out
Site habitat alteration
Stock escape potential and impact
Greenhouse gas (GHG) potential
Freshwater consumption potential
Use of antimicrobial therapeutic treatments
Effluents released to the external environment
Circularity: proportion plastics reused / recycled

Live demo

app.verifish.info

```
username: VeriFish
password: VeriFishWebApp
```

Sustainability isn't static — it's a set of choices. VeriFish helps you navigate them.

The data and indicators presented in VeriFish are meant to be **used** to support decisions, challenge assumptions, and reshape how seafood is produced, valued, and consumed. Whether you're making purchasing decisions, building a policy, or communicating with customers, the value lies in how you act on the information.

Think in trade-offs, not in absolutes

Every seafood item carries a footprint, a context, and a consequence.
VeriFish doesn't simplify this — it **maps it**. It allows you to understand trade-offs transparently and choose based on **what matters most to you or your institution**.

Use it for better communication

Whether you're speaking to customers, suppliers, colleagues, or students, indicators are powerful entry points to discuss:

- Where seafood comes from
- Why sustainability is complex
- How responsible practices can be verified — not just claimed

This framework gives you the vocabulary, structure toward **clear, confident communication**.

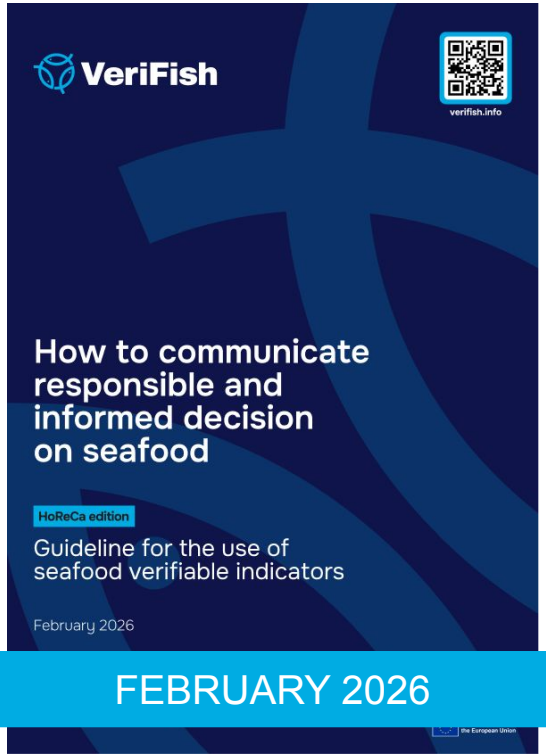
Integrate it into your systems

VeriFish indicators can inform:

- Educational modules
- Internal sustainability assessments

Because the structure is modular and open, you can use only the indicators that fit your scope — or expand the framework to match your ambition.

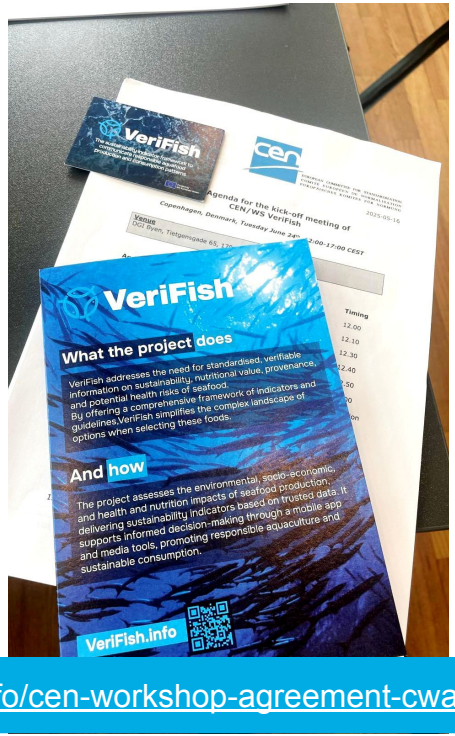
Guidelines & Recommendations



A series of **guidelines** will provide recommendations for different stakeholders - retailers, consumer associations, producer organisations, policy makers - on the use and visualisation of the verifiable indicator framework

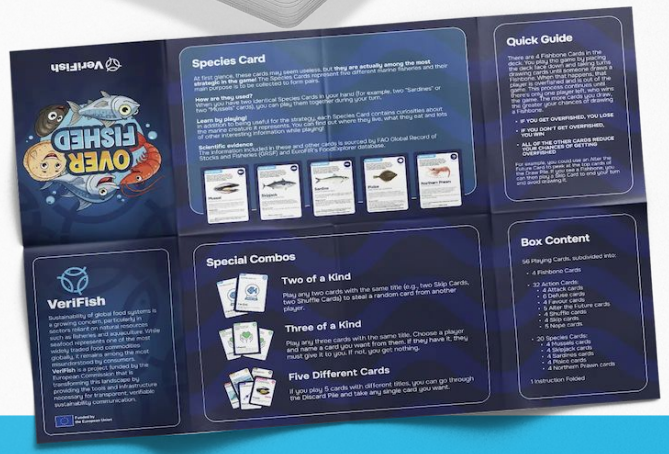
FEBRUARY 2026

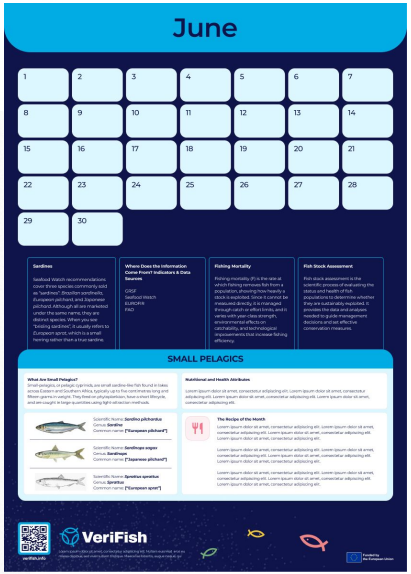
The **VeriFish CEN Workshop Agreement (CWA) is a European Good Practice Recommendation** that sets out guidance on how to communicate verifiable sustainability indicators for seafood in a clear, harmonised, and trustworthy way. It is developed under the framework of the European Committee for Standardization (CEN)



verifish.info/cen-workshop-agreement-cwa

Children & citizens media products, Food & nutrition products





Assessment ongoing

VeriFish

FINAL EVENT

10-12 MARCH 2026,
BRUXELLES

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32