

VeriFish

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

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](#)

Project Information

VeriFish

Grant agreement ID: 101156426

DOI

[10.3030/101156426](https://doi.org/10.3030/101156426) 

EC signature date

5 April 2024

Start date

1 May 2024

End date

30 April 2026

Funded under

Climate, Energy and Mobility

Total cost

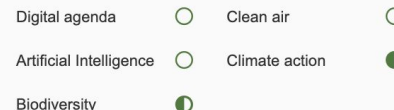
€ 1 816 561,25

EU contribution

€ 1 816 561,25



Investment in EU policy priorities



Coordinated by

TRUST-IT SERVICES SRL

 Italy

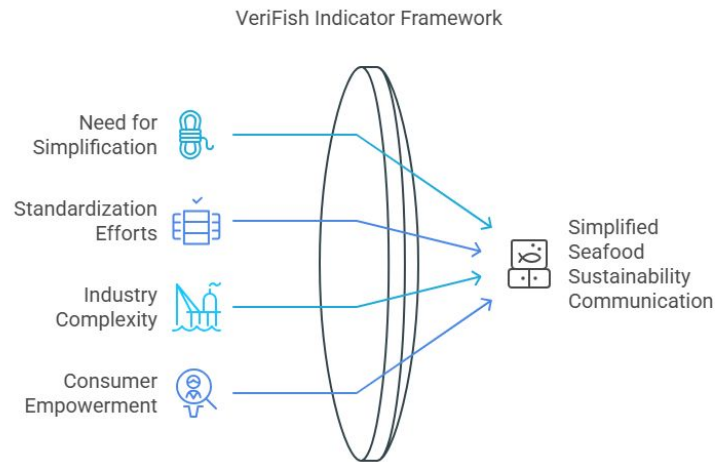
Background and Rationale

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

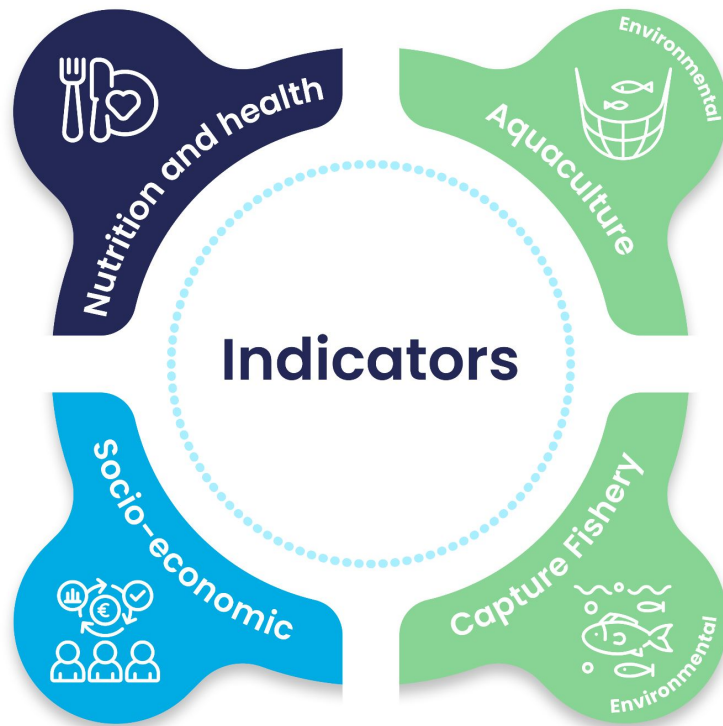


36 attributes covering:

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:

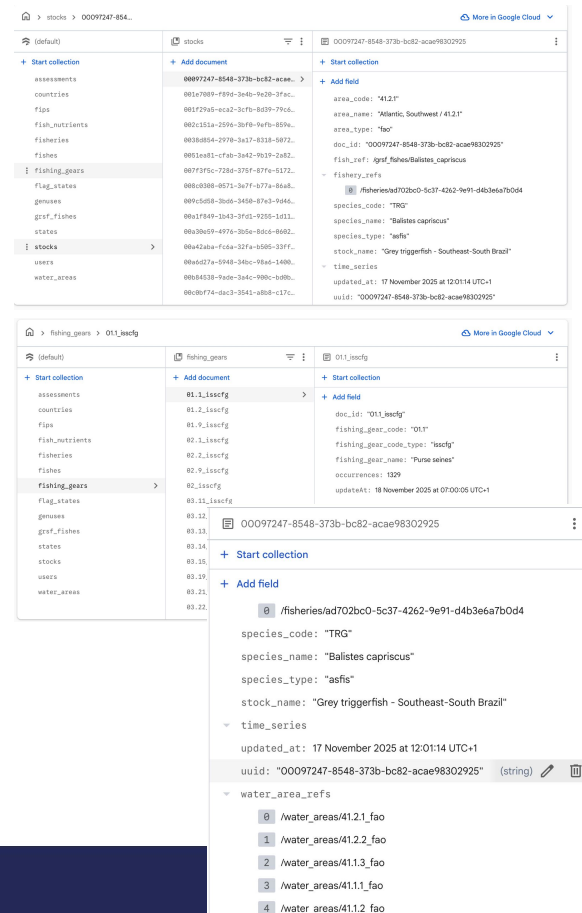
Stock status, climate impact, ecosystem effects, management, welfare

A tiered data system

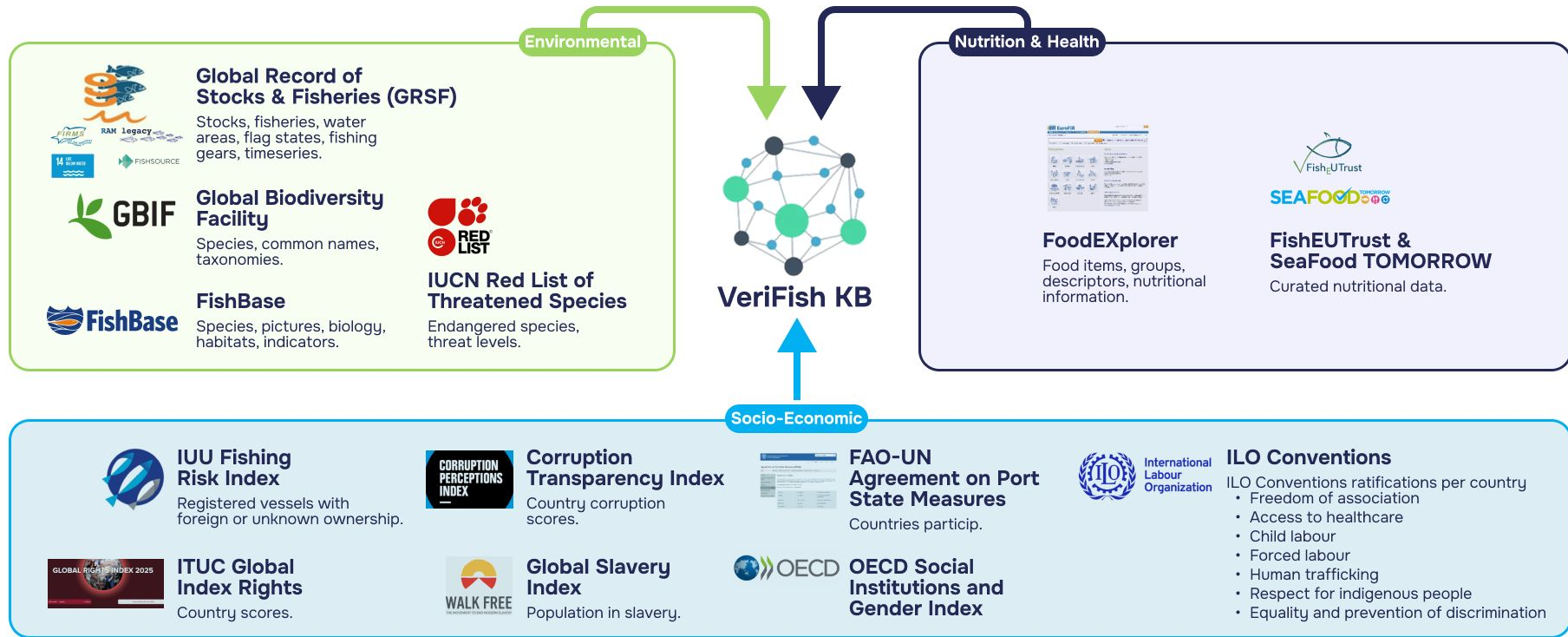
Tier 1 data comprises **publicly available data from global, regional or even country-level repositories**. These datasets are highly **accessible, free and scientifically validated**.

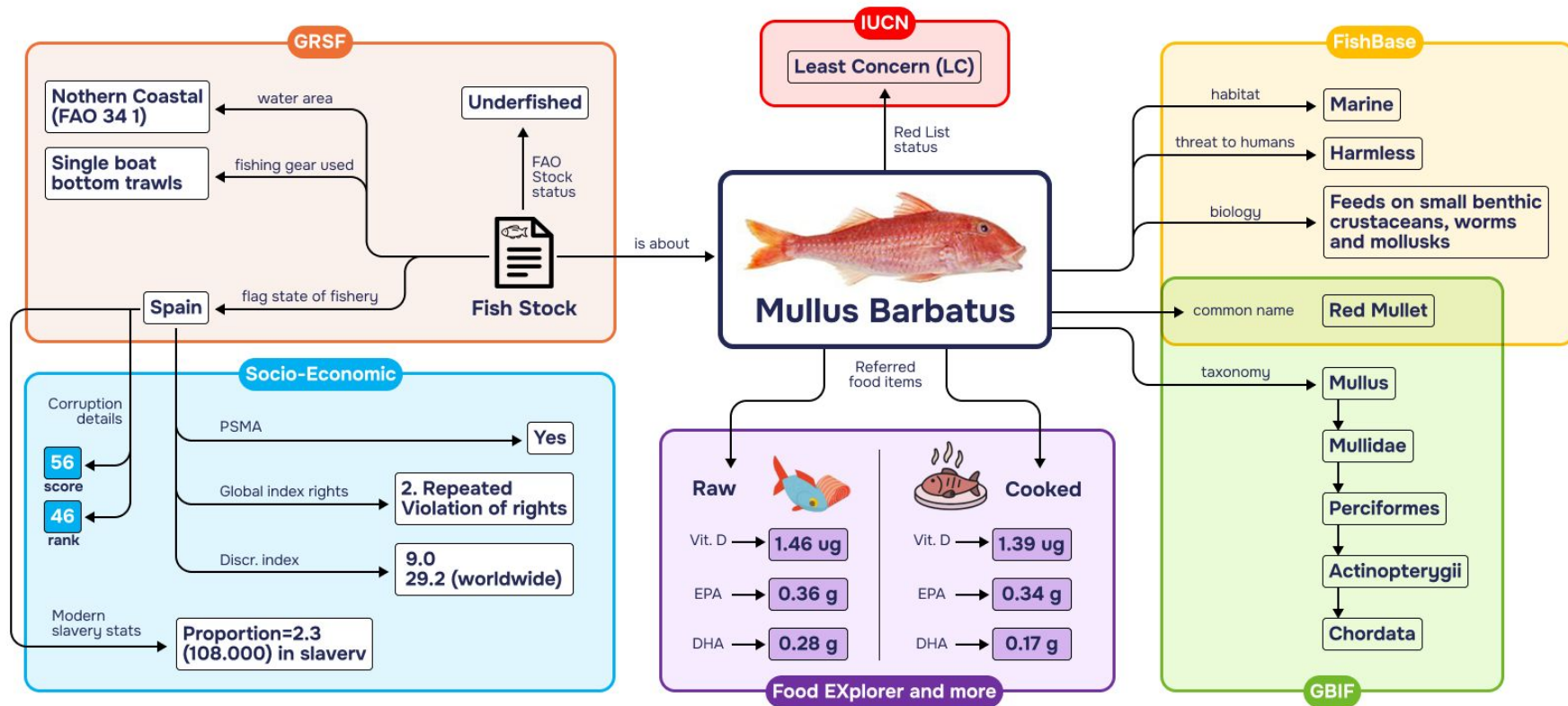
Tier 2 data sources can be **attributed to specific value chains**, detailing **production methods, practices, and proprietary information**, with relatively high degree of granularity.

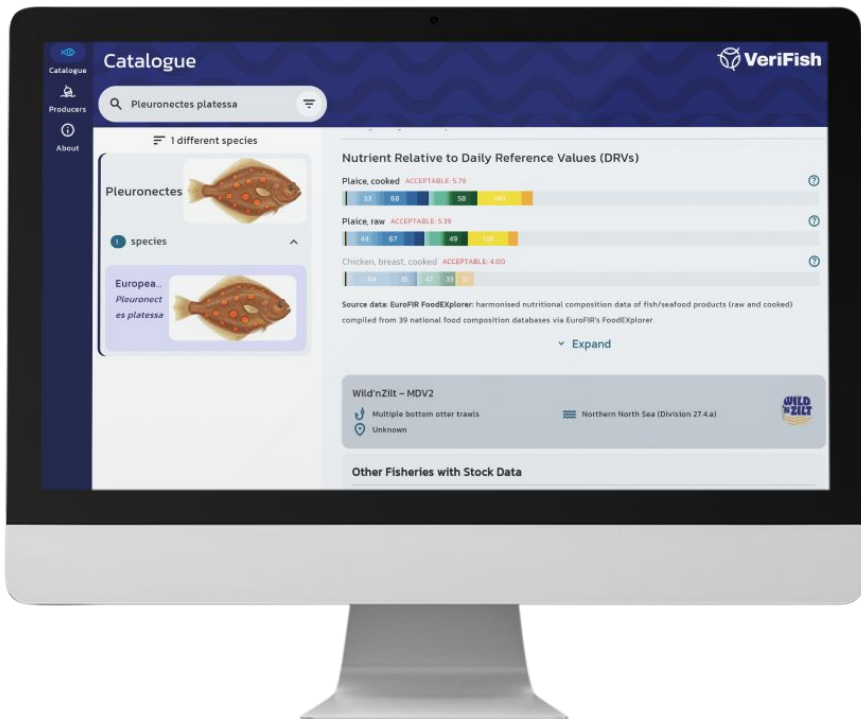
Data are consolidated in the **VeriFish Knowledge Base**, where this information is aggregated for unified access and analysis.



The VeriFish Knowledge Base – The Data Sources







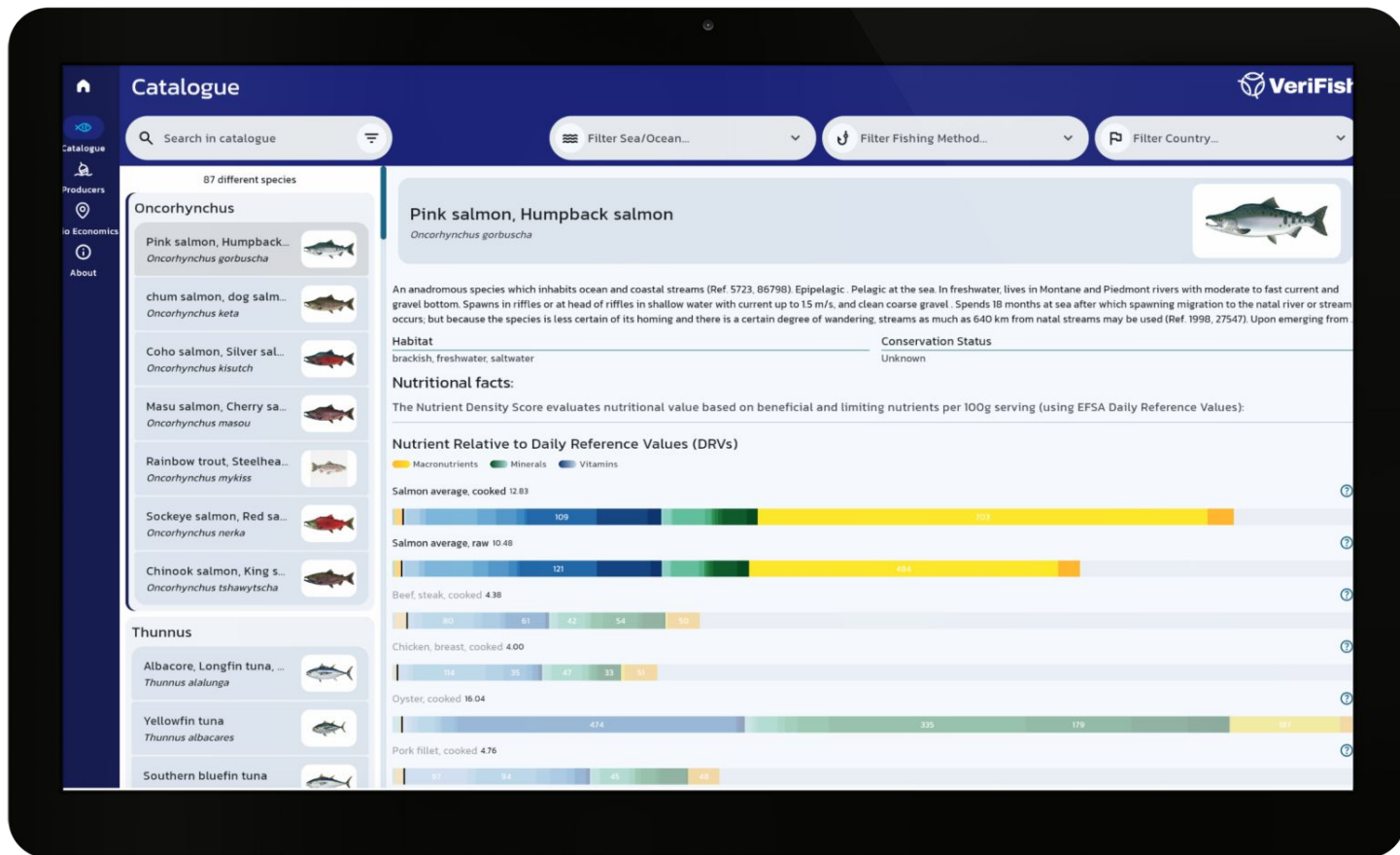
By reproducing the VeriFish indicator framework in an easy-to-navigate format, the app provides information describing the status of stocks, activities, food composition information, biological characteristics of species as well as environmental information, to guide users towards informed choices.



Continuous
assessment



Catch
Welfare
PLATFORM

Nutritional indicators




Catalogue


87 different species

Oncorhynchus

- Pink salmon, Humpback...
Oncorhynchus gorbuscha
- chum salmon, dog salm...
Oncorhynchus keta
- Coho salmon, Silver sal...
Oncorhynchus kisutch
- Masu salmon, Cherry sa...
Oncorhynchus masou
- Rainbow trout, Steelhea...
Oncorhynchus mykiss
- Sockeye salmon, Red sa...
Oncorhynchus nerka
- Chinook salmon, King s...
Oncorhynchus tshawytscha

Thunnus

- Albacore, Longfin tuna, ...
Thunnus alalunga
- Yellowfin tuna
Thunnus albacares
- Southern bluefin tuna

| Nutrient | Value | %DRV |
|---|---------|---------|
| Macronutrients | | |
| Protein (g) | 23.87 | 41.2% |
| Omega-3 (mg) | 1760.00 | >100.0% |
| Saturated Fat (g) (negative contribution) | 2.56 | 12.8% |
| Minerals | | |
| Iodine (µg) | 25.30 | 16.9% |
| Selenium (µg) | 27.31 | 39.0% |
| Copper (mg) | 0.09 | 6.2% |
| Zinc (mg) | 0.59 | 5.2% |
| Iron (mg) | 0.52 | 3.9% |
| Manganese (mg) | 0.03 | 1.0% |
| Magnesium (mg) | 31.65 | 9.7% |
| Phosphorus (mg) | 282.16 | 51.3% |
| Calcium (mg) | 22.69 | 2.3% |
| Potassium (mg) | 422.20 | 12.1% |
| Chloride (mg) | 84.34 | 2.7% |
| Sodium (g) (negative contribution) | 0.05 | 2.7% |
| Vitamins | | |
| Vitamin E (mg) | 2.54 | 21.2% |
| Vitamin D (µg) | 12.00 | 80.0% |
| Vitamin C (mg) | 0.00 | 0.0% |
| Vitamin B12 (µg) | 4.37 | >100.0% |
| Folate (µg) | 13.83 | 4.2% |

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

Protein
Amount: 14.66 mg | DRV: 13.20 mg
111.8% 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

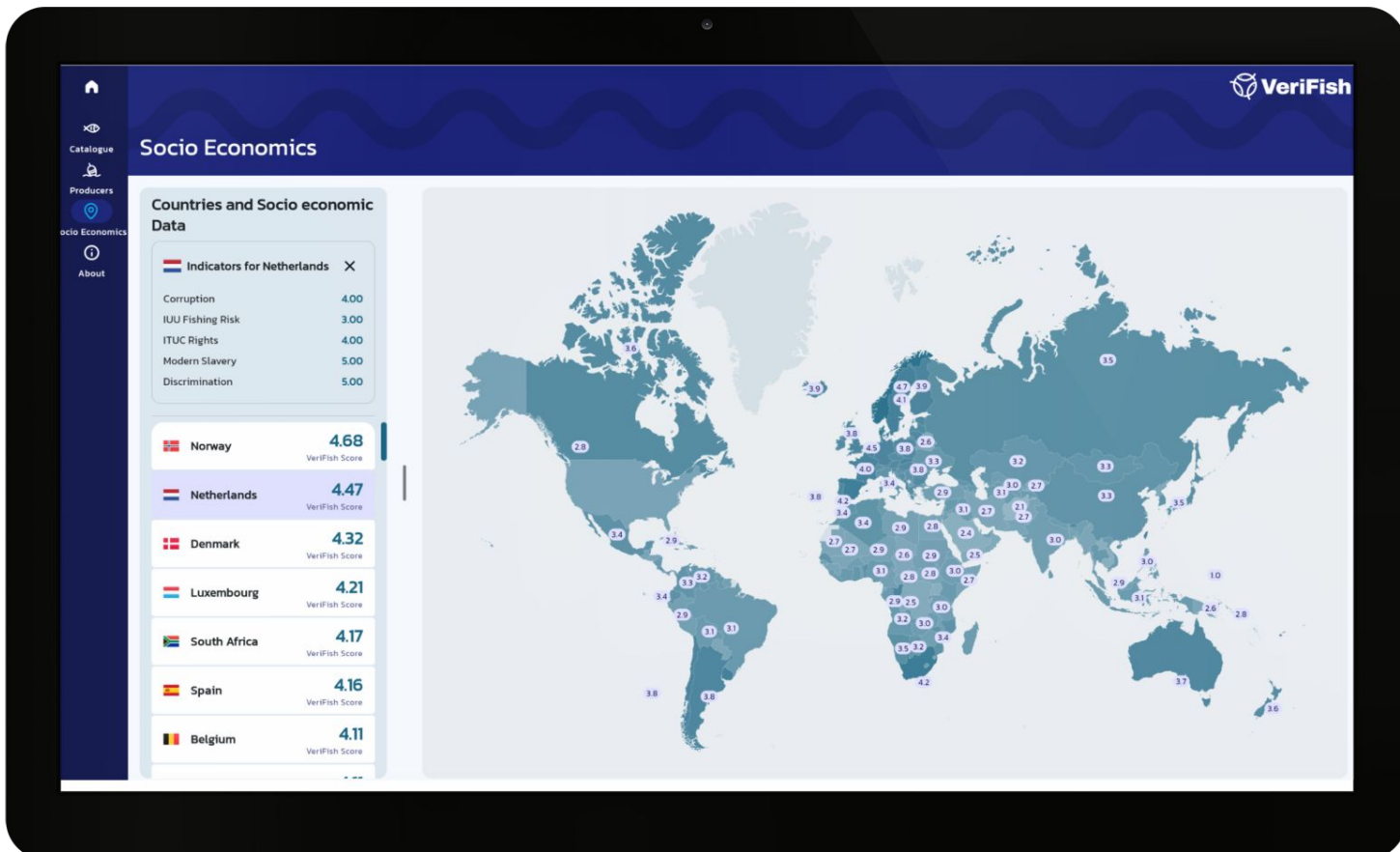
Phosphorus
Amount: 227.00 mg | DRV: 550.00 mg
41.3% of DRV

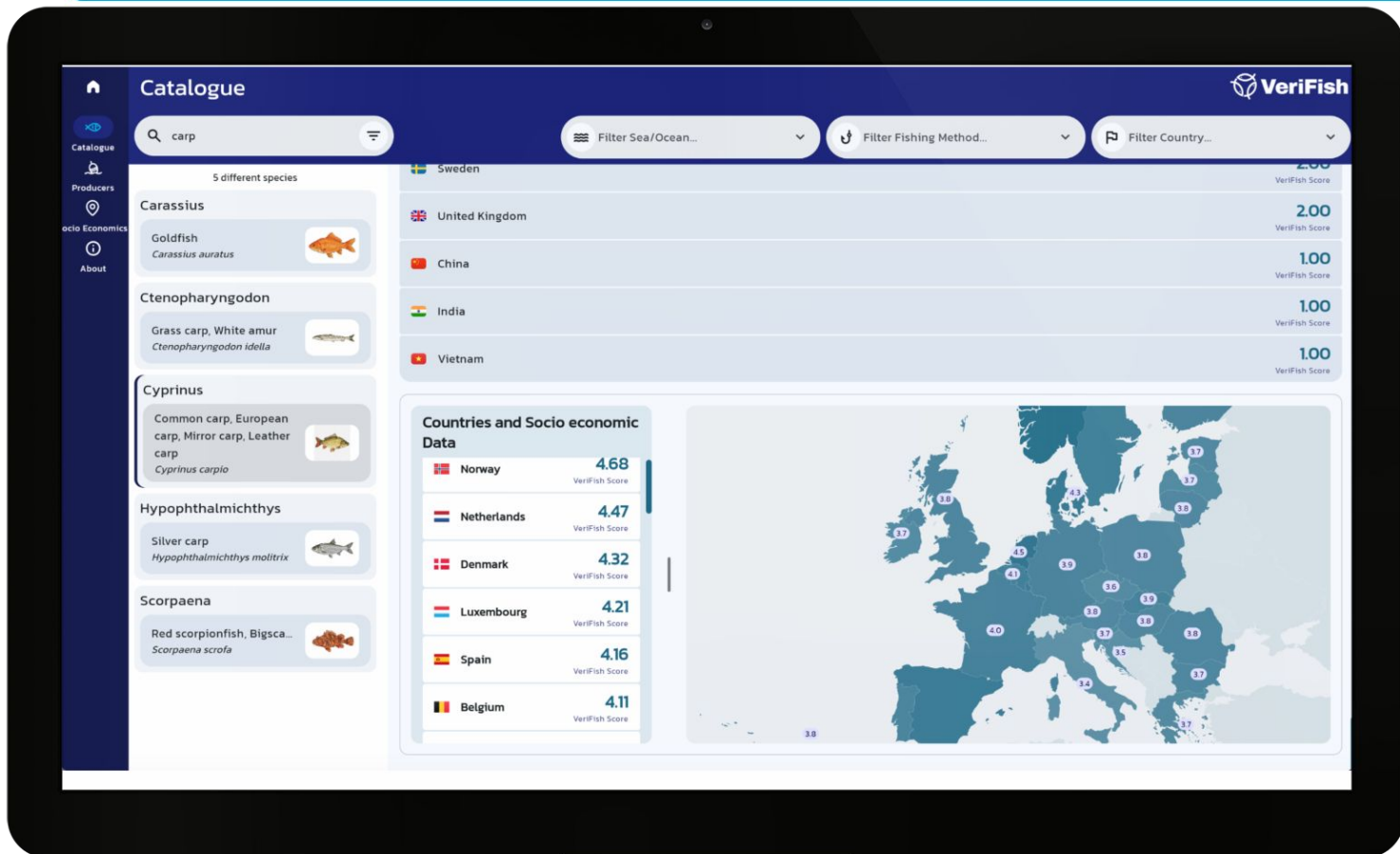
Socio-economic indicators

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

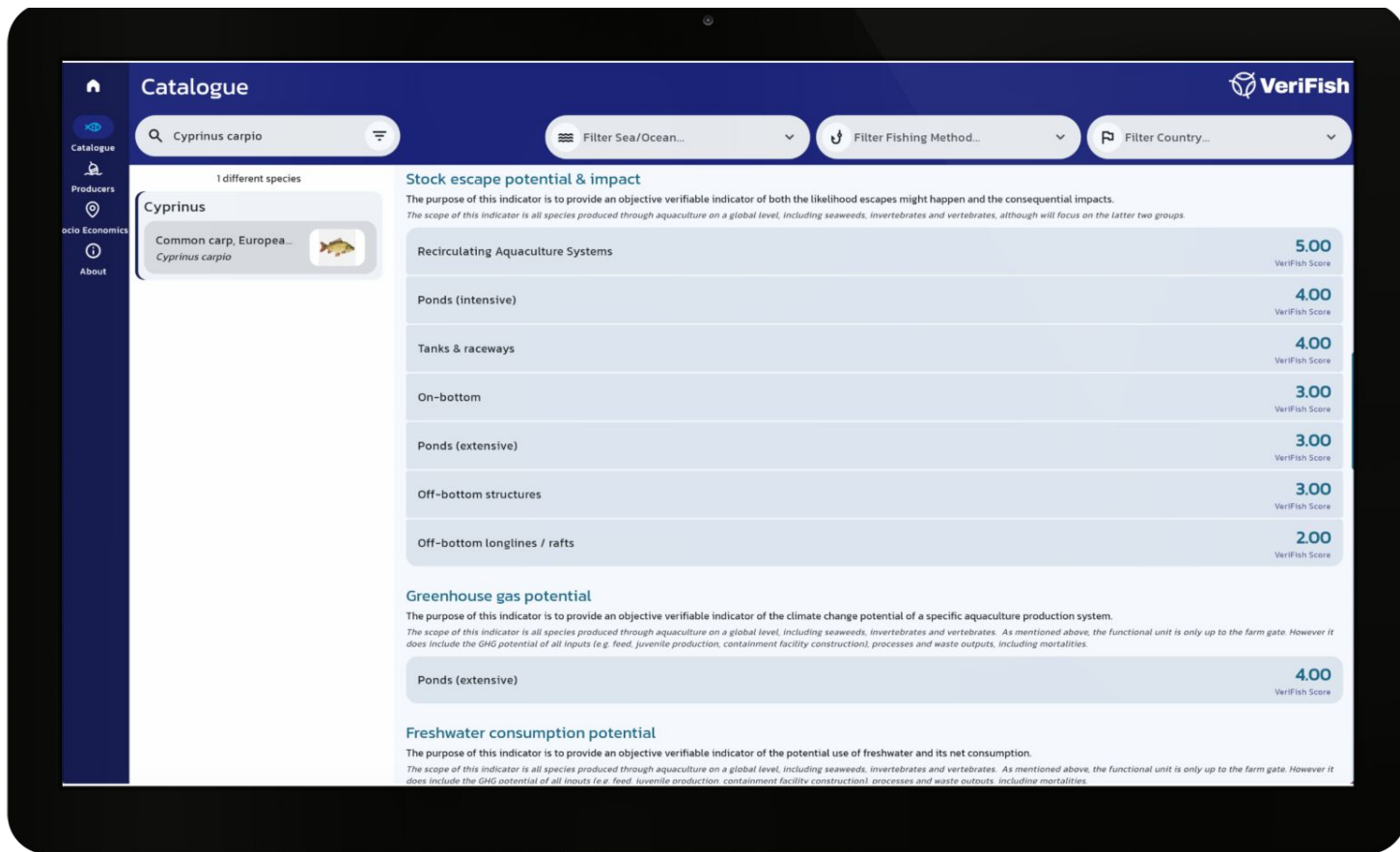
| Indicator | | Spanish Indian Ocean skipjack | Norway Farmed Salmon | Vietnam Farmed Shrimp |
|----------------|---|-------------------------------|----------------------|-----------------------|
| 1 | Vessel engaged in IUU fishing | 5 | n/a | n/a |
| 2 | Vessel flagged to a country with high levels 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 |





Environmental indicators

| # | 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 | Greenhouse gas (GHG) potential | 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 |



Catalogue

Search: Filter Sea/Ocean... Filter Fishing Method... Filter Country...

1 different species

Cyprinus

Common carp, Europea...
Cyprinus carpio

Stock escape potential & impact

The purpose of this indicator is to provide an objective verifiable indicator of both the likelihood escapes might happen and the consequential impacts.
The scope of this indicator is all species produced through aquaculture on a global level, including seaweeds, invertebrates and vertebrates, although will focus on the latter two groups.

| | |
|-----------------------------------|------------------------|
| Recirculating Aquaculture Systems | 5.00 VeriFish Score |
| Ponds (intensive) | 4.00 VeriFish Score |
| Tanks & raceways | 4.00 VeriFish Score |
| On-bottom | 3.00 VeriFish Score |
| Ponds (extensive) | 3.00 VeriFish Score |
| Off-bottom structures | 3.00 VeriFish Score |
| Off-bottom longlines / rafts | 2.00 VeriFish Score |

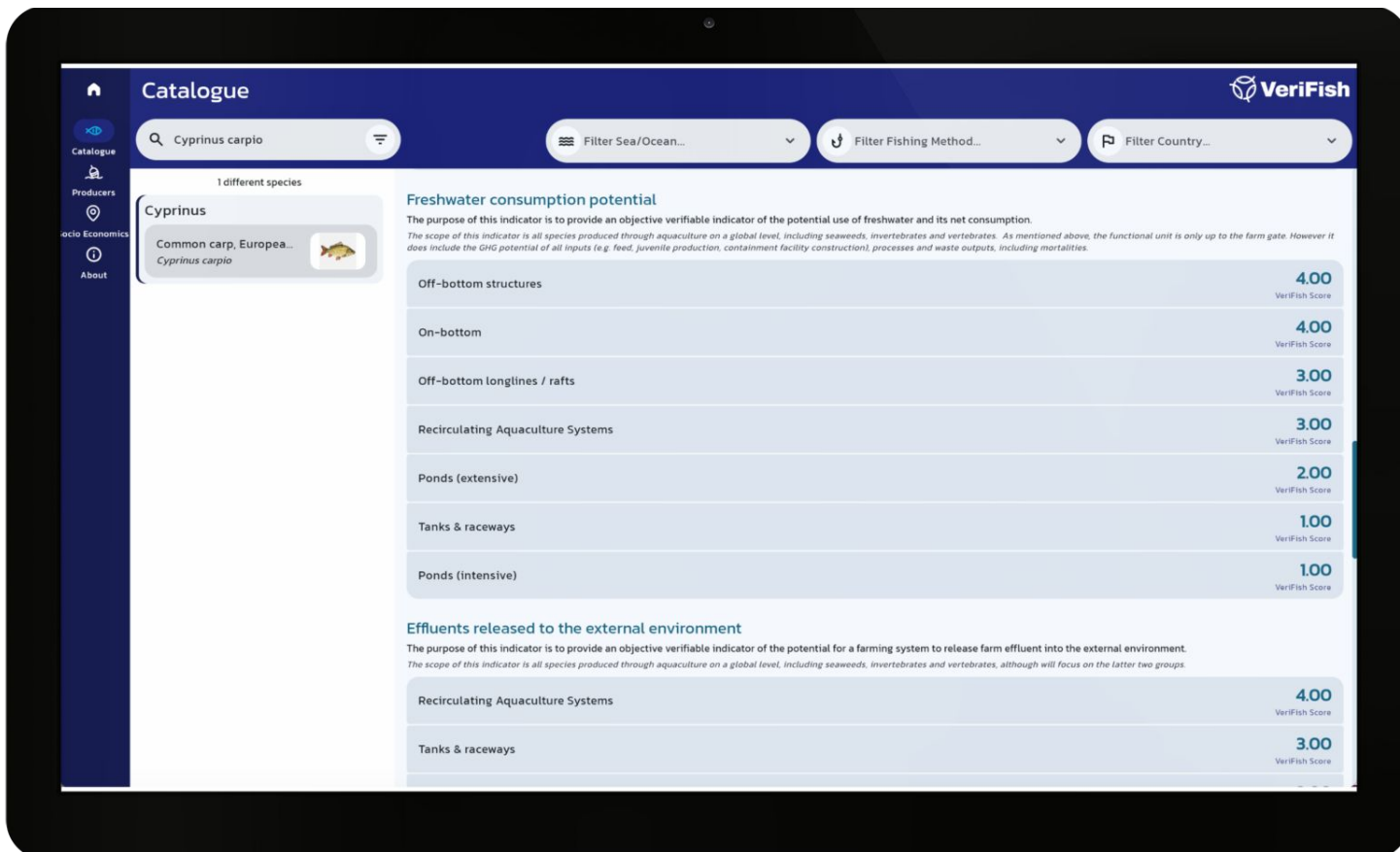
Greenhouse gas potential

The purpose of this indicator is to provide an objective verifiable indicator of the climate change potential of a specific aquaculture production system.
The scope of this indicator is all species produced through aquaculture on a global level, including seaweeds, invertebrates and vertebrates. As mentioned above, the functional unit is only up to the farm gate. However it does include the GHG potential of all inputs (e.g. feed, juvenile production, containment facility construction), processes and waste outputs, including mortalities.

| | |
|-------------------|------------------------|
| Ponds (extensive) | 4.00 VeriFish Score |
|-------------------|------------------------|

Freshwater consumption potential

The purpose of this indicator is to provide an objective verifiable indicator of the potential use of freshwater and its net consumption.
The scope of this indicator is all species produced through aquaculture on a global level, including seaweeds, invertebrates and vertebrates. As mentioned above, the functional unit is only up to the farm gate. However it does include the GHG potential of all inputs (e.g. feed, juvenile production, containment facility construction), processes and waste outputs, including mortalities.



Catalogue

Search: Filter Sea/Ocean... Filter Fishing Method... Filter Country...

1 different species

Cyprinus

Common carp, Europea...
Cyprinus carpio

Freshwater consumption potential

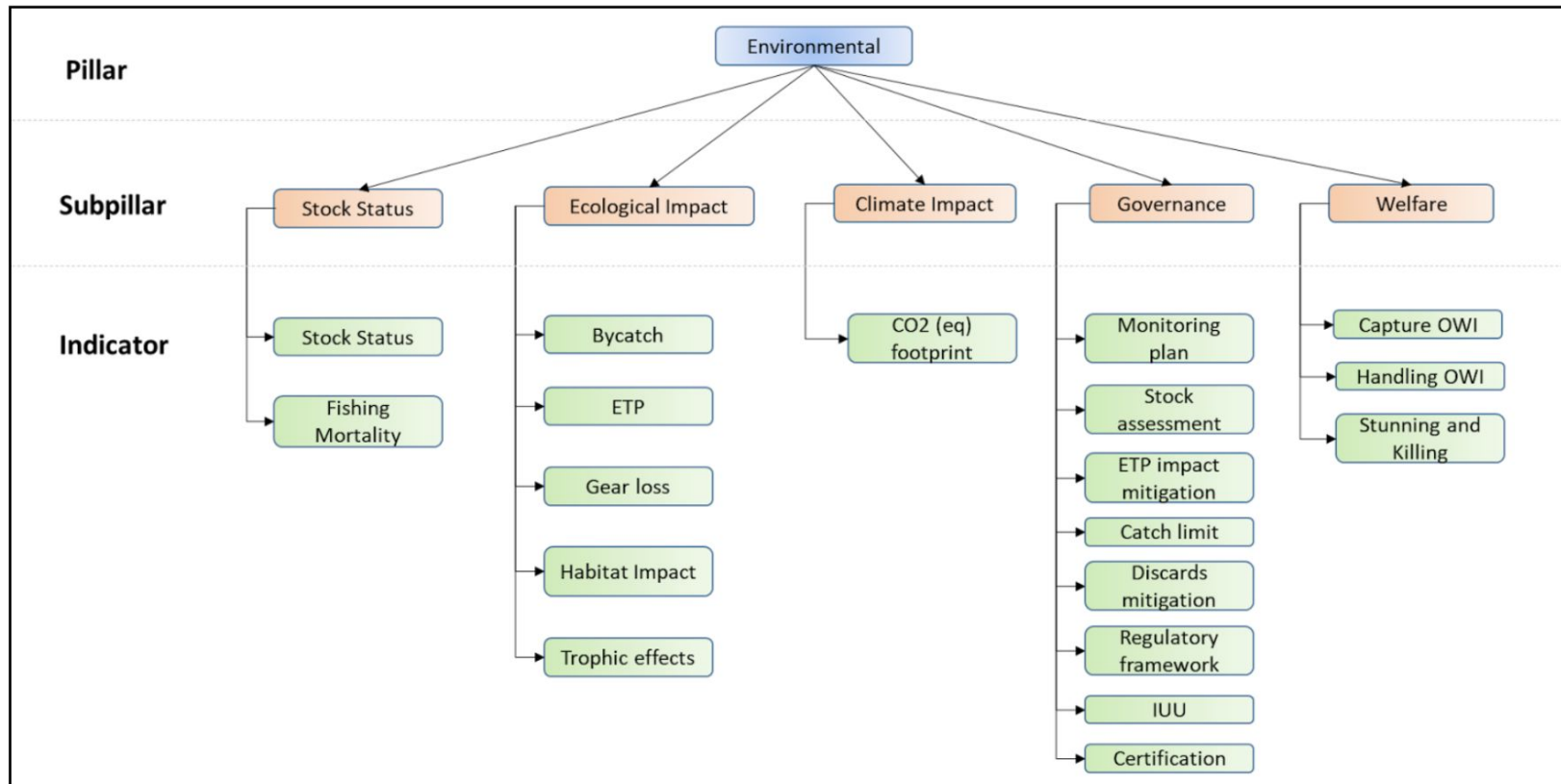
The purpose of this indicator is to provide an objective verifiable indicator of the potential use of freshwater and its net consumption.
The scope of this indicator is all species produced through aquaculture on a global level, including seaweeds, invertebrates and vertebrates. As mentioned above, the functional unit is only up to the farm gate. However it does include the GHG potential of all inputs (e.g. feed, juvenile production, containment facility construction), processes and waste outputs, including mortalities.

| | |
|-----------------------------------|------------------------|
| Off-bottom structures | 4.00 VeriFish Score |
| On-bottom | 4.00 VeriFish Score |
| Off-bottom longlines / rafts | 3.00 VeriFish Score |
| Recirculating Aquaculture Systems | 3.00 VeriFish Score |
| Ponds (extensive) | 2.00 VeriFish Score |
| Tanks & raceways | 1.00 VeriFish Score |
| Ponds (intensive) | 1.00 VeriFish Score |

Effluents released to the external environment

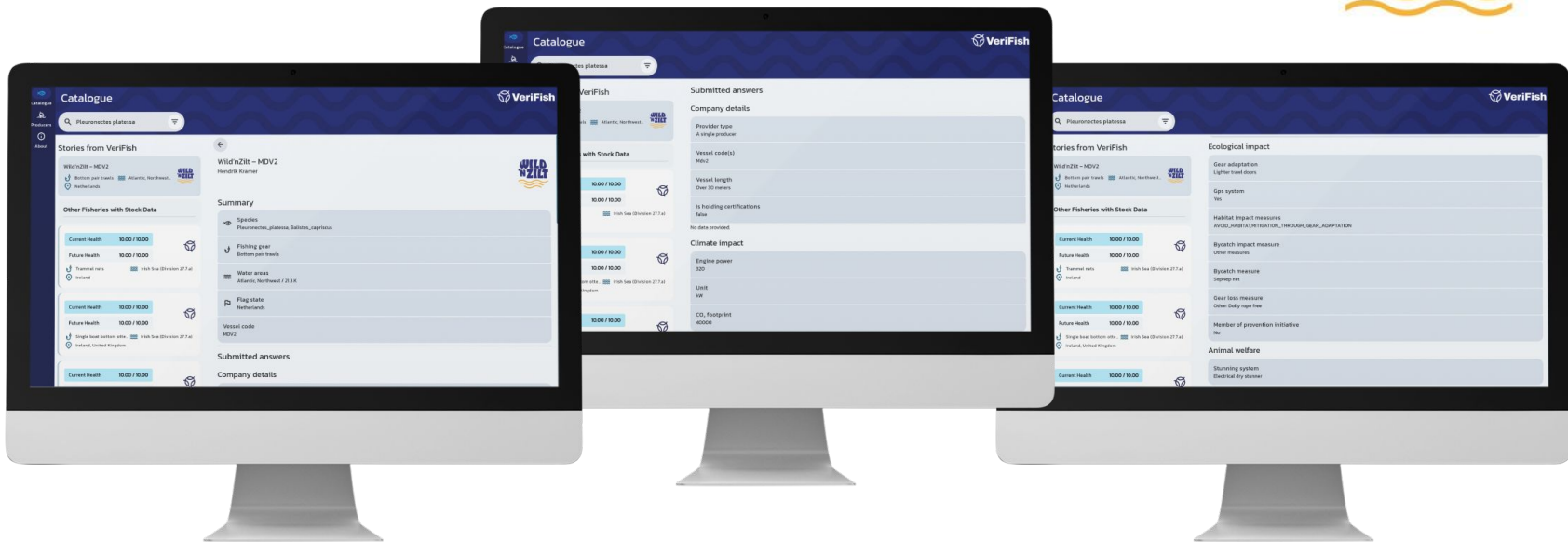
The purpose of this indicator is to provide an objective verifiable indicator of the potential for a farming system to release farm effluent into the external environment.
The scope of this indicator is all species produced through aquaculture on a global level, including seaweeds, invertebrates and vertebrates, although will focus on the latter two groups.


| | |
|-----------------------------------|------------------------|
| Recirculating Aquaculture Systems | 4.00 VeriFish Score |
| Tanks & raceways | 3.00 VeriFish Score |





Producer's data


Producer's data




 Home

 Catalogue

 Producers

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Producers

Filter Sea/Ocean...

Species: Katsuwonus pelamis, Thunnus albacares

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

Created: 2025-11-14 21:29:38

1

2

3

4

5


Step 1 of 5: Company details

Are you providing information as...*


A single producer

☒ An association / vessel float


What species do you catch?*




Select your seafood Species...



What are your fishing areas?*




Select your seafood Water areas...



What gear type do you use?*

Gear type

Pole-lines hand operated



Provide your vessel(s) code(s)

Vessel codes

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

What is the length of your vessel(s)?*

Less than 6 meters

6 - 12 meters


12 - 30 meters

Over 30 meters

Do you hold any sustainability or quality certifications?*


☒ Yes


☐ No




Please specify

MSC and Fair Trade







✓

2

✓

✓

✓

Step 2 of 5: Climate impact

What is the engine power of the vessel?

Please specify the engine power in kilowatts (kW) or horsepower (HP), indicating the unit used

⚡ Engine power

298

Unit

kW

Your current fuel consumption over a year

We collect the average CO₂ emissions, expressed in kilograms, associated with the fuel consumed to catch one kilogram of fish

CO₂ Fuel consumption

60000

kg CO₂ / kg fish

< Back

Revert

> Next

✓

✓

3

✓

5

Step 3 of 5: Ecological impact

Do you take any measures to reduce habitat impact of your fishery?

✓ Yes

No

Choose 1 or more options below:

🏠 Habitat Impact Measure

Do you take any extra measures to reduce impact on/ bycatch of Endangered, Threatened, and Protected (ETP) species?

✓ Yes

No

Choose 1 or more options below:

Catch reduction adaptation

Do you take any extra measures to reduce other unintended bycatch?

✓ Yes

No

Choose 1 or more options below:

ETP mitigation

Do you take any extra measures to prevent gear loss?

Yes

✓ No

Are you a member of any gear recovery or prevention initiative?

✓ Yes

No

Choose 1 or more options below:

Initiative

< Back

Revert

> Next

✓

✓

✓

4

5

Step 4 of 5: Animal welfare

Do you use validated systems for human stunning and killing practices?

✓ Yes

No

Choose 1 or more options below:

Systems

Other

Unknown

Yes. The pole and line vessels under PT Bintang Mandiri Bersaudara follow humane handling practices as promoted by AP2HI, including immediate killing of fish by the traditional pole and line method. The fish are caught one by one and immediately stunned and preserved in ice to minimize stress and ensure quality.

Other ✕

< Back

Revert

> Next

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

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

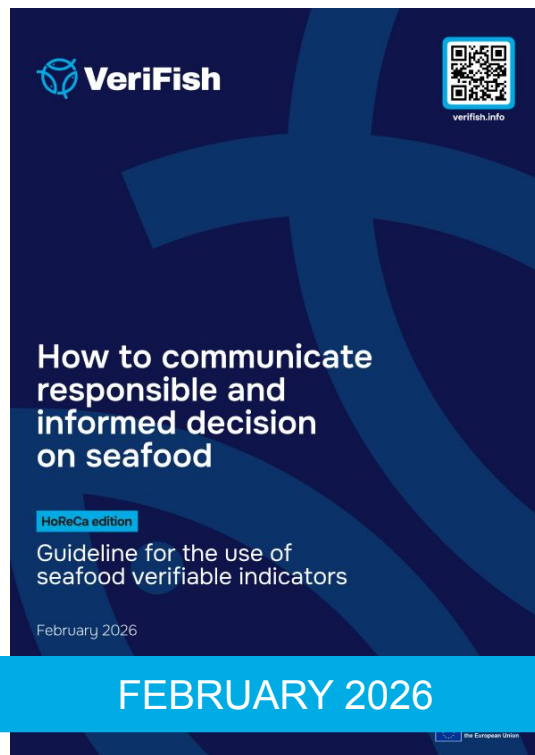
This framework gives you the vocabulary, structure toward **clear, confident communication**.

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.



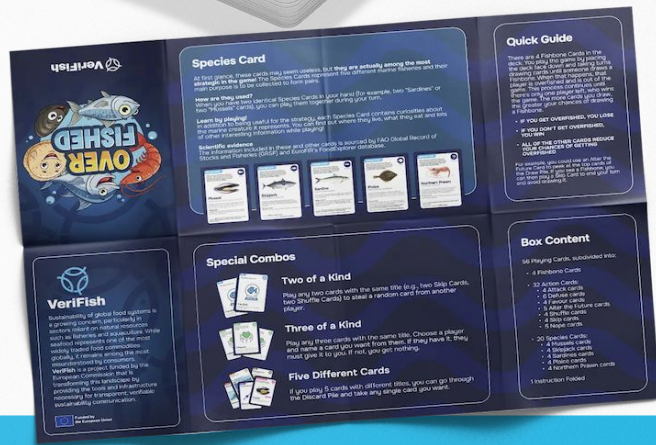
A series of **guidelines** will provide recommendations for different stakeholders - retailers, consumer associations, producer organisations, policy makers - on the use and visualisation of the verifiable indicator framework

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

FEBRUARY 2026



Assessment ongoing



FINAL EVENT

10-12 MARCH
2026,
BRUXELLES



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the European Union



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