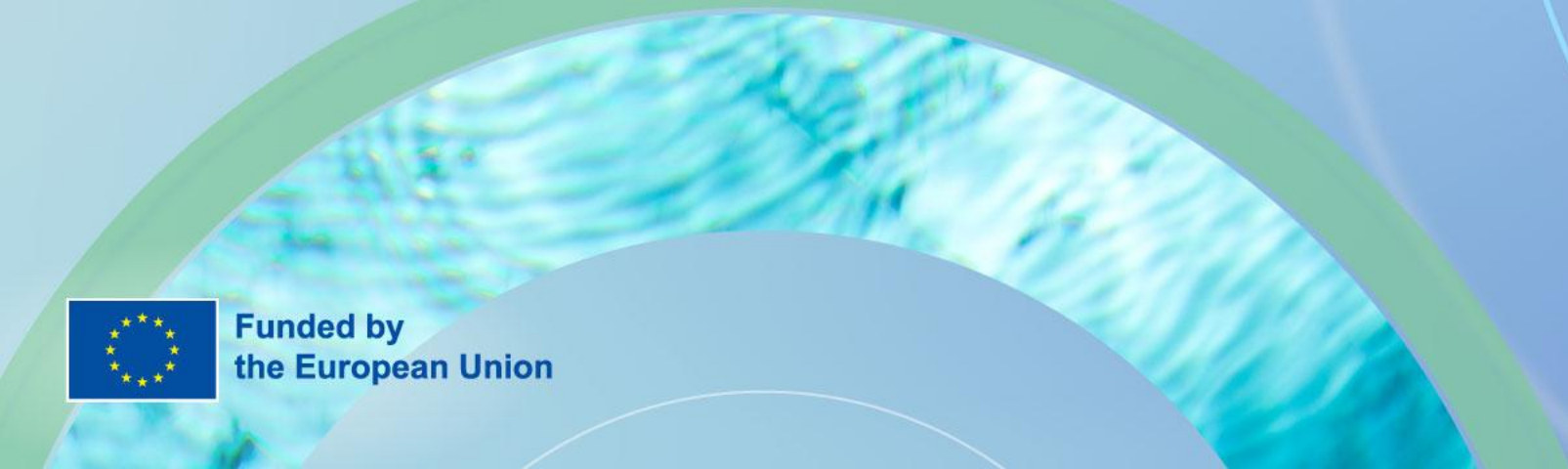
Code of good practices on fish welfare and fish welfare indicators

Birgit Van Tongelen, European Commission, DG MARE

AAC webinar, 26 March 2026



Funded by the European Union

Context

"**Strategic guidelines** for a more sustainable and competitive EU aquaculture for the period 2021 to 2030" adopted by the European Commission in May 2021.

→ **Key areas for further work** = animal welfare.

→ **Challenge to be addressed** = lack of good practices on fish welfare, lack of fish welfare indicators.

→ **Actions** =

- → support development of a code of good practices on fish welfare
- → support development of fish welfare indicators

❖ Document on Code of GP on fish welfare and fish welfare indicators.

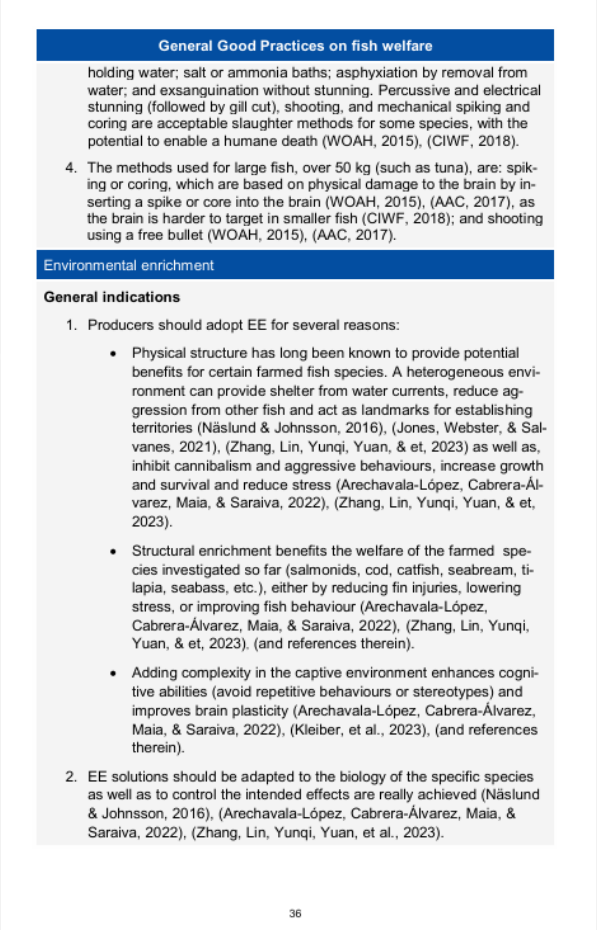
→ "**Aquaculture Assistance Mechanism**" to assist in implementation of Strategic guidelines.

Objectives and key elements

- **Objective:** to identify and promote non-species specific best practices for fish welfare and fish welfare indicators.
- **Complementing EURCAW-Aqua's** work on **species-specific** good practices and indicators.
- **Complementing GHP document** – focus on health and welfare issues
- **For aquaculture producers** - practical and user-friendly.
- **TOPICS addressed**: feeding, handling, water quality, stocking density, mortality removal, transport, slaughter, environmental enrichment.

2 factsheets

- **1 factsheet on general good practices**
- **1 factsheet on general fish welfare indicators**



General Good Practices on fish welfare

holding water; salt or ammonia baths; asphyxiation by removal from water; and exsanguination without stunning. Percussive and electrical stunning (followed by gill cut), shooting, and mechanical spiking and coring are acceptable slaughter methods for some species, with the potential to enable a humane death (WOAH, 2015), (CIWF, 2018).

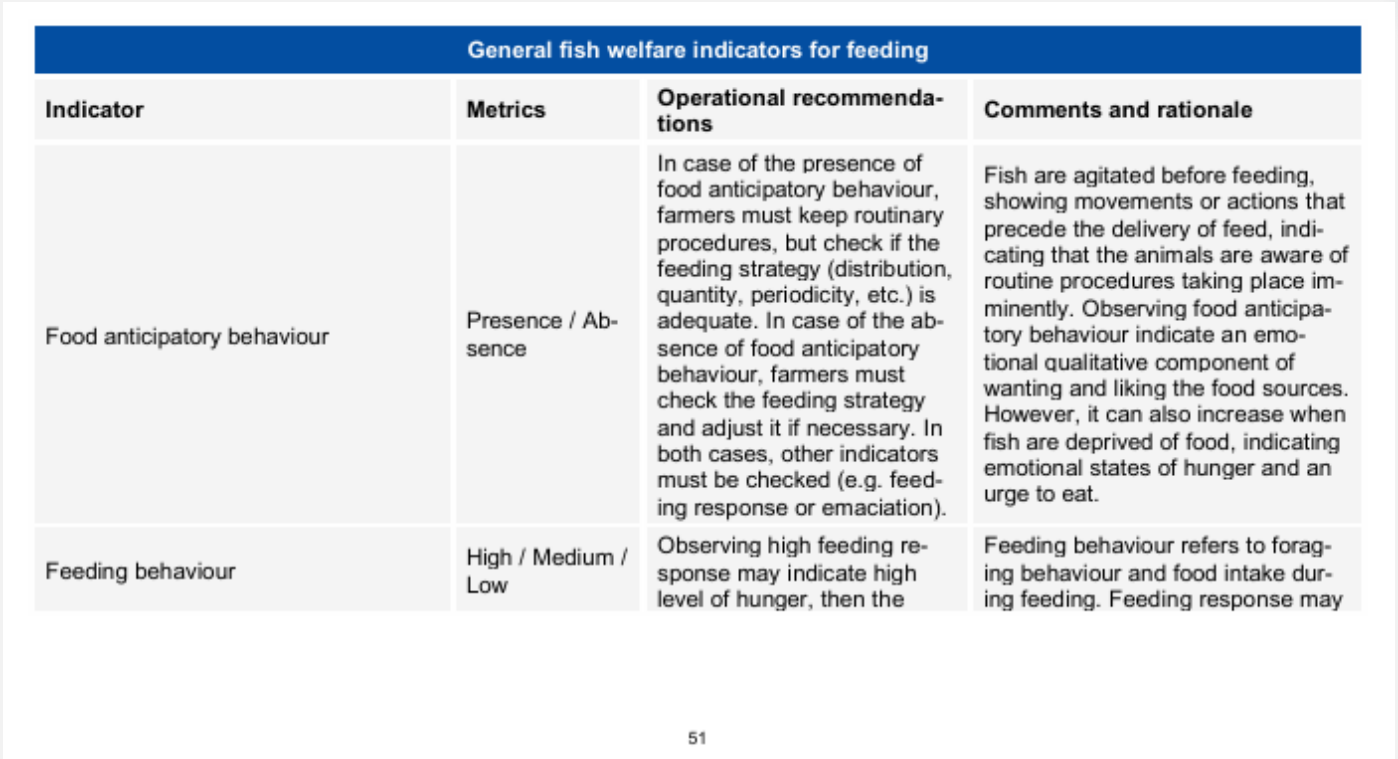
4. The methods used for large fish, over 50 kg (such as tuna), are: spiking or coring, which are based on physical damage to the brain by inserting a spike or core into the brain (WOAH, 2015), (AAC, 2017), as the brain is harder to target in smaller fish (CIWF, 2018); and shooting using a free bullet (WOAH, 2015), (AAC, 2017).

Environmental enrichment

General indications

1. Producers should adopt EE for several reasons:
   - Physical structure has long been known to provide potential benefits for certain farmed fish species. A heterogeneous environment can provide shelter from water currents, reduce aggression from other fish and act as landmarks for establishing territories (Näslund & Johnsson, 2016), (Jones, Webster, & Salvanes, 2021), (Zhang, Lin, Yunqi, Yuan, & et, 2023) as well as, inhibit cannibalism and aggressive behaviours, increase growth and survival and reduce stress (Arechavala-López, Cabrera-Álvarez, Maia, & Saraiva, 2022), (Zhang, Lin, Yunqi, Yuan, & et, 2023).
   - Structural enrichment benefits the welfare of the farmed species investigated so far (salmonids, cod, catfish, seabream, tilapia, seabass, etc.), either by reducing fin injuries, lowering stress, or improving fish behaviour (Arechavala-López, Cabrera-Álvarez, Maia, & Saraiva, 2022), (Zhang, Lin, Yunqi, Yuan, & et, 2023). (and references therein).
   - Adding complexity in the captive environment enhances cognitive abilities (avoid repetitive behaviours or stereotypes) and improves brain plasticity (Arechavala-López, Cabrera-Álvarez, Maia, & Saraiva, 2022), (Kleiber, et al., 2023), (and references therein).
2. EE solutions should be adapted to the biology of the specific species as well as to control the intended effects are really achieved (Näslund & Johnsson, 2016), (Arechavala-López, Cabrera-Álvarez, Maia, & Saraiva, 2022), (Zhang, Lin, Yunqi, Yuan, et al., 2023).

36



General fish welfare indicators for feeding

Indicator	Metrics	Operational recommendations	Comments and rationale
Food anticipatory behaviour	Presence / Absence	In case of the presence of food anticipatory behaviour, farmers must keep routinary procedures, but check if the feeding strategy (distribution, quantity, periodicity, etc.) is adequate. In case of the absence of food anticipatory behaviour, farmers must check the feeding strategy and adjust it if necessary. In both cases, other indicators must be checked (e.g. feeding response or emaciation).	Fish are agitated before feeding, showing movements or actions that precede the delivery of feed, indicating that the animals are aware of routine procedures taking place imminently. Observing food anticipatory behaviour indicate an emotional qualitative component of wanting and liking the food sources. However, it can also increase when fish are deprived of food, indicating emotional states of hunger and an urge to eat.
Feeding behaviour	High / Medium / Low	Observing high feeding response may indicate high level of hunger, then the	Feeding behaviour refers to foraging behaviour and food intake during feeding. Feeding response may

51

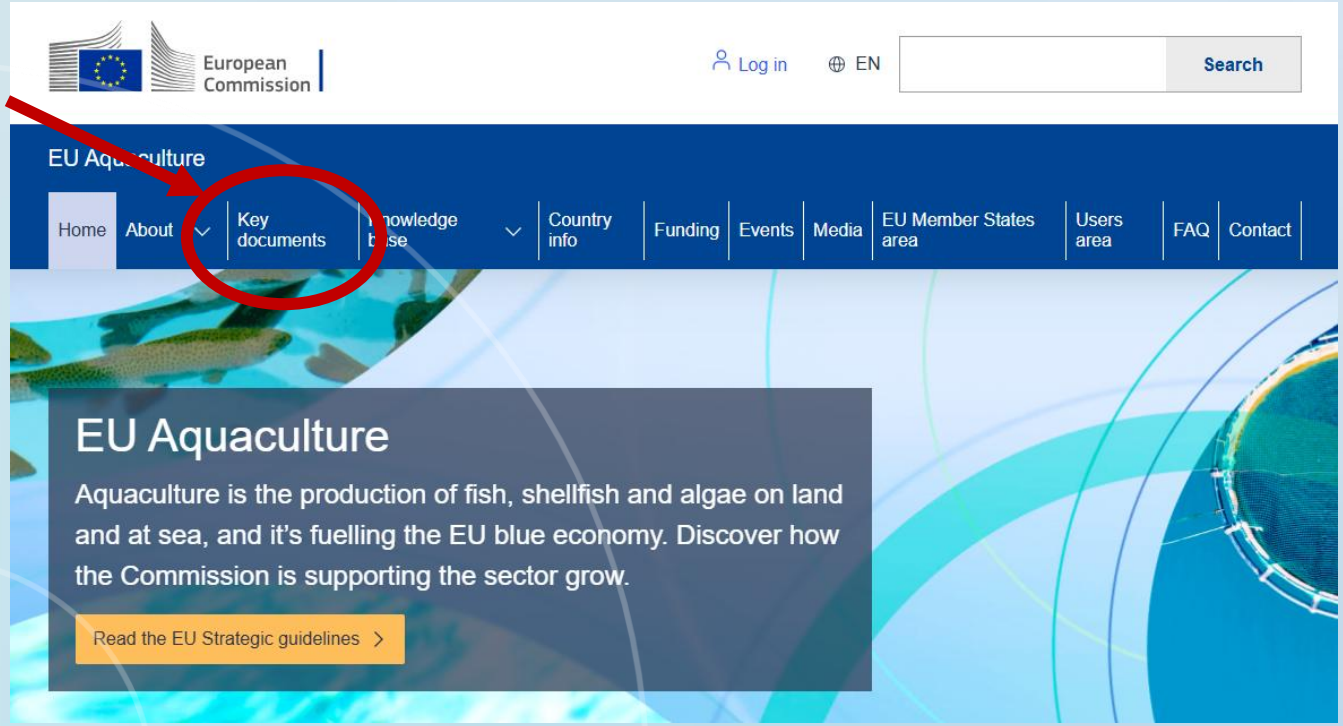
Updating the Code

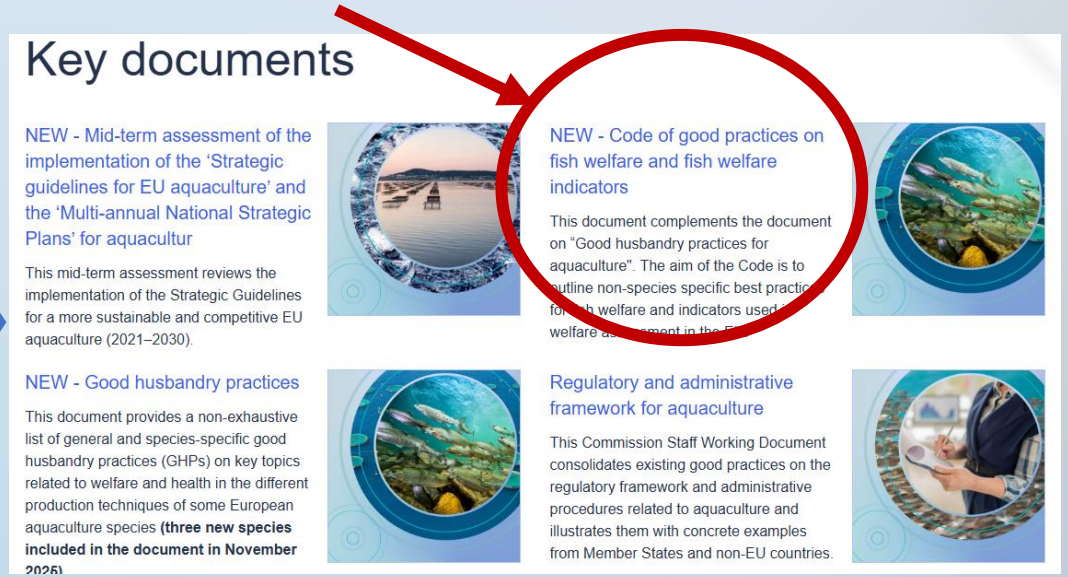
Additional fish welfare good practices and fish welfare indicators will be included in the future

Updates via the EU aquaculture website.

Where can you find it ?

EU aquaculture website – Key documents





Thank you!

Funded by
the European Union