

Reports and Comments

Transport of farmed finfishes in Europe and the associated welfare and legislative needs

The European Parliament's Committee of Inquiry on the Protection of Animals during Transport (ANIT) requested an analysis of the welfare needs of live aquatic animals. The study authors, Saraiva *et al* (2021), focused on farmed finfishes in commercial aquaculture because this accounts for most live transports.

Figure 1 in Saraiva *et al* (2021) illustrates that a finfish may be transported on multiple occasions, within the different developmental stages of their life (at which their susceptibility to stress may differ), and as such they may be exposed to different procedures depending on the type of transport container and vehicle, and the reason for transport.

The study “describes the key causes of suffering... , and ... strengths and weaknesses in the EU regulation (Council Regulation [EC] No 1/2005 on the Protection of Animals during Transport and Related Operations) and in current guidelines.” The authors report that “live transport inherently presents major challenges” to finfishes' welfare, due to the “close confinement... in highly unnatural and highly controlled environments.” They advise that careful planning, gentle movement, continuously monitoring and maintaining water quality, and regular observations of fishes during the week after unloading will assist with identifying unfit individuals, minimising risks to welfare during handling and transport, and will enable timely mitigation to prevent large numbers of fishes from suffering (and perhaps dying) due to factors associated with a journey, even days after the journey ended.

The study focuses on seven species that are farmed in Europe in large quantities, and their idiosyncratic susceptibilities to different aspects of the transport process, as well as disadvantages of the systems in which humans rear them (eg the typical lack of food withdrawal prior to transport of common carp [*Cyprinus carpio*], which can compound any water quality issues). Figure 1 is complemented by the Annex, which describes typical transport methods within the various life-stages of the seven species, along with the levels of intensity of production. Of particular interest are the differences in transport practices between species, such as relatively very short movements for European sea bass (*Dicentrarchus labrax*) and gilthead sea bream (*Sparus aurata*) compared to some journeys for African catfish (*Clarias gariepinus*) and turbot (*Scophthalmus maximus*).

The study compares the EU transport legislation with the World Organisation for Animal Health's (OIE) 2019 Aquatic Animal Health Code, and with certain EU

member state government agencies' guidelines, two EU member states' national sectorial aquaculture guidelines, and two third-party certification standards.

The authors report that EC No. 1/2005 “falls short” of OIE (2019), eg “it does not address monitoring or maintaining water quality parameters” which the authors point out is a particular concern for common carp because some are known to be transported without water quality monitoring. (This contrasts with some other species, for which industry largely already monitors and tries to prevent obvious short- and long-term signs of impaired health and welfare, due to poor-quality water). The authors remark that “in most cases aquaculture operators and transporters in the EU are carrying out fish transports using procedures that meet OIE standards”, and recommend that EU legislation is updated “to exceed OIE standards.”

The study lists some criteria of named certification standards, eg for Naturland (which requires a maximum stocking density, and maximum journey durations via road and wellboat), but does not describe specific values.

The study concludes with policy recommendations, which the authors consider to be suitable for inclusion in EU animal welfare legislation, to minimise welfare impacts associated with transport. For example, licencing of vehicles to ensure they are fit for protecting fishes' welfare on the range of expected journey durations for that vehicle; and operational aspects including identification of unfit individuals and not loading them for transport (although the practicalities of detecting and removing unfit fishes from a group can be a challenge and requires solving), and acclimating fishes to the parameters of their unloading environment *before* unloading commences. The authors also suggest that “fish can be pre-conditioned to cope with crowding and harvesting by repeated stressing before netting. These procedures must be especially gentle”, and promote a greater awareness that loading and unloading are often the most stressful parts of transport (as they are for other types of animals) and should occur quickly but gently (which can be a difficult skill to master).

The Humane Slaughter Association's 2018 report on Humane Slaughter of Finfish Farmed Around the World (at www.hsa.org.uk/publications/conference-workshop-reports) describes how, in the situation of moving harvest-weight fishes to an area for slaughter, an ideal aim is for stunning equipment to be mobile so it can be taken to fish-rearing enclosures, whether inland or offshore, to reduce the journey durations or to avoid transporting live fishes (*and* therefore to also avoid lairaging them between transport and slaughter). For example, stunning fishes in, or as they leave, their rearing enclosures may reduce the risk of distress and injuries and may therefore also benefit product quality.

Saraiva *et al*'s (2021) full study report is published in English, along with executive summaries in Spanish, German, French, and Italian.

Saraiva JL, Arechavala-Lopez P, Cabrera-Álvarez MJ and Waley D 2021 *Research for ANIT Committee – Particular welfare needs in animal transport: aquatic animals*. European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, Belgium. Available at: [https://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2021\)690875](https://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2021)690875).

Particular Welfare Needs in Animal Transport: Aquatic Animals – Workshop on Animal Welfare during Transport (2021). A4, 56 pages. Research for ANIT Committee, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels. Available at: [https://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU\(2021\)690875](https://www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2021)690875).

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Welfare of fish now included in EU strategy for aquaculture

The European Commission is keen for its aquaculture industry to undergo a period of sustainable growth and, to facilitate this, they have published updated, strategic guidelines. Aquaculture is highly regulated in the European Union and these guidelines seek to support growth, whilst also ensuring the industry remains: 1) competitive and resilient; 2) ensures the supply of nutritious and healthy food; 3) reduces the EU's dependency on seafood imports; 4) creates economic opportunities and jobs; and 5) becomes a global reference for sustainability. The guidelines cover the period from 2021 to 2030.

There is no mention of animal welfare in the overarching aims of the strategy. However, there is recognition that fish welfare needs to be an element of any growth strategy and, for the first time, the aquaculture guidelines include a specific section on animal welfare (Section 2.2.2). Within this section it is stated: "More attention should be paid to the welfare of fish" and it goes on to say that further action is necessary to improve fish welfare. Specifically, the guidelines mention the following:

- Developing good practices on fish welfare during farming, transport and killing;
- Setting common validated, species-specific, and auditable fish welfare indicators throughout the production chain (including in transport and slaughtering);
- Further research and innovation, in particular on species-specific welfare parameters, including nutritional needs in different rearing systems; and
- Providing knowledge and skills on fish welfare to aquaculture producers and other operators that handle live farmed fish.

Many millions of fish are reared, caught, and killed to supply fish for human consumption. It is therefore pleasing to see that the welfare of these animals is beginning to be considered within the regulatory framework.

Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions (May 2021). Strategic guidelines for a more sustainable and competitive EU aquaculture for the period 2021 to 2030. European Commission. Brussels. Available at: https://ec.europa.eu/commission/presscorner/detail/en/ip_1554.

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