EXECUTIVE SUMMARY

European Parliament

Research for ANIT Committee – Particular welfare needs in animal transport: aquatic animals

KEY FINDINGS

- Fish are sentient beings and live transport inherently presents major challenges to their ability to cope with handling stressors and with their environment.
- Maintaining the best possible welfare for the fish requires careful planning, gentle loading, monitoring and maintaining conditions during the journey, gentle unloading, and monitoring in the days after unloading.
- The relevant provisions in the EU's animal transport regulation fall short of World Organisation for Animal Health (OIE) standards in key areas including the allocation of responsibilities, elements of journey planning, ensuring fitness to travel, monitoring and maintaining water quality, design of vehicles and fittings, and post-transport monitoring.
- Guidelines and protocols are increasingly available across the EU. There is duplication of effort in developing guidelines, some divergence in standards, and no guideline is comprehensive. The best guidelines fall short on contingency planning for all journeys, in-depth national and sectoral guidelines address some of the critical issues, and third-party certification schemes have implemented only some relevant criteria.
- It is recommended to update EU legislation to reflect current knowledge on the needs of fish and on transport methods and to exceed OIE standards.

A diverse range of aquatic animals are transported alive in the EU, and a large portion of these movements are transports of live finfish within commercial aquaculture production. Finfish are sentient and self-aware organisms that can feel pain, distress and other emotions. Live transport of fish is inherently stressful at best and comes with significant risks of acute welfare problems.

The present document is the executive summary of the study on "Particular welfare needs in animal transport: aquatic animals".The full study, which is available in English can be downloaded at: https://bit.ly/3tYlTBG

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Using fish in aquaculture comes with the responsibility to safeguard and provide for the welfare of the fish, and paying high attention to fish welfare during transport is essential for the survival of the fish during transport and for reducing incidences of disease following transport.

As the knowledge base on fish welfare grows exponentially, there is a matching rise in public attention and concern for the welfare of fish. This study sets out to analyse the particular welfare needs in live animal transport of aquatic animals and to provide concrete policy recommendations on animal welfare standards for EU fisheries and aquaculture development.

Mitigating the welfare implications of transport starts with pre-transport planning and preparations. To avoid mortalities due to out of control water quality parameters (which can happen very rapidly), the transporter needs to know the size and number of fish before transport in order to load only a suitable density of fish. The vehicle needs to have the necessary equipment to monitor and maintain water quality parameters. The journey needs to be planned taking these factors into account and making assumptions for delays. It is often necessary to starve fish in the days before transport to clear their gut, reducing their metabolism and activity and reducing their excretion of waste into their transport water, and this must be carried out carefully not to create undue suffering for the fish. To cope with the rigours and stresses of transport fish need to be in good condition when they are loaded.

Loading is often the most stressful part of live fish transport. Gentle crowding, using equipment such as pumps that allow the fish to remain submerged in water, and ensuring sufficient trained personnel are available, are all important to prevent the stresses of loading from overwhelming the fish's capacity to cope. Already during loading it is necessary to provide supplemental oxygen to meet the fish's needs.

During the journey it is essential to continually monitor key water quality parameters, to supply the necessary supplemental oxygen, and to employ further techniques and equipment to manage the continually deteriorating water quality and maintain an environment in which fish can cope. Most trucks use closed systems, and some boats and aeroplanes do as well. Increasingly, well boats are used in marine aquaculture; this allows for continual water exchange during the journey which provides the best water quality possible.

Unloading involves similar handling stressors to loading. Additionally, it is necessary to acclimatise fish to the water they will be unloaded into.

The stress of transport affects physiology and appetite for days after unloading. Ongoing monitoring is necessary to identify problems caused by transport, such as injuries, or an increased incidence of disease resulting from reduced immune function and/or increased exposure to infection.

Atlantic salmon and rainbow trout are especially vulnerable to poor water quality, in particular to low oxygen and high CO^2 levels. They present special challenges when they are transported to sea cages as they undergo great physiological changes at this time. Gilthead seabream and European seabass are both very sensitive to the stresses of handling, and are vulnerable to rapidly deteriorating water quality which can occur in high temperature environments with low water exchange. Common carp is especially vulnerable if it is transported with a full gut and to stressors during loading/unloading. African catfish is most stressed by the transport stage and is sensitive to both high and low densities, with aggression resulting from poor density management. Turbot are normally taken out of water and kept at low temperatures to reduce the metabolism enough to cope with transport.

The World Organisation for Animal Health (OIE) adopted a chapter of baseline standards on fish welfare during transport in 2009. The EU's animal transport regulation falls short of the OIE standards in several key areas including the allocation of responsibilities, elements of journey planning, ensuring fitness to travel, monitoring and maintaining water quality, design of vehicles and fittings, and post-transport monitoring. In practice, for fish to survive live transport they require attention to their welfare that far exceeds the provisions made in EU legislation. A study of common practices during fish transport in the EU found that in most cases aquaculture operators and transporters in the EU are carrying out fish transports using procedures that meet OIE standards.

Fish transport operators in the EU require significant technical and biological expertise. They are supported by their experience and by experts in governmental agencies, research institutes, and fish health services. Support includes written standards which are increasingly emergent across Europe's aquaculture sectors. Two government authorities have produced the most detailed guidelines available in the EU, specific to their regional and national contexts. They call short of OIE standards at least in relation to contingency planning for all journeys. In other cases, national projects to improve fish welfare and fish health in aquaculture have produced less detailed best practice guidelines and standards which address several key issues but each miss key aspects of fish welfare during transport. Some third party certification schemes have also included a few criteria on fish welfare during transport.

This report presents a set of recommendations for minimising the welfare impacts of handling practices associated with transport. The design and fittings of the vehicle or vessel must be sufficient to monitor and maintain key water quality parameters throughout the journey, and have features that allow for fast and gentle loading and unloading without injuring the fish. Fish should normally have a starvation period prior to loading to prepare them for the journey, and they should be inspected so that fish with impaired welfare are not loaded. During the journey, supplementary oxygen is required and a range of equipment is necessary to continually monitor and maintain key water quality parameters including oxygen, temperature, CO^2, pH and ammonia. Loading and unloading the fish must be done gently to reduce stress and avoid injury, and the use of pumps is preferable to lifting with nets. Fish may require acclimatisation before being put into new water bodies, especially before unloading. The welfare impacts of transport continue for days after unloading and ongoing monitoring is necessary to identify and mitigate problems caused during transport.

Further information

This executive summary is available in the following languages: English, French, German, Italian and Spanish. The study, which is available in English, and the summaries can be downloaded at: https://bit.ly/3tYlTBG

More information on Policy Department research for ANIT: https://research4committees.blog/anit/

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