

## Animal Welfare and Aquaculture “Quick Takes”

*This fact sheet was prepared by the National Sea Grant Law Center as part of the Agricultural and Food Law Consortium.*



*The Agricultural & Food Law Consortium, led by the National Agricultural Law Center, is a national, multi-institutional collaboration designed to enhance and expand the development and delivery of authoritative, timely, and objective agricultural and food law research and information.*



*This material is based upon work supported by the National Agricultural Library, Agricultural Research Service, U.S. Department of Agriculture.*

### What is animal welfare? What does welfare look like for fish?

There is no universally accepted definition of animal welfare. However, references are often made to the “five freedoms”:

- ① freedom from hunger and thirst;
- ② freedom from discomfort;
- ③ freedom from pain, injury or disease;
- ④ freedom to express normal behavior; and
- ⑤ freedom from fear and distress.

Animal welfare is a distinct concept from animal rights. Animal welfare supports the humane and responsible use of animals by humans. Animal rights, on the other hand, is based on the philosophical view that animals have similar rights as humans, and all use of animals, no matter how humane or how responsible, is opposed.

Sentience is an important concept in understanding animal welfare. “Sentience” is commonly defined as a state of responsiveness to or consciousness of sense impressions. Put simply, sentient beings have the capacity to experience sensation or feeling. Whether sentience is required to warrant animal welfare protection is an ethical question, with some ethicists concluding that sentience is the least common denominator that necessitates moral treatment. Whether fish are sentient is a topic of great debate, and hinges on many similar ethical questions as well as scientific data.



There are several key areas where welfare issues may arise in commercial aquaculture. These areas encompass four different time periods of a fish’s life in an aquaculture facility—from birth to death—and include:

- ① breeding;
- ② growth;
- ③ capture and transportation; and
- ④ slaughter.

## United States Regulations

No federal law related to the welfare of farmed fish currently exists in the United States. While several federal laws make provisions for the welfare of other animals, fish are wholly excluded. There are federal and state laws that regulate fish health, but not fish welfare. Such laws aim to mitigate health issues that could impact humans (such as diseases and parasites), but do not regulate humane treatment. Any mention of fish welfare in current U.S. law stems from measures and guidelines enacted to protect human health.

Three federal laws establish humane handling standards for animals in large-scale operations or institutional settings, but each either directly excludes or fails to mention fish. The first of these—the 28-Hour Law—was passed in 1873, and requires unloading as well as food, water, and rest for most animal species when transport by truck, train, or vessel exceeds 28 hours. While the 28-Hour Law does not explicitly define “animals” or “livestock,” the United States Department of Agriculture’s (USDA) Animal and Plant Health Inspection Service (APHIS) has limited the rule to cattle, horses, mules, sheep, goats, lambs, and pigs. As a result, both poultry and fish are excluded from the rule’s protections. Second, the Humane Methods of Slaughter Act (HMSA) requires that animals raised for food be rendered unconscious prior to slaughter. However, the HMSA excludes poultry, fish, and rabbits from its protections. Finally, the Animal Welfare Act (AWA) sets minimum standards of care and



Photo of trout at a fish farm, courtesy of Laura Ferreira.

treatment that must be provided for certain animals bred for commercial sale, used in research, transported commercially, or exhibited to the public. However, the AWA also excludes farmed fish.

While welfare provisions applicable to commercial aquaculture are lacking, the United States has implemented several regulations that help ensure animal health by combating parasites and diseases such as viral hemorrhagic septicemia. First, the National Aquatic Animal Health Plan (NAAHP), promulgated by NOAA Fisheries, provides general principles and guidelines for how federal agencies can act to protect farmed and wild fish. It covers agency development of policies, programs, and potential regulations to address aquatic animal diseases, and seeks to bolster aquaculture and aquatic animal resources in the United States. Second, APHIS Veterinary Services (VS), at the request of the National Aquaculture Association, recently collaborated to create a framework of voluntary, nonregulatory Commercial Aquaculture Health Program Standards (CAHPS). In conjunction with existing federal and state authorities and efforts, the CAHPS framework provides a model upon which commodity or pathogen-specific standards could be developed in the future. The Standards align with and further the implementation of the NAAHP, and aim to follow the approach of the World Organization for Animal Health’s (OIE) Aquatic Animal Health Code.

## International Standards

The OIE has thus far promulgated both terrestrial and aquatic animal health codes. Its Terrestrial Animal Code (TAC) contains detailed provisions related to land-based animal welfare, while its Aquatic Animal Health Code (AAHC) makes several provisions for farmed fish welfare. It is important to recognize that the OIE's codes are not legally binding on its member organizations. While the United States is a member of the OIE, for example, it is not obligated to translate OIE standards for aquatic animal welfare into domestic law. The AAHC, however, could serve as a model for future regulation in the United States.

The TAC notes that an animal is in a good state of welfare if scientific evidence indicates it is healthy, comfortable, well-nourished, safe, able to express innate behavior, and is not suffering from unpleasant states such as pain, fear, or distress. The TAC also recognizes that good animal welfare requires disease prevention as well as appropriate veterinary treatment, shelter, management and nutrition, humane handling, and humane slaughter. Furthermore, Article 7.1.3 of the Code defines "welfare" as a broad term including many elements that contribute to an animal's quality of life, including those referred to in the five freedoms.



The AAHC contains far less detail than the TAC in regards to fish welfare. Article 7.1.2 simply notes that the basic requirements for the welfare of farmed fish include handling methods that are appropriate to the biological characteristics of the fish as well as suitable environments to fulfill their needs. The AAHC also fails to reference the importance of the five freedoms in defining animal welfare. However, the AAHC does contain separate chapters relating to welfare during transport and slaughter for either food or disease-based reasons. When transporting farmed fish, the AAHC calls for the use of well-maintained vehicles and suitable equipment as well as loading and unloading in a manner that avoids injury and causes minimum stress to fish. Furthermore, Article 7.2.6 lists three key issues that should be addressed to avoid injury and unnecessary stress to fish during the loading and unloading process, including:

- ① crowding in farm ponds, tanks, nets, or cages prior to loading;
- ② improperly constructed or operated equipment; and
- ③ water quality (stating, for example, that some species of fish should be acclimatized if there is a likelihood of transport in water of a significantly different temperature).

Chapters 7.3 and 7.4 discuss fish slaughter both for food and disease-based reasons, respectively. When slaughtering farmed fish for food, Chapter 7.3 states that effective stunning should be verified by the absence of consciousness, and equipment should be maintained, operated appropriately, and tested on a regular basis. It also notes that mechanical and electrical stunning are generally the most humane slaughter methods, and puts forth additional, species-based suggestions for specific types of fish including salmonids, tuna, carp, and eel. Chapter 7.4 states that when fish are slaughtered for disease control purposes, unconsciousness should be induced immediately and last until death, or, if consciousness is not immediate, induction of such should be as non-aversive as possible so as to avoid causing needless pain, distress, or suffering in fish.

## The Importance of Early Action

While fish welfare standards have not been implemented in the United States, aquaculture stakeholders should be aware of the discussions surrounding the issue and potential for regulation action. Aquatic animal welfare issues are gaining attention among some advocacy organizations, such as Mercy for Animals—an organization that conducted an undercover investigation into a catfish slaughter facility in the past and is currently building a consumer-focused campaign to educate people about welfare concerns on commercial fish farms.

If farms make concerted efforts to account for fish welfare now, lawmakers in the future may be more likely to see these measures as evidence of the industry's ability to self-regulate. If fish welfare protections continue to move forward in Europe, farmers may also need to act in the future to maintain access to international markets. In that event, farms which have already taken measures to ensure humane treatment will be in a better position to remain competitive in such overseas markets. Aquaculture operations wishing to increase the rigor of their animal welfare standards should follow any developing industry standards and focus on the four key areas mentioned above while remembering to foster the five freedoms when at all possible.



Photo of fish at a fish farm, courtesy of ACME Architecture.

## Resources

- **APHIS NAAHP:**  
[https://www.aphis.usda.gov/animal\\_health/animal\\_dis\\_spec/aquaculture/downloads/naahp.pdf](https://www.aphis.usda.gov/animal_health/animal_dis_spec/aquaculture/downloads/naahp.pdf)
- **CAHPS Concept Paper:**  
[https://www.aphis.usda.gov/animal\\_health/animal\\_dis\\_spec/aquaculture/downloads/cahps\\_concept\\_paper.pdf](https://www.aphis.usda.gov/animal_health/animal_dis_spec/aquaculture/downloads/cahps_concept_paper.pdf)
- **OIE AAHC (2018 Version):**  
<http://www.oie.int/standard-setting/aquatic-code/access-online>
- **NPR Article:**  
<http://bit.ly/aboutyourfish>