Aquatic Animal Health Code (2024, edition 26)

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World Organisation for Animal Health
Organisation mondiale de la santé animale
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Code chapters on aquatic animal welfare

SECTION 7. Welfare of farmed fish

1. Chapter 7.1. Introduction to recommendations for the welfare of farmed fish
2. Chapter 7.2. Welfare of farmed fish during transport
3. Chapter 7.3. Welfare aspects of stunning and killing of farmed fish for human consumption
4. Chapter 7.4. Killing of farmed fish for disease control purposes

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Adopted in 2008
(TAHC, adopted in 2019)

1. General information : Chapter 7.1. Introduction to recommendations for the welfare of farmed fish

Adopted in 2013
(TAHC, adopted in 2016)

2. Specific information : Chapter 7.4. Killing of farmed fish for disease control purposes

7.1 Introduction to recommendations for the welfare of farmed fish

Guiding principles

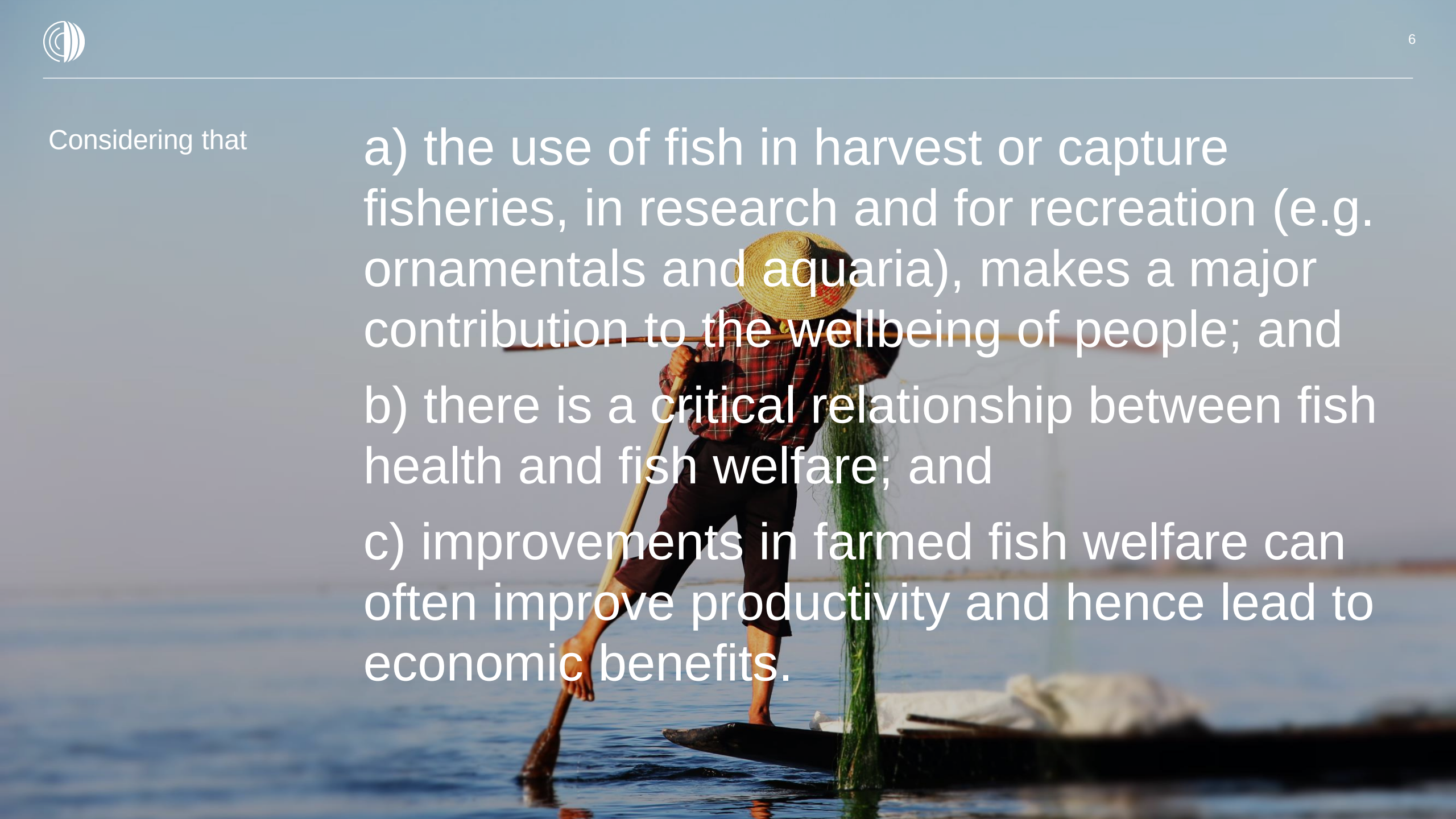
Scientific basis for recommendations

Considering that

a) the use of fish in harvest or capture fisheries, in research and for recreation (e.g. ornamentals and aquaria), makes a major contribution to the wellbeing of people; and

b) there is a critical relationship between fish health and fish welfare; and

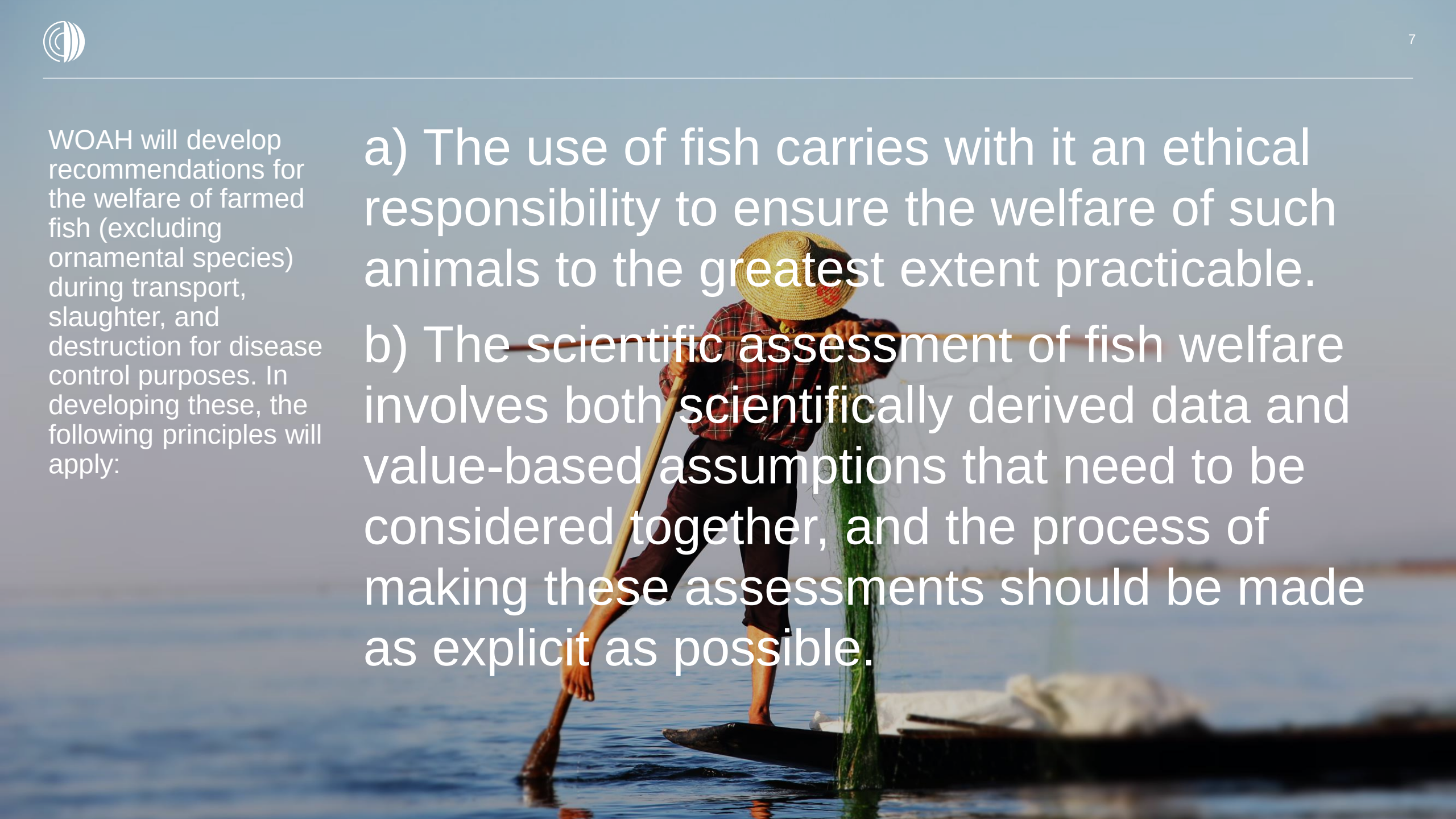
c) improvements in farmed fish welfare can often improve productivity and hence lead to economic benefits.



WOAH will develop recommendations for the welfare of farmed fish (excluding ornamental species) during transport, slaughter, and destruction for disease control purposes. In developing these, the following principles will apply:

a) The use of fish carries with it an ethical responsibility to ensure the welfare of such animals to the greatest extent practicable.

b) The scientific assessment of fish welfare involves both scientifically derived data and value-based assumptions that need to be considered together, and the process of making these assessments should be made as explicit as possible.



7.1 Introduction to recommendations for the welfare of farmed fish

Guiding principles

Scientific basis for recommendations

Scientific basis for recommendations :

1) The basic requirements for the welfare of farmed fish include handling methods appropriate to the biological characteristics of the fish and a suitable environment to fulfil their needs.

2) There are many species of fish in farming systems and these have different biological characteristics. It is not practicable to develop specific recommendations for each of these species. These recommendations therefore address the welfare of farmed fish at a general level.

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Scope and general principles

These recommendations are based on the premise that a decision to kill the farmed fish for disease control purposes has been made, and address the need to ensure the welfare of the farmed fish until they are dead.

The culling of individual farmed fish, in the course of farming operations (i.e. sorting, grading, or background morbidity), is out of the scope of this chapter.

Related Chapters :

4.6. Contingency planning;

4.8. Handling, disposal and treatment of aquatic animal waste;

5.5. Control of aquatic animal health risks associated with transport;

7.2. Welfare of farmed fish during transport;

7.3. Welfare aspects of stunning and killing of farmed fish for human consumption.

Fish welfare considerations should be addressed within **contingency plans** for disease control.

The killing method should be selected taking into consideration fish welfare and biosecurity requirements as well as **safety of the personnel**.

When fish are killed for disease control purposes, methods used should result in **immediate death or immediate loss of consciousness** lasting until death; when loss of consciousness is not immediate, induction of unconsciousness should be non-aversive or the least aversive possible and should not cause avoidable pain, distress or suffering in fish.

The methods described in Cap. 7.3. (i.e. for **human consumption**) can also be used for disease control purposes. Some of the methods recommended for disease control (e.g. anaesthetic overdose, macera-tion) may render the fish unsuitable for human consumption and should be specified in the cont. plan.

6) Depending on the situation, **emergency killing** of fish may be carried out on site or after fish are transported to an approved killing facility.

Operational guidelines for affected premises and approved killing facilities

The following should apply when killing fish:

1. **Operational procedures** should be adapted to the specific circumstances on the premises and should address fish welfare and *biosecurity* specific to the *disease* of concern.
2. Killing of fish should be carried out **without delay by appropriately qualified personnel** with all due consideration made to increased *biosecurity* protocols.
3. **Handling of fish should be kept to a minimum to avoid stress** and to prevent spread of *disease*. This should be done in accordance with the articles described below.
4. Methods used to kill the fish should render them **unconscious until death or kill them in the shortest time** possible, and should **not cause avoidable pain or distress**.
5. There should be **continuous monitoring** of the procedures to ensure they are consistently effective with regard to *biosecurity* and fish welfare.
6. **Standard operating procedures (SOP's) should be available and followed at the premises.**

Operational guidelines for affected premises and approved killing facilities

Procedures for the killing of fish on affected premises for disease control purposes should be developed by the operator and approved by the *Competent Authority*, taking into consideration fish welfare and *biosecurity* requirements as well as safety of the personnel and should include consideration of:

1. **handling** and movement of fish;
2. **species, number, age and size of fish to be killed;**
3. **methods** for killing the fish;
4. availability of **anaesthetic agents** suitable to kill the fish;
5. **equipment** needed to kill the fish;
6. any **legal** issues (e.g. the use of anaesthetic agents suitable for killing fish);
7. presence of **other nearby *aquaculture* premises**;
8. **disposal** of killed fish in accordance with Chapter 4.8.

Killing by an overdose of an anaesthetic agent

This article refers to killing methods using an overdose of an anaesthetic agent.

Anaesthetic agents used for killing fish should **kill the fish effectively, not merely have an anaesthetic** effect.

When using anaesthetic agents, the operating personnel should ensure that the solution has the **correct concentration for the water** in which it is to be administered, and that water of appropriate quality for the species and life stage of fish is used.

Fish should be kept in the anaesthetic solution **until they are dead**.

- Advantages (3)
- Disadvantages (3)

Mechanical killing methods

Decapitation

Decapitation, using a sharp device, such as a guillotine or knife, may be used but should be **preceded by stunning or, if appropriate, anaesthesia**.
(…)

Maceration

Maceration by a mechanical device with rotating blades or projections causes immediate fragmentation and death in **newly hatched fish and embryonated eggs, as well as fertilised/unfertilised eggs of fish**. It is a suitable method for the processing of such material. A large number of eggs/newly hatched fry can be killed quickly.

In both cases, contamination of the working area by blood, body fluids and other organic material may present a biosecurity risk and is the major **disadvantage** of this method.

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