

# Improving the welfare of farmed rainbow trout at rearing



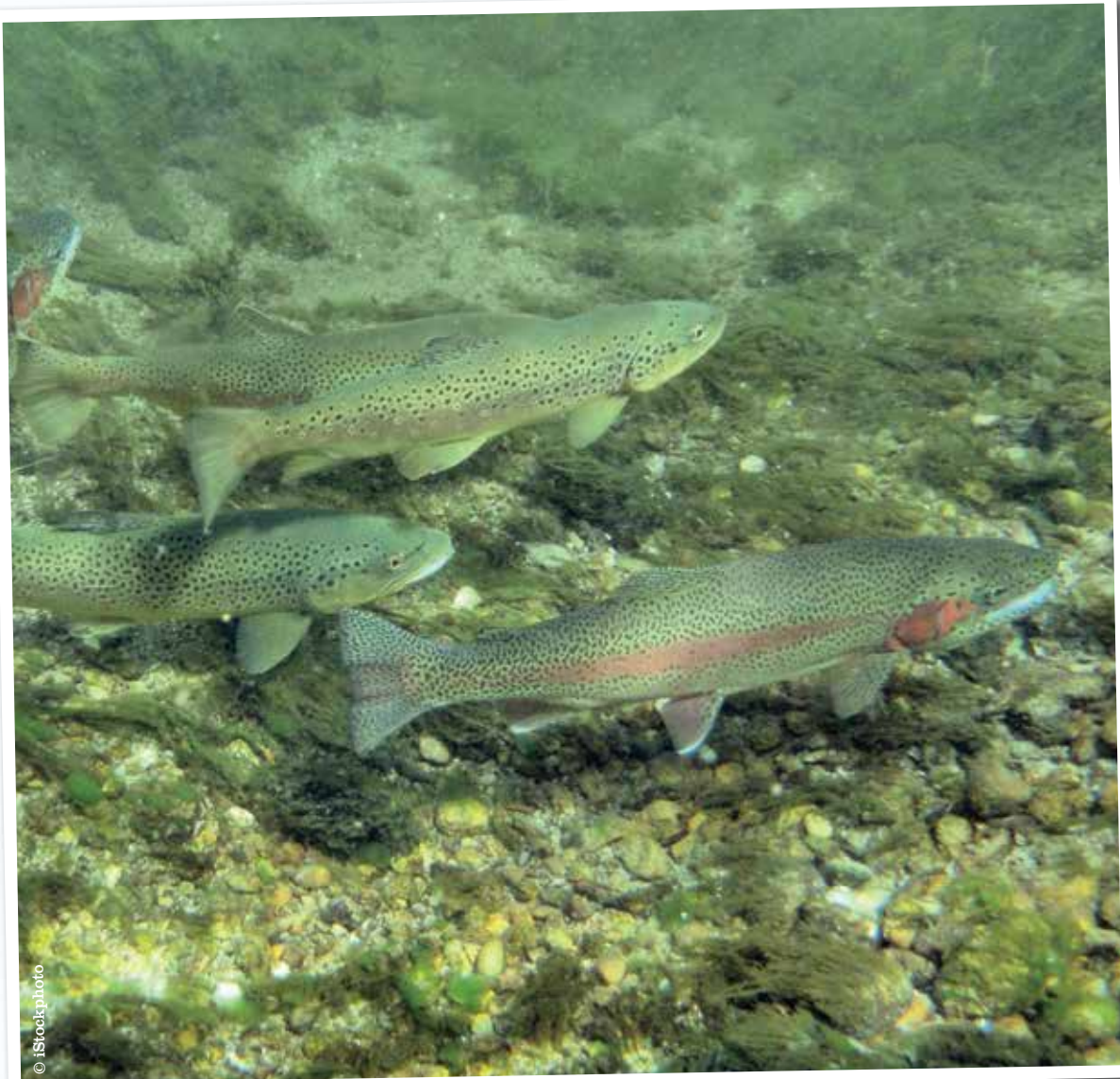
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## Foreword

Rainbow trout are sentient beings that must be provided with a good quality of life in a farmed environment. The rainbow trout welfare policy should address the provision of good housing, good feeding, good health and opportunities to express appropriate behaviour to trout. Higher stocking densities, poor water quality and other procedures that require handling, lead to stress and poor welfare.



## We recommend

### ✓ Good Environment

- That rainbow trout are given adequate space to meet their physiological and behavioural needs, and that all individual fish have access to adequate food and be able to avoid competition with other individuals. Meaningful environmental enrichment should be provided where at all possible, for example, utilisation of gentle (e.g. 0.9 body lengths per second) current be permitted where possible and where proven to be beneficial to trout welfare. Stocking densities for on-growing (>100g) trout in freshwater and seawater lochs should follow RSPCA guidelines of a maximum of 15 kg/m<sup>3</sup> across the site and no more than 17 kg/m<sup>3</sup> in any one enclosure. There is some evidence of improved welfare in this species at densities below 15 kg/m<sup>3</sup> but this requires further investigation to confirm before more specific recommendations can be outlined.
- Compassion recommends for optimal welfare, ponds, raceways and tanks should use a spring water supply, or a river/lake water supply with as little pollution as possible. The pH should be between 6.8 and 8.0. Dissolved oxygen levels should always be above 7mg/L and water temperature should not rise above 16°C. It is essential to continuously monitor oxygen levels at the input source and always provide supplemental oxygenation if the water oxygen levels fall below 7mg/L. Recirculated water has the potential to reach much higher temperatures especially in summer months and thus have lower oxygen levels. Special care should be taken where fish have gill disease or are going to be exposed to stressors as their oxygen requirements will be higher. Other relevant water constituents (e.g. CO<sub>2</sub>, ammonia, phosphorus, salinity) should be regularly monitored and as more information is available regarding effects of mineral content these will be incorporated into the guidelines.



### ✓ Good Feeding

- Food must be of optimal quality for fish and the feeding method used must minimise competition and hence aggression and ensure that all the fish have access to feed<sup>2</sup>. Fasting periods should only be used when absolutely necessary and when advised by a vet. If used, for instance prior to a disease treatment, fasting periods should be no longer than is required for fish welfare benefits (i.e. to reduce oxygen requirements and waste accumulation in the water) and in any case should not exceed 72 hours for each fish. Records of the dates and duration of fasting should be kept.
- Compassion also recommends that the amount of fishmeal and fish oil (FMFO) in feed be reduced as much as possible, while still providing for the nutrition needs of farmed rainbow trout. This can be done by replacing some of the FMFO with other ingredients that can meet nutritional requirements, e.g. fish trimmings (or waste from other agricultural processes where suitable, e.g. poultry), algal oils, etc.



## ✓ Good Health

- Compassion recommends that all disease treatments should be recorded in the veterinary health and welfare plan and only when prescribed by a vet. Guidelines produced by RUMA regarding the Responsible Use of Antimicrobials in Fish Production<sup>1</sup> and the Responsible Use of Vaccines and Vaccination in Fish Production<sup>2</sup> should be followed. Disease risk should be assessed on a site-by-site basis and prevention via vaccination should be prioritised. The veterinary health and welfare plan should outline planned husbandry procedures, risk assessments, disease monitoring and details of all treatments carried out. The continued development of cost-effective authorised vaccines should be supported by producers' organisations and the veterinary profession. High levels of antibiotic use in farming systems is indicative of health and welfare problems at a systemic level and should be immediately addressed.

## ✓ Opportunities to Express Appropriate Behaviour

- Crowding, handling and grading should be performed only when absolutely necessary, be as gentle as possible and rainbow trout must not be out of the water for more than 15 seconds<sup>3</sup>. See our resource about the humane slaughter of rainbow trout for more information<sup>4</sup>.
- Welfare outcomes should be measured and recorded for rainbow trout and include parameters such as swimming behaviour, feeding behaviour, skin and fin damage and skeletal deformities. Further work to develop more behavioural indicators of positive welfare for rainbow trout are required.



<sup>1</sup> <https://www.ruma.org.uk/responsible-use-of-antimicrobials-in-fish-production/>

<sup>2</sup> <https://www.ruma.org.uk/responsible-use-of-vaccines-and-vaccination-in-fish-production/>

<sup>3</sup> RSPCA welfare standards for FARMED RAINBOW TROUT (2018) <https://science.rspca.org.uk/documents/1494935/9042554/RSPCA+welfare+standards+for+farmed+Rainbow+trout+%28PDF+2.29MB%29.pdf/36aeab04-e2f1-8875-d8ae-f7c4ff724c4d?t=1557668422472>

<sup>4</sup> <https://www.compassioninfoodbusiness.com/resources/fish/humane-slaughter-rainbow-trout/>