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behaviour; 1.7 Criteria for effective and sustainable fish culture; 1.7.1 Production criteria; 1.7.2 Environmental criteria
1.7.3 Welfare criteria1.7.4 Behaviour and effective, sustainable aquaculture; 1.8 Structure and content of this book; 2 Fish in Aquaculture Environments; 2.1 Introduction; 2.1.1 Fish and their behaviour; 2.2 Locomotion and swimming ability; 2.2.1 Body form; 2.2.2 Swimming muscles; 2.3 Sensing environmental stimuli; 2.3.1 Sensory cues in the aquatic environment; 2.3.2 Vision; 2.3.3 Mechanosensory systems; 2.3.4 Thermoreception; 2.3.5 Electroreception; 2.3.6 Chemoreception; 2.4 Internal communication systems; 2.4.1 Role of the neural and endocrine systems; 2.4.2 The nervous system
2.4.3 The endocrine system2.4.4 Cross-talk between the nervous and endocrine system; 2.5 Coping with adverse conditions; 2.5.1 Unpredictable environments; 2.5.2 The stress response; 2.6 Contrasts in life history patterns and reproductive biology; 2.6.1 Reproductive options; 2.6.2 Rates of development; 2.6.3 Developmental contrasts in farmed species; 2.7 Life history programming; 2.7.1 Genotype-environmental interactions; 2.7.2 Maternal contributions; 2.7.3 Environmental factors and the development of motor systems in fish; 2.7.4 Long-term consequences of early developmental events
2.8 Synopsis3 Tools for Studying the Behaviour of Farmed Fish; 3.1 Introduction; 3.2 Describing and measuring behaviour; 3.3 What we need to know about the behaviour of farmed fish; 3.4 Indirect reconstruction of the behaviour of cultured fish; 3.4.1 Reconstructing fish diets; 3.4.2 Reconstructing interactions with predators and rivals; 3.4.3 Indirect assessment of stress; 3.5 Methods of marking and tagging fish; 3.5.1 External marks and tags; 3.5.2 Internal tags; 3.5.3 Internal tags that are visible externally; 3.6 Direct behavioural observation via video monitoring; 3.6.1 Video technology
3.6.2 Limitations

Sommario/riassunto

Modern aquaculture is faced with a number of challenges, including public concern about environmental impacts and the welfare of farmed fish. A fundamental understanding of fish biology is central to finding ways to meet these challenges and is also essential for maintaining the industry's sustainability. Furthermore, the behaviour of fish under culture situations has long been ignored despite heavy commercial losses that can result from fish stressed and hence disease-prone, due to bad husbandry techniques. This important book summarises the current understanding of the behavioural bi
