

## **ICES Workshop on Fish Condition (WKFICON)**

### **Dates and location**

University of Girona  
Faculty of Sciences, Campus Montilivi  
17003 Girona, Catalonia  
Spain

17 and 18 November 2016

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### **Name and coordinates of the convenors**

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**Keywords**

Fish condition, fisheries management, stock assessment, marine ecosystems

**Background**

This ICES exploratory workshop is aimed at opening up new directions in marine fish condition research with a potential impact on the assessment and management of exploited resources and marine ecosystems. The workshop aims at involving several scientists working on all aspects of fish condition such as development of new condition indices (from morphological to physiological), impact of fish condition on the reproductive potential, growth and mortality of fish, relationships between habitat quality and fish condition; effects of fishing, environmental factors and other variables (such as parasitism or contaminants) on fish condition. In particular, the workshop aims at including young scientists (post doctorate and doctorate levels) with leadership and innovation potential in the field. The participants should cover the major European seas: Mediterranean and Black Seas, North Sea, Baltic Sea and North Atlantic.

Condition, or the magnitude of stored energy reserves, is a particularly important attribute of individual fish which impacts population success through its influence on growth, reproduction and survival. Low energy reserves may lower the chances of survival of fishes, leading to an increase of natural mortality. Starvation due to exhaustion of energy reserves, particularly during the non-feeding and reproductive periods, weakens individuals rendering them more susceptible to predation and fishing, diseases (e.g. parasitic infections) and to a variety of environmental stressors. Inadequate reserves (particularly during the pre-spawning phase) have also been implicated in the lower reproductive potential of several fish species through reduced fecundity and/or quality of eggs and larvae or delayed maturation. A reduction in energy reserves not only affects the population dynamics but can impact the populations of predators and therefore ecosystem functioning. The condition of a fish reflects the physical and biological circumstances experienced during some previous period, and is affected by interactions among food availability (nutritional status), environmental and habitat characteristics, contamination, diseases (including parasitism) and the physiology (e.g. reproductive status, overwintering, spawning stress) of the individual.

Despite its intrinsic biological and ecological importance, fish condition has often been largely overlooked in the monitoring and management of marine resources and ecosystems. The vulnerable state of many of the world fisheries, the poor health status of many fish stocks (decrease of energy reserves, increase of parasites and pollution) and the need for sensitive indicators of ecosystem status provide strong incentives for better defining the spatial and temporal linkages between fish condition, stock productivity (natural mortality, growth, reproductive potential) and habitat quality.

European scientists working in the field of fish condition are geographically dispersed and use very different approaches ranging from lipid to morphometric analyses. Although ICES and STECF have considered fish condition in the frame of other workshops or meetings, such as the ICES Study Group on Growth,

Maturity and Condition in Stock Projection in 2002<sup>1</sup> or the STECF meeting in 2010<sup>2</sup>, this ICES workshop will be the first to exclusively focus on fish condition.

The proposed workshop aims to bring together for the first time marine scientists with different expertise in the field of marine fish condition (e.g. fish physiology, fisheries biology, fish reproduction, fish parasitism) to discuss, in a European context, the future research needs, and the necessity to integrate fish condition indicators to better manage fishery resources to safeguard the quantity and quality of marine resources. **A major consideration of the workshop will be how fish condition indices can be used as indicator of stock health and ecosystem status.** This is especially important in the context of fish stock assessment but also of the Marine Strategy Framework Directive, which aims at defining indicators of the health of the seas and more particularly of exploited species (descriptor 3).

The workshop will attempt to provide a **new European, multidisciplinary platform for marine scientists to define key questions in the field of fish condition-marine ecosystems.** The workshop also aims at developing consensus on how the routine monitoring of fish condition can be used for assessment, for planning time or area closures or to develop management actions to enable more effective conservation of fisheries as well as to safeguard seafood quality. Finally, the workshop aims to allow participants to outline future research perspectives that could allow a joint interdisciplinary effort for the investigation of fish condition.

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### Key aspects

- The WKFICON workshop is aimed at opening up new directions in marine fish condition research with a potential impact on the assessment and management of exploited resources and marine ecosystems.
- It will bring together marine scientists with different expertise in the field of marine fish condition to discuss on recent advances in that field, the gaps in knowledge, the future research needs and the use of fish condition as indicator of population and marine ecosystem conditions.
- It will also foster collaboration among scientists working on exploited fish condition from an ecological and fisheries management perspective.

**A detailed programme of the workshop will be available soon**

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<sup>1</sup> <http://www.ices.dk/community/Documents/PGCCDBS/SGGROMAT03.pdf>

<sup>2</sup> Scientific, Technical and Economic Committee for Fisheries (STECF) (2010) Report of the Workshop on Mediterranean Stock Assessment of Mediterranean Stocks