



Session 02

## Use of multi-metric indices for monitoring fisheries exploitation and fishing effects on aquatic ecosystems

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### Abstract

The high demand for fish products has led to important economic issues including the emergence of new markets, especially in developing countries where fishing represents an important economic sector and the main source of animal protein for local communities. This increased demand for fish, associated with advanced fishing technologies including the development of sophisticated fishing and fishery resource conservation methods, have resulted in an overexploitation of many fish stocks. Amongst the devastating impacts of this overexploitation on fish communities are reductions in genetic diversity of wild populations, which may have resulted in the extinction of certain fish species. Fisheries assessment was traditionally based on the analysis of fishery statistics by global, analytical and stock-recruitment models. Although these monitoring tools and management based on empirical models developed to estimate total production of ecosystems from the environmental characteristics have provided successful results, most fisheries in the world are experiencing degradation or overexploitation. To improve the assessment and management of the fisheries resources and ecosystems, a new approach based on the biological indicators are being developed as an alternative. The currently most used biological indicators-based have been successfully used for comparative studies at both community and population levels. Thus, management approaches based on biological indicators in the recent years has improved our understanding of the structure and functioning of ecosystems, and facilitated the interpretation of biological phenomena.



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Extended book of Abstract

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