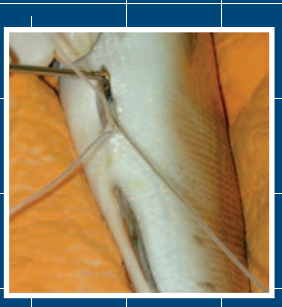
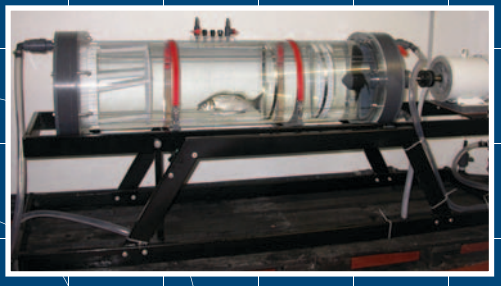
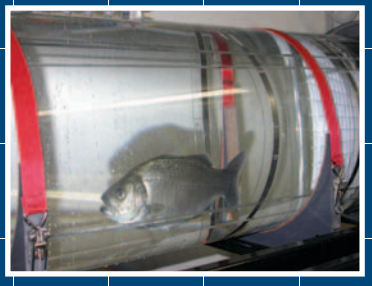
AQUATIC TELEMETRY

ADVANCES AND APPLICATIONS







AQUATIC TELEMETRY

ADVANCES AND APPLICATIONS

Proceedings of the
Fifth Conference on Fish Telemetry held in Europe
Ustica, Italy, 9–13 June 2003

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COISPA TECNOLOGIA & RICERCA
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

Rome, 2005

ISBN 92-5-105301-4

Preparation of this publication

This co-publication by FAO and COISPA is a compilation of 29 selected papers presented at the Fifth Conference on Fish Telemetry held in Europe which COISPA organized in Ustica, Italy, in 2003 to bring together researchers and fisheries biologists involved in telemetry and biotelemetry studies in marine and freshwater ecosystems. In line with its attempts to make the use of the aquatic resources more sustainable, the FAO Fisheries Department decided to publish these Proceedings to put emphasis on telemetry as a useful tool for gathering biological information to serve as a basis for management decisions.

The submitted papers examined and selected for publication by the Scientific Committee of the Conference and peer-reviewed by independent referees. Thus, this publication complies with the high international scientific standards. The document was compiled and technically edited by Maria Teresa Spedicato and Giuseppe Lembo, COISPA, in cooperation with Gerd Marmulla, FAO. The desktop processing was done by Linopuglia (Bari, Italy).

The views expressed in this publication are those of the authors and do not necessarily represent those of the Food and Agriculture Organization of the United Nations or COISPA.

Acknowledgements

We express our gratitude to the Italian Association of Marine Biology (S.I.B.M.), the Italian Ministry of the Environment and the Italian Ministry of Agriculture and Forestry Policy that provided support for the organization of the Conference. We also like to thank all the attendees for participating in, and contributing to, the Conference as well as all those who assisted in the Conference arrangements. We wish likewise to thank the members of the Secretariat, the Scientific and Organizing Committees and the referees for helping to improve the manuscripts.

Spedicato, M.T.; Lembo, G.; Marmulla, G. (eds.)
Aquatic telemetry: advances and applications. Proceedings of the Fifth Conference on Fish Telemetry held in Europe. Ustica, Italy, 9-13 June 2003.
Rome, FAO/COISPA. 2005. 295p.

Abstract

This volume includes 29 peer-reviewed papers presented at the Fifth Conference on Fish Telemetry held in Europe (Ustica, Italy, 9-13 June 2003). The papers cover a wide range of topics on the application of aquatic telemetry in the field of human impact, fishery management and aquaculture. Evaluations of the barriers' effects on the migrations of both juvenile and adult fish are presented and discussed. New results on migratory patterns and habitat utilization are reported, elucidating behavioural ecology of several freshwater and marine species. Advances in methodology and new technology are also described and examined.

Foreword

Freshwater and marine resources, especially fish, have long provided a valuable source of food for mankind. However, heavy fishing pressure and the environmental impacts associated with the fast growing human population are increasing the stress on the aquatic resources and this calls for the strict application of management regulations. To protect biodiversity and assure the sustainability of the resources for the future, sound and responsible management is today more important than ever before. Ideally, current regulations are to be based on various criteria including the biology of the species concerned, as outlined in the FAO Code of Conduct for Responsible Fisheries and the related Technical Guidelines.

Telemetry, i.e. the remote measurement of biological variables, is a viable tool to obtain, in a limited time, information on the biology and the behaviour of the animals, one of the important preconditions for management decisions. The use of this technology in the aquatic environment has seen a rapid increase in the last two decades, as evidenced by the growing number of studies being undertaken.

The Fifth Conference on Fish Telemetry held in Europe, organized by COISPA Tecnologia & Ricerca in June 2003, brought together researchers and fisheries biologists involved in telemetry and biotelemetry studies on marine and freshwater ecosystems. The central theme of the conference was the interdisciplinary approach to provide the scientific basis for the conservation and rational management of natural resources. With the present book, FAO and COISPA are now publishing the Proceedings of a conference that was of particular relevance to all those involved in the field of fish ecology, aquaculture and fisheries management.

In an attempt to make the use of resources more sustainable, FAO is promoting the idea of using telemetry to study characteristics of fish, with a view to increase benefits for fisheries and aquaculture while maintaining a balance between exploitation and conservation. As part of its work under the Major Programme on Fisheries, the FAO Fisheries Department is active in raising the awareness of managers and scientists regarding the potential use of telemetry for supporting the management decision process[1]. In this context, the FAO Fish Telemetry Web site[2], which was launched on the occasion of the Fifth Fish Telemetry Conference, provides access to technology to help foster sustainability, addresses key management issues, and promotes information and technology exchange between managers and researchers in fisheries and aquaculture. FAO also co-financed a pilot workshop on the application of biotelemetry to fish studies for the management of inland fisheries in West Africa and is planning to provide inputs to training courses in future. Furthermore, a manual on telemetry is in preparation.

We trust that the compilation of excellent papers in these Proceedings, intended to serve as a showcase for the latest developments in aquatic telemetry and to give technical guidance to managers, will help provide concrete answers to questions in relation to fisheries management.

Serge M. Garcia
Director, Fishery Resources Division
FAO Fisheries Department

[1] http://www.fao.org/english/newsroom/news/2003/19343-en.html
[2] http://www.agsci.ubc.ca/gbi/FAO%20Fish%20Telemetry/

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