STOCK IDENTIFICATION METHODS

Applications in Fishery Science

Edited by Steven X. Cadrin,
Kevin D. Friedland, and John R. Waldman

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FOREWORD

Fisheries scientists and managers use the term *stock* so frequently that you would think we know all there is to know about it. We speak of stock assessments, stock structure, spawning stock biomass, stock-recruitment relationships, stock complexes, stock production models, and so forth. I think it is fair to say that most scientists and managers take "stock" for granted as if it were sufficient to rely on the old adage that "we'll know one when we see it." The truth is that its impossible to know how many scientific conclusions or fishery management decisions may have been led astray by assuming we were seeing a stock that wasn't!

Information on the stocks is needed to meet objectives of fisheries management to achieve sustainable yield, avoid recruitment failures, rebuild overfished stocks, as well as to conserve threatened and endangered species. With growing acceptance of the need to conserve biodiversity (including genetic diversity), apply a precautionary approach, and operationalize the ecosystem approach (which places greater emphasis on spatial distributions and place-based management, such as MPAs), know what is and is not, a stock has never been more important.

For more than a decade, the International Council for Exploration of the Sea, Stock Identification Methods Working Group has been promoting standard protocols for sampling, data processing, and analytical methods, for data being generated by both traditional methods (e.g., meristics and morphometrics, traditional tags, parasites as natural tags) and new technologies (otolith chemistry, molecular genetics, electronic tags). The result is this comprehensive volume prepared by an outstanding team of international scientists. It addresses the stock concepts, historical development, applications to fisheries science and management, use of natural marks (some traditional and some recently developed techniques), genetics, recent advances in tagging technology, and analytical methods.

Although this volume will be a valuable reference for years to come, I think that we should all be excited by the prospect of innovative advances in the near future that surely will render some of the conclusions in the book out of date.

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The scientists responsible for the volume, and ICES as the sponsor of the Working Group, do not want to rest on their laurels. Advances in biochemistry, analytical chemistry, and electronics (including microtechnology with nanotechnology on the horizon) foretell a very productive era unfolding when it comes to stock information in support of better science and better resource management. Speaking as both the President of ICES and the Chief Science Advisor for the U.S. National Marine Fisheries Service, I look forward to important and exciting discoveries in the future.

Michael Sissenwine

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Introduction

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