Marine Fisheries







On the cover: Views of marine recreational fisheries. NMFS, NOAA photos.

Articles	49(2),	1987
Special Issue: Marine Recreational Fisheries and Fishing		
Introduction		1
Marine Recreational Fisheries in the Southeastern United States	Ronald L. Schmied and Edward E. Burgess	2
Marine Recreational Fishing and Associated State-Federal Research in California, Hawaii, and the Pacific Island Territories	Mark Helvey, Stephen J. Crooke, and Peter A. Milone	8
Pacific Billfish Angler Catch Rates for Key Area Stock Assessments	James L. Squire, Jr.	15
Striped Marlin, <i>Tetrapturus audax</i> , Migration Patterns and Rates in the Northeast Pacific Ocean as Determined by a Cooperative Tagging Program: Its Relation to Resource Management	James L. Squire, Jr.	26
Relation of Sea Surface Temperature Changes During the 1983 El Ninō to the Geographical Distribution of Some Important Recreational Pelagic Species and Their Catch Temperature Parameters in	the Northeast Pacific James L. Squire, Jr.	44
Atlantic Striped Bass, <i>Morone saxatilis:</i> Stock Status and the Recreational Fishery	R. Anne Richards and David G. Deuel	58
Abundance of Spanish Mackerel, <i>Scomberomorus</i> maculatus, in the Southeastern United States Based on Catch Per Unit Effort Data from Chaterboats, 1982-85	Barbara Jayne Palko, Lee Trent, and Harold A. Brusher	67
Abundance of King Mackerel, Scomberomorus cavalla, in the Southeastern United States Based on Catch Per Unit Effort Data From Charterboats, 1982-85 Variations in Size and Sex Ratio of King Mackerel, Scomberomorus cavalla, off Louisiana, 1977-85	Lee Trent, Barbara Jayne Palko, Mark L. Williams and Harold A. Brusher Lee Trent, William A. Fable, Jr., Sandra J. Russell, Gilbert W. Bane, and Barbara Jayne Palko	
Movements of King Mackerel, Scomberomorus cavalla, Tagged in Southeastern Louisiana, 1983-85	William A. Fable, Jr., Lee Trent, Gilbert W. Bane, and Steven W. Ellsworth	

Continued on page 1

U.S. DEPARTMENT OF COMMERCE

Malcolm Baldrige, Secretary

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Anthony J. Calio, Administrator

William E. Evans, Assistant Administrator for Fisheries

National Marine Fisheries Service

Editor: W. Hobart

The Marine Fisheries Review (ISSN 0090-1830) is published quarterly by the Scientific Publications Office. National Marine Fisheries Service, NOAA, 7600 Sand Point Way N.E., Bin C15700, Seattle, WA 98115. Single copies and annual subscriptions are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402: Single copy, \$4.00 domestic, \$5.00 foreign; annual subscription, \$8.75 domestic; \$10.95 foreign.

Publication of material from sources outside the NMFS is not an endorsement and the NMFS is not responsible for the accuracy of facts, views, or opinions of the sources. The Secretary of Commerce has determined that the publication of this periodical is necessary for the transaction of public business required by law of this Department. Use of the funds for printing this periodical has been

approved by the Director of the Office of Management and Budget.

The NMFS does not approve, recommend or endorse any proprietary product or proprietary material mentioned in this publication. No reference shall be made to NMFS, or to this publication furnished by NMFS, in any advertising or sales promotion which would indicate or imply that NMFS approves, recommends, or endorses any proprietary product or proprietary material mentioned herein, or which has as its purpose an intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication. Second class postage is paid in Seattle, Wash., and additional offices. Postmaster: Send address changes for subscriptions to Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Age and Growth of King Mackerel,	Charles S. Manooch, III, Steven P.	
Scomberomorus cavalla, From the U.S. Gulf of Mexico	Naughton, Churchill B. Grimes, and Lee Trent	102
Results From the 1984 and 1985 Charterboat	Harold A. Brusher and Barbara Jayne Palko	109
Surveys in Southeastern U.S. Waters and the U.S. Caribbean Sea		
Nutritional Properties of Recreationally Caught Marine Fishes	Maurice E. Stansby	118
Encouraging the Use of Underutilized Marine Fishes by	Jeffrey C. Johnson,	
Southeastern U.S. Anglers, Part I: The Research	David C. Griffith, and James D. Murray	122
Encouraging the Use of Underutilized Marine Fishes by	James D. Murray, Jeffrey C.	
Southeastern U.S. Anglers, Part II: Educational Objectives and Strategy	Johnson, and David C. Griffith	138
Using FAD's to Attract Fish at Coastal Fishing Piers	James D. Murray, Jeffrey C. Howe,	
	David G. Lindquist, and David C. Griffith	143
An Estimate of Unsurveyed Coastal		
Recreational Boat Fishing Activity in Texas	Maury O. Ferguson and Albert W. Green	155
Business Turnover in the Texas Charter Fishing Industry, 1975-85	Robert B. Ditton and Jeffrey D. Vize	162
Departments		
NOAA/NMFS Developments		166
Foreign Fishery Developments		176
Publications		179

Marine Recreational Fisheries and Fishing

A Special Issue of the *Marine Fisheries Review*

W. L. HOBART, Editor

Introduction

Marine angling is an important form of recreation for millions of U.S. citizens and provides many thousands of enjoyable hours and thousands of pounds of high quality food items. Specific data on some of those aspects of the sport are provided in several NMFS publications reviewed or referenced in the "Developments" or news section of this issue.

Marine angling is also a very broadbased activity: The target species and fishing techniques are many, the anglers cut across all levels of society, and the areas fished range from urban settings to the high seas. The research on marine recreational fishes and fisheries is equally diverse, and much of this diversity can be found in the articles in this special issue of the *Marine Fisheries Review* on marine recreational fisheries—

MFR on MRF.

In the past the *MFR* has occasionally published individual articles on various aspects of MRF. This time a particular issue was set aside for NMFS authors to present reviews or reports on their

research activities. In some cases, time constraints did not permit participation, but to those who were able to contribute I extend my thanks. A few related papers from nonagency authors are also included. I am grateful to all the authors and reviewers for their diligence in preparing and critiquing the articles. The task was great, for this issue is about double the normal size of the *Review*. I hope that it will be a useful reference.

W.L.H.