

Fishing Grounds

DEFINING A NEW ERA FOR
AMERICAN FISHERIES MANAGEMENT

THE H. JOHN HEINZ III CENTER FOR
SCIENCE, ECONOMICS AND THE ENVIRONMENT



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Defining a New Era for
American Fisheries Management

Susan Hanna • Heather Blough • Richard Allen
Suzanne Iudicello • Gary Matlock • Bonnie McCay

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Preface

Fisheries management is equal parts economics, politics, and theater.

Richard Young, F/V City of Eureka, Crescent City, California

A fishery, in my mind, is the human activity of using the resources. I often hear people say that “fishery management is a people problem,” but I don’t see evidence of that in the way management is carried out.

Courtland L. Smith, Oregon State University

This book is about U.S. marine fishery management, the transition it faces, and the problems that challenge that transition. These problems are chronic, arising from the history of fishery management, difficulties in maintaining fishery productivity, confusion about ownership, complicated decisionmaking, mismatched incentives, incomplete science, and a failure to evaluate management performance. They all speak to a lingering need for clarification, integration, and resolution.

Fisheries are more than the fish in the sea. They are people interacting with fish and with fish markets, fishing technology, government policy, and marine ecosystems. Fishery management is the attempt to accommodate these interactions in a way that sustains fish populations over time.

Fisheries exist in a state of flux. The dynamics of oceans, variability in fish populations, advances in technology, fluctuations in markets, and evolution of government policy all make change a constant. People in fisheries are familiar with change. But the changes affecting fisheries today are different and larger than those that have come before. They are fundamental changes in the way people think about fisheries and the expectations they have about how fisheries are managed. Many people are unsure about the nature of the problem or the type of change

required, and they are uncertain how to adapt. The need for plain talk among fishery stakeholders has never been greater.

In its focus on transition and change in fisheries, this book has application well beyond fisheries. The problems it describes arise in a wide range of interactions between humans and the environment—interactions that have been plagued by uncertainty, shortsightedness, and conflict. People concerned about land use, water allocation, forest management, or other resource issues are likely to find much of value and interest here.

Origin of the Book

This book is a product of the Managing U.S. Marine Fisheries program at The H. John Heinz III Center for Science, Economics and the Environment. The Managing U.S. Marine Fisheries program was established to explore alternative solutions in fishery management and to contribute to the debate surrounding the 2000 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act. The book, one of several products of the program, was developed to provide an understanding of the background and context of problems facing American fisheries.

In the summer of 1998, the six authors met at The Heinz Center to discuss fishery management and its problems. In the course of that discussion we identified several unresolved issues creating chronic problems in fishery management. We decided to explore the causes of these continuing problems by interviewing a number of people with substantial experience and expertise in U.S. fisheries. During the summer and fall of 1998, we conducted in-depth interviews with 77 people from government, environmental organizations, the fishing industry, and academia, asking them open-ended questions about the issues we had identified.

These interviews with people in fisheries—commercial fishermen, recreational fishermen, seafood processors, environmentalists, government scientists, managers, and academics—form the basis of the book. The people we interviewed represent the full range of fisheries, fishing regions, interests, and experience in fishery management. Some have been active in fishery management since the 1977 implementation of the Fishery Conservation and Management Act, the first comprehensive federal fishery management law. As a group they have many different perspectives on how management should work, as will become clear in the chapters that follow. But it will be equally clear that despite the diversity they are united by a common bond—a strong attachment to fisheries, an appreciation for their potential, and a desire to see them productive. They are all truly stakeholders in the future of American fisheries.

Stakeholder Voices

The voices of stakeholders echo throughout the book in short attributed quotes, in text discussions, and in reflections at the end of each chapter. Their voices are their own—although all are affiliated with particular organizations or interests, statements reflect personal views and do not necessarily represent the positions of their organizations. People were extremely generous in sharing with us their thoughts and perspectives on difficult and controversial management issues.

The stakeholders we interviewed often have widely diverse perspectives. In light of these different, and often strongly held, views, we take particular care to point out that the participation of a person in an interview, or the inclusion of his or her perspective in the book, does not imply support for, or agreement with, all arguments made in the book.

Some of the stakeholder comments may not be supported by the evidence. Nevertheless, we included these comments because they reflect peoples' views and form the basis for their approach to, and perspective on, fishery management. As such, they must be taken into account by policymakers. The reader may agree or disagree with a particular point of view but must acknowledge that it is a view that may demand to be recognized as management decisions are made.

Book Scope and Structure

In the past 22 years of U.S. fishery management, many actions have been taken to control the effects of fishing on fish populations, with varying degrees of success. Overall there have been problems in maintaining the biological health and economic benefits of fishery resources, although the extent of the problem varies widely across regions and fisheries. The scope of this book is the range of those fishery management actions, both past and present.

The book is organized by issues and by time: past, present, and future. We first present an overview of U.S. fishing regions, then a review of the present status of fisheries in those regions, and finally a look at the history of fishery management and its changes over time. We examine how decisions made for different reasons at different points in time shaped the history and evolution of fishery management practices and problems.

We look at the problems of the present. While acknowledging the immediacy of problems such as overfishing, bycatch, and loss of fish habitat, we recognize them as symptoms of deeper, underlying problems. We turn our attention to these causal problems in chapters on fishery productivity, ownership of resources, management decision-making, incentives, scientific information, and evaluation.

We end the book by looking to the future. In the final chapter, we synthesize the lessons learned in the previous chapters into recommendations for facing the challenges ahead. These recommendations relate to making an effective transition from today's fisheries to a more sustainable future, recognizing and promoting the regional diversity and cultural richness that fisheries represent, integrating knowledge and management objectives, learning from successes and failures, and creating expectations for stewardship.

Fishery management is a world of acronyms—ABCs, TACs, FMPs—and it is easy to slip into their use. Acronyms can be confusing and distracting, so we have restricted our use of them to three that represent different versions of the major federal fishery management law. The Fishery Conservation and Management Act (FCMA) was passed in 1976 and implemented in 1977, renamed the Magnuson Fishery Conservation and Management Act (MFCMA) in 1980, and again renamed the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) in 1996 with the passage of the Sustainable Fisheries Act. To avoid repeating the full names of these laws we use FCMA, MFCMA, and MSFCMA throughout the text.

Two appendices complete the book. Appendix A lists program participants, including the people we interviewed and the reviewers of this book. Appendix B is an annotated bibliography of selected literature particularly relevant to the subjects we address.

Susan Hanna
Heather Blough
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Gary Matlock
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Washington, DC
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- D. Douglas Hopkins, Esq., senior attorney, Environmental Defense Fund
- Dr. Andrew A. Rosenberg, deputy assistant administrator for Fisheries, NOAA/National Marine Fisheries Service
- Professor Michael K. Orbach, director, Marine Laboratory, Nicholas School of the Environment, Duke University

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Interview sources freely provided information, insight, and knowledge—the outcome of years of experience in U.S. fisheries and fisheries management.

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We are indebted to all these contributors and thank them for their gifts to this project. We share with them a dedication to finding a better future for the management of U.S. marine fisheries.

Contents

Preface ix

Origin of the Book x

Stakeholder Voices xi

Book Scope and Structure xi

Acknowledgments xiii

Part I · Introduction and Overview

Chapter 1: U.S. Fisheries Today 3

Types of Fisheries 3

Processing, Trade, and Consumption 5

Fishery Management 6

The Eight Fishery Management Regions 8

Other Fishery Management Authorities 13

The Status of U.S. Fisheries 14

Conclusion 17

Notes 17

Part II The Past

Chapter 2: History of Federal Fishery Management 23

1950s and 1960s: Pre-FCMA Decades 24

1970s: The Fishery Conservation and Management Act 25

1980s: The End of Expansion 28

1990s: Contraction and Change 29

Conclusion 31

In Their Own Words 32

Notes 35

Part III The Present

Chapter 3: Assessing Fishery Productivity 39

What Is Productivity? 40

Managing for Productivity 44

Maintaining Productivity Over Time	47
Lost Opportunities	52
Conclusion	56
In Their Own Words	57
Notes	59
Chapter 4: Owning Fishery Resources	61
Expanding Public Interests	62
Public Disinterest	65
Returns to the Public	66
Private Matters and Public Interests	69
Ideas About Rights-Based Management	72
Conclusion	74
In Their Own Words	75
Notes	80
Chapter 5: Managing Fisheries	81
Who's in Charge?	82
Expectations for Management	85
Outcomes	87
Checks, Balances, and Monkey Wrenches	94
Conclusion	98
In Their Own Words	99
Notes	104
Chapter 6: Creating Incentives	105
The Ideal and the Actual	106
Maintain Healthy Fisheries	107
Make Responsible Decisions	109
Take the Long View	115
Participate Responsibly	117
Conclusion	121
In Their Own Words	122
Notes	124
Chapter 7: Using Scientific Information	127
Why Do We Need Science?	128
Is the Science Adequate?	130
How Is Scientific Information Used?	134
Communicating Scientific Information	139
Funding Science	141
Cooperative Research	142
Conclusion	146

In Their Own Words 147

Notes 152

Chapter 8: Evaluating Fishery Performance 155

Why Evaluate? 156

Criteria and Objectives 162

What Is Evaluated? 166

Where Do We Go From Here? 168

Conclusion 170

In Their Own Words 170

Notes 172

Part IV The Future

Chapter 9: Looking Ahead 177

Learning and Adapting 178

Integrating Management Objectives 179

Creating Expectations for Stewardship 180

Maintaining Fishery Diversity 181

Making the Transition 182

Major Policy Choices and Reauthorization Issues 184

Conclusion 188

In Their Own Words 189

Appendix A: Program Participants 193

Interview Sources 194

Reviewers 197

Appendix B: Annotated Bibliography of Selected Literature on U.S. Marine Fishery Management 199

Fishery Status and Management History 200

Assessing Fishery Productivity 203

Owning Fishery Resources 206

Managing Fisheries 209

Creating Incentives 212

Using Scientific Information 216

Evaluating Fishery Performance 219

Looking Ahead 222

About the Authors 227

Index 231

PART I

Introduction and Overview

We want to be sure that the United States does not lose the opportunity to be a leader in fisheries management, given that we have the ability, resources, and techniques to be that leader.

Andrew A. Rosenberg,
National Marine Fisheries Service

U.S. Fisheries Today

The overall status of fisheries nationally and globally is clearly a problem.

Linda Behnken, Alaska Longline Fishermen's Association

U.S. marine fisheries, from New England to the Gulf of Mexico, to the Western Pacific and Alaska, are as varied and diverse as the regions that support them. They reflect the ecosystems, economies, and histories of their regions, the ethnic traditions and culture of the people who fish them, and the social structure of their communities.

The diversity of fisheries is represented in the number of ways fish are caught and used. It is also reflected in regional differences in the status of fish stocks, the condition of fishery economies and fishing communities, and the state of fishery management.

Types of Fisheries

Fish are caught in four general types of fisheries: commercial, recreational, subsistence, and indigenous. The mix of these fisheries varies from region to region. Information is available on the landings and value of commercial fisheries and is estimated for the number of fishing trips and fish caught in recreational fisheries. Little information is available, for the most part only descriptive, on subsistence and indigenous fisheries.

Commercial

Commercial fisheries are those in which catches are sold. U.S. commercial fisheries landed 4.2 million metric tons (a little over 9 billion pounds) of edible and industrial seafood at U.S. ports in 1998, continuing

the downward trend of the past several years. These landings were valued at \$3.1 billion ex-vessel—at point of first sale. An additional 182 thousand metric tons (about 401 million pounds), valued at \$165.9 million, were landed at ports outside the United States or delivered to processing vessels at sea. About 78 percent of the fish landed in 1998 were used as fresh and frozen food, with the rest processed into canned and cured products and nonedible fish meal and oil.¹ These proportions have been fairly stable over the recent past. The United States continued as the world's fifth-largest seafood producer in 1998, after China, Peru, Japan, and Chile, accounting for 4.5 percent of the total world catch.²

Commercial fisheries are conducted in every U.S. coastal region by people using a range of vessel types, vessel sizes, and gear types. Fishing businesses range from owner-operated family vessels to multi-investor-owned factory trawlers. They also include seafood processors, brokers, transporters, suppliers, and retailers. Alaska routinely leads all states in the volume of landings—more than all other states combined—with 4.9 billion pounds sold for \$951 million in 1998. Dutch Harbor–Unalaska, Alaska, was the top producing port in the United States in 1998, where 597 million pounds of fish were landed, valued at \$110 million.³

Recreational

Recreational fisheries are those pursued for pleasure and relaxation. Recreational catch includes fish that are retained as well as fish that are released. In 1998 an estimated 17 million marine recreational anglers made over 60 million trips and caught about 312 million fish.⁴ Of these, 136 million fish weighing about 195 million pounds were kept. The rest of those caught—more than half—were released alive. For the United States as a whole, recreational landings are small in comparison to commercial landings—about 2.4 percent—although the ratio of recreational to commercial catch varies widely by species and by region. Most recreational anglers, trips, and catches occur on the Atlantic and Gulf coasts, where recreational fishing is important and continuing to grow.⁵ There are important components of recreational fisheries that overlap with commercial fisheries in the form of businesses such as charter and “head” boats that provide recreational fishing for a fee and businesses such as marine suppliers and hotels that exist to support recreational fishing.

Subsistence

Subsistence fisheries are those conducted for food and other products but not for commercial or recreational use. These fisheries are pursued

mostly, but not exclusively, by native peoples. They represent a small proportion of the total catch but are important to particular regions such as Alaska and the Western Pacific for both native and nonnative people.⁶

Indigenous

Indigenous fisheries are established through treaties and other agreements between the federal government, tribal governments, and other native groups. They are concentrated in California, Oregon, Washington, and Alaska. These fisheries include commercial, subsistence, and ceremonial catches. Treaty tribes are formally represented in Pacific fishery management, where the total catch quotas of salmon and several stocks of groundfish and shellfish include direct treaty allocations. Community development quotas in Western Alaska set aside a portion of the total allowable catch of Bering Sea groundfish and crabs for the mostly native villages. Similar programs were authorized for Hawaii and other U.S. Pacific islands in the Sustainable Fisheries Act, which amended the MFCMA in 1996. Indigenous fisheries are a small proportion of total U.S. landings but are of large importance regionally.⁷

Processing, Trade, and Consumption

American seafood processors produced about \$7.4 billion of edible and nonedible fishery products in 1998, about 10 percent less than in 1997, continuing the recent downward trend in domestic processed product. As is usual, edible products accounted for most (\$6.8 billion) of processed value. In order of volume, the major processed food products are raw fillets and steaks, fish sticks and portions, and breaded shrimp. Also important are canned fishery products, such as tuna, salmon, clams, and sardines.

The United States imported 3.6 billion pounds of edible seafood products in the form of fresh, frozen, canned, cured, caviar, and roe in 1998. These imports were valued at \$8.2 billion, an increase of 308 million pounds and \$419 million from the previous year. The increase in seafood imports continued the 1990s trend of an expanding trade imbalance in seafood products. Also increased were imports of industrial fishery products such as fish oils, meal, and scrap, valued at \$7.4 billion. The United States imports a greater value of food fish from Canada, Thailand, Ecuador, and Mexico than from other countries, the most valuable of these imports being shrimp.⁸

Exports were valued at \$8.7 billion in 1998, a decrease from the previous year. Most fishery exports—about 75 percent—are nonedible fish

meals and oils. The most valuable food export products were fresh and frozen salmon, herring roe, surimi (minced fish meat), lobsters, flatfish, canned salmon, shrimp, and crabs, in that order. The United States exports the largest value of seafood to Japan, followed by Canada, the European Union, and other Asian countries.⁹

Americans spent an estimated \$49.3 billion for 12.0 billion pounds of domestic and imported fish products in 1998 at restaurants, caterers, grocery stores, and industrial suppliers. Of this supply, most (10.5 billion pounds) was edible food and the rest feed and industrial products. The production and marketing of fish products in 1998 is estimated to have contributed \$25.4 billion to the U.S. gross national product, continuing an upward trend.¹⁰

Americans ate an average of 14.9 pounds of seafood per person in 1998, up slightly from the previous year.¹¹ Most is fresh and frozen finfish, followed by fresh and frozen shellfish and canned and cured product forms. Consumption of seafood in the United States has remained fairly stable over time at 14.5 to 15.0 pounds per person, a lower quantity than is consumed in many other coastal nations.

Fishery Management

Conservation and management of U.S. fishery resources are conducted under the authority of the MSFCMA, Public Law 94-265, as amended. The act has been amended by almost every Congress since its first implementation in 1977 (as the FCMA) to reflect changing management needs and conditions. All fishery resources within the U.S. Exclusive Economic Zone—the ocean area extending to 200 miles offshore from the seaward boundary of each of the coastal states (generally 3 nautical miles, but 9 nautical miles for Texas, Puerto Rico, and the Gulf coast of Florida)—is covered by this act, as are many highly migratory species whose range extends beyond the Exclusive Economic Zone.

Fishing in the Exclusive Economic Zone is managed through regulations developed at state, interstate, federal, and international levels. State, regional, tribal, and federal interests are coordinated in a system of regional fishery management councils, in place since 1977. The management system involves many different fishery interests in decision-making. All coastal states, tribes holding treaty fishing rights, and island territories are represented on the councils in eight fishery management regions: New England, Mid-Atlantic, South Atlantic, Gulf of Mexico, Caribbean, Western Pacific, Pacific, and North Pacific (see figure 1.1).

Under the MSFCMA, the eight regional fishery management councils are required to prepare fishery management plans for the fisheries