

**REAUTHORIZING THE
MAGNUSON-STEVENS
FISHERY CONSERVATION
AND MANAGEMENT ACT**

**A HANDBOOK AND DISCUSSION GUIDE FOR
REGIONAL FISHERY MANAGEMENT COUNCILS**

The H. John Heinz III Center
For Science, Economics And The Environment

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BACKGROUND AND CONTEXT

1. INTRODUCTION

Fisheries management is equal parts economics, politics, and theater^{3/4}Richard Young, F/V City of Eureka, Crescent City, California

INTRODUCTION

This handbook is a product of the Managing U.S. Marine Fisheries program, initiated by The Heinz Center in anticipation of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) reauthorization debate. The primary purpose of the handbook is to provide background for discussions that will take place at regional council roundtables to be hosted by The Heinz Center in the summer and fall of 1999. These roundtables will be used to identify consensus-based policy options for improving the effectiveness of fishery management through MSFCMA reauthorization.

The handbook is divided into three sections: 1) Background and Context; 2) Implementing MSFCMA Provisions; and 3) Issues for Reauthorization.

The first section summarizes the results of interviews with seventy-seven people from government, industry, environmental organizations, and academia. Our interview sources represent a wide array of interests and experience in U.S. fishery management ³/₄some extending back to the 1977 implementation of the MSFCMA, then named the Fishery Conservation and Management Act (FCMA). They are a sample of the people who work in fisheries, chosen to achieve balance across geographic areas, fisheries, and interest groups. Although a diverse group of people with many different perspectives, they share a common bond—a strong attachment to fisheries, appreciation for their potential, and desire to see them productive.

Each person interviewed answered a series of questions related to six subjects that were identified by the Collaborator Team and program staff as underlying, unresolved issues challenging the stewardship and effectiveness of present-day fishery management. Each also discussed the status and history of fisheries and fishery management, and described major policy choices and reauthorization issues for the future. The first section of this handbook is organized around these subjects.

The second section highlights key questions on the implementation of 1996 MSFCMA provisions related to overfishing, bycatch, habitat, and communities. This section was informed by questions raised in our interviews, and from various published reports. The third section is based on the same sources, and identifies issues that will be important for MSFCMA reauthorization.

The people we interviewed were extremely generous in sharing their thoughts and perspectives on difficult and controversial fishery issues. Although all are affiliated with particular organizations or interests, each spoke to us as an individual. Their statements reflect personal views and do not necessarily represent the positions of their organizations.

This handbook summarizes more detailed discussions that appear in the program publication, *Talking About Fisheries: Stakeholders and Transition in U.S. Fishery Management*, to be published by Island Press in early 2000. The program is managed by Susan Hanna, Professor of Marine Economics at Oregon State University. Assistant manager is Heather Blough.

2. LOOKING BACK

The FCMA [Fishery Conservation and Management Act] provided a mechanism to identify competing interests and to recognize that each is not alone in the fishery. There were other people too, and each had to participate in dealing with tradeoffs together^{3/4}John A. Mehos, formerly Texas Shrimp Association

LOOKING BACK

WE ASKED

- What do you consider to be the overall status of our nation's fisheries? What is the status of those fisheries with which you're involved?
- Looking at where we are now in fishery management, and thinking back to how we got here, what seem to you to be the most important events and decisions along the way?

STAKEHOLDERS ANSWERED

The status of fish stocks: There are important regional differences in the status of stocks, which are reflected in people's views of stock status. Some regions have severe stock depletions. In others, the status is mixed, and in still others, stocks are relatively healthy. In groundfish, for example, New Englanders see depletion; West Coast people see a mix of healthy and stressed condition; Alaskans see healthy stocks. Although problem areas are recognized by many of those we interviewed, some remark that stocks have also been amazingly robust. Many see a perceptible upward trend in rebuilding depleted stocks. But many also find it unacceptable that there are so many fish species (544, according to NMFS' 1998 Report to Congress) for which the status is unknown. Most of these stocks are managed under fishery management plans.

The status of fisheries: American fisheries are in transition from a past of growth and development to a future of stabilization. As with the status of fish stocks, there are regional variations in how well fisheries are faring. The people we interviewed agree that, overall, fisheries are in poor economic condition, even where stocks are biologically healthy. Excess fishing capacity is most often identified as the culprit. People cite overcapacity as the root cause of declining stocks, growth overfishing, recruitment overfishing, bycatch, reduced profits, continued allocation conflicts, and increasing regulation. Some are concerned that these conditions are destabilizing fisheries, pushing them into more destructive patterns of use.

The status of fishery management: Although most of the people we interviewed think that the quality of fishery management varies widely across

regions, many see fishery management as weak in terms of its ability to stabilize expectations, resolve allocations, and safeguard ecosystems. Almost none finds reason to defend the *status quo*. People are concerned about the inability to maintain large stock sizes and the predisposition to take management risks when information is incomplete. Management is seen by some as contributing to weak resources, diminished operating flexibility, and a loss of economic vitality to coastal communities. Some call this management failure, and say that managers are denying its existence.

How we got here: The formation of the regional fishery management council system under the 1976 FCMA is viewed by many as the most beneficial and important innovation in fishery management. But many also see continuing challenges to the councils caused by poorly resolved areas of authority and responsibility in the early days of FCMA implementation. These include the respective authorities of the councils and the Secretary of Commerce, the councils and the Congress, and the councils and their scientific advisors. Some people question whether a single agency—the National Marine Fisheries Service (NMFS)—could reasonably be expected to be responsible for both the conservation and development of fisheries.

But factors other than management are important too. People note that changes in technology, markets, information processing, and government policies have all influenced fisheries, and helped them to develop. They see the expansion of post-FCMA fisheries as a success story, but one that has been based on short-term results rather than long-term strategies. Problems have accompanied the successes.

Some mention postwar government policies to rebuild fishing fleets and expand seafood export markets that led to steady increases in fishing capacity. Several comment, in particular, on the expansionary effect of subsidies, such as the Capital Construction Fund and the Fishing Vessel Obligation Guarantee program. Others note that rapid technological advances in synthetic fibers for nets and fish-finding electronics contributed to increases in fishing effort by making fishing cheaper, safer, and more effective. Still others see the failure to limit access to fisheries as the most important influence, one that allowed the problem of excess capacity to develop. Some consider the “Americanization” policy to have been a major contributor to fishery development that took place without a clear idea of how fisheries tie into our long-term national interest.

Some believe that problems arose from interpreting the FCMA to mean that hardships to industry were to be avoided. They say this has led to, at times,

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the tendency of some councils to put politics over science and to fish above acceptable biological catch levels. But others stress that some councils have been notable exceptions to this behavior, and have kept fishing firmly within conservation limits.

Several see the role of politics in fishery management as greater than that of the councils, noting the damaging effects of congressional interference with council conservation decisions.

3. PRODUCTIVITY

We should be moving fisheries toward the betterment of the nation. The net wealth of the nation is made up of many things; not just stocks and bonds, but culture and knowledge^{3/4}Court Smith, Oregon State University

Healthy stocks will maintain healthy communities, healthy economies, and healthy fisheries^{3/4}Dick Schaefer, National Marine Fisheries Service

PRODUCTIVITY

WE ASKED

- What does the term “sustainable fisheries” mean to you?
 - The Magnuson Stevens Fishery Conservation and Management Act uses the term “maximum benefit to the nation.” What does that mean to you? What factors would you include? What do you see as the tradeoffs between biological, social, economic, and ecological benefits?
 - Do you see lost opportunities in present-day fisheries?
-

STAKEHOLDERS ANSWERED

Sustainable fisheries: Many people we talked to are dissatisfied with the term *sustainable* because it lacks specific meaning. Most understand the term to mean a fishery that generates returns over the long term. A sustainable fishery, to the people we interviewed, doesn't stay at the same level all the time. People accept and understand variability in fish stocks but think that for a fishery to be considered sustainable, variability must be kept within some acceptable range. They explain that the harvest capacity of the fleet shouldn't exceed a level that the resource can support.

There is also a clear need to set limits on catch. Some see a practical proxy for sustainability in maximum sustainable yield because, if we were to successfully manage for this objective, natural productivity would be maintained throughout the ecosystem. Others don't believe that managing for maximum sustainable yield does much either to protect marine ecosystems or to maximize benefits to all user groups. Anglers, for example, may prefer to have high encounter rates and catch larger fish rather than more pounds of fish. Some people comment that maximum sustainable yield may be impossible to achieve anyway, given natural variability and our limited knowledge of ecological systems.

Benefits to the nation: What is the “greatest overall benefit to the nation” as described in the MSFCMA? The Act includes food production, recreational opportunities, and ecosystem protection as national benefits. Beyond that, it sets maximum sustainable yield as the productivity standard by requiring

that management keep stocks at levels that are able to produce maximum sustainable yield.

Many think that as the resource owners, the public should be the major recipient of its benefits. Most agree that greater benefits would accrue to everyone—the public, subsistence fishermen, and the commercial and recreational industries—if fisheries were as productive as they could be. In thinking about fishery benefits, it's clear that people see them as having many dimensions beyond biological productivity alone. Benefits also include ecosystem health, economic returns, and cultural values.

Some people relate benefits to a particular type of fishery. For example, a few say that economic benefits are substantially greater for recreational fisheries than for commercial fisheries, although they acknowledge that this is, in part, because we have managed many commercial fisheries to operate at low levels of efficiency. Others note that if we were to manage for larger stock sizes, the benefits—biological, social, and economic—to all fisheries could be increased because it's cheaper and easier to catch fish when they are abundant.

Biological, social, and economic tradeoffs: People recognize that a fishery can be managed for many different objectives and that fishery managers face tradeoffs between these objectives. The management task, as seen by those we talked to, is a large one: to maintain healthy fisheries, ecosystems, and communities, while providing quality seafood to consumers and recreational experiences to anglers. Sometimes the tradeoffs made in fishery management are not recognized until after an action has been implemented and its impact has been experienced. Some believe that better information would help make the tradeoffs more explicit—what is gained and what is given up with each alternative action would be clear. The problem facing managers is that there is never a single “right” alternative—there are only tradeoffs between alternatives. Making things even harder, some note, is that the objectives in fishery management plans are usually too general to guide the choice between alternative actions.

Many recognize that the priorities given to biological, social, economic, and ecological factors will be different in each fishery. But most support the idea that biological productivity and long-term economic profitability should be given highest priority, even when it means that incomes and employment are less stable in the short term. Some strongly recommend placing a higher priority on sustaining fishery-dependent communities and the community infrastructure associated with fishing. And several feel there has been too

little recognition of the benefits of fishery diversity—small boats and large, commercial and recreational, different gear types—in making long-term fishery management plans.

Lost opportunities: For many we interviewed, it's easy to see lost opportunities in today's fisheries. People believe that some opportunities are lost because stocks are fished at levels that limit their biological productivity or resilience. But they also note that even biologically productive fisheries may not be achieving their full social or economic potential because of the way we have chosen to manage them. As they see it, allowing economic overfishing creates losses in the form of decreased earnings for the commercial and recreational industries, fewer recreational opportunities for anglers, and increased dependence on seafood imports.

Some mention the losses that result from failing to be innovative once fish are landed; for example, failing to develop value-added products to make up for reduced quotas. To others, lost opportunities are seen more in terms of time. Some see a less prosperous future for younger fishermen, for example. Others talk about the short-term losses that are necessary to restore long-term biological productivity, some pointing out that the pain associated with these losses often contributes to strong resistance against corrective management actions.

4. OWNERSHIP

The major issue in my mind is to get straight the issue of access to the resources. Open access to fisheries resources needs to be eliminated totally^{3/4}Michael J. Fogarty, University of Maryland

The whole idea of recreational fishing is based on public access to the water and fisheries. We live and die by it^{3/4}Mike Nussman, American Sportfishing Association

OWNERSHIP

WE ASKED

- Where does the public interest fit into fishery management?
 - What benefits should the public expect from its fisheries? What is the best way to provide returns to the public?
 - What is your general view of rights-based management?
-

STAKEHOLDERS ANSWERED

Public interest: Many of the people we interviewed recognize that marine fisheries belong to the public at large, and feel that fishery management should keep public ownership firmly in mind. Managers can serve the public interest best by ensuring that fisheries are well managed, many think, and that the industry—both commercial and recreational components—is healthy and competitive so that consumers don't feel guilty about buying and eating fish. They believe that the public should expect access to low-priced, quality seafood.

Others believe the public interest will be best served through adhering to the intent of the MSFCMA, minimizing the waste of fish, making decisions in the open, and based on the best information available. If we do these things, the system will work well and as intended, many believe. Political end runs, which may keep the system from operating as intended, are thought by many to work against the public interest. Some argue for greater public education and involvement in management to make sure that the public interest is represented.

Benefits and returns to the public: Several of the people we talked to believe that the public is being shortchanged because it subsidizes the conservation and management of fisheries that aren't as productive as they could be. Many think the government should charge user fees or collect rents to cover the costs of management. Some suggest that these costs can be supported by non-user groups as well, such as eco-tourism industries. While some industry members support the concept of covering management costs, they argue that asking fishermen or other user groups to pay more—in

terms of rents or royalties—assumes that fisheries are in reasonable enough shape to generate profits. If the fish stocks are in bad condition, they ask, how or why should we pay rent? Other industry members would be willing to pay monetary rents in exchange for a stable productive fishery.

Rights-based management: While nearly all of those we spoke to agree that limiting access to fisheries is necessary, they have diverse views on how best to do it. Many see rights-based management as the equivalent of the 19th century enclosure of the open range, and they support it. But for a few, the enclosure is unwelcome and potentially dangerous. Those who oppose rights-based management are in the minority of those we interviewed, but they tend to be vehement in their opposition.

Supporters of rights-based management believe that such systems offer a mechanism to stabilize allocation, reduce capacity, and provide incentives to rebuild fisheries. In fact, many think that owning rights to catch fish is a necessary incentive for conservation. In contrast, those who oppose rights-based management argue that rights in themselves don't promote stewardship, and that the real need is to find a way to limit fishery participation without giving away rights. Even those who support rights-based management note a need to proceed with caution in their design, to ensure fairness and to avoid a giveaway of public resources. Recreational fisheries, in particular, depend on maintaining wide public access to fishery resources.

To some the answer to ownership lies not in private rights but in community-based rights, which give management authority to a broad set of stakeholders. But not everyone supports the idea that local is better. Some wonder whether community-based management could be as appealing in practice as it is in theory. They suspect that it would be subject to the same weaknesses and potential for capture as other types of management.

5. MANAGEMENT

The public should be assured that management will lead to a standard where you can catch a fish if you live on the coast, where you can have a seafood dinner if you live in the midland and, no matter where you are, that we don't wipe out the resource^¾Don DeMaria, F/V Misteriosa, Summerland Key, Florida

If there were simple fixes, things would already be fixed; no one likes the present environment. But things are socially complex^¾Tom Hill, New England Fishery Management Council

MANAGEMENT

WE ASKED

- What do you see as the major strengths and weaknesses of the current fishery management system, including the regional fishery management councils?
- The idea of regional fishery management councils arose from the notion that including people engaged in the fisheries in fishery management would lead to better decisions. In your experience, has that proven to be true?
- If you had a clean slate, how would you organize decisionmaking for fisheries?

STAKEHOLDERS ANSWERED

Council strengths: Most of the people we interviewed see strengths in the regional approach to management, and characterize the regional fishery management council system as a bold experiment in participatory democracy. They recognize that council performance varies greatly between regions. Most see the primary strength of the council system as the detailed working knowledge of regional fisheries that council members and advisors bring to the table. Another strength often mentioned is that the councils involve the public and bring diverse interests into decisionmaking. Some worry that the councils can be too responsive to constituents and that participatory management of the council system is equivalent to having the fox guard the henhouse. But, in response, one person we interviewed asks: who has a bigger interest in the henhouse than the fox?

Council weaknesses: The people we interviewed note that the same regional attributes that are strengths of the council system can also be its weakness. Some see cases where the regional authority of councils is disconnected from the national scope of a fishery problem; for example, the problem of overcapacity. Others see instances where the multi-state scale of council decisionmaking is too large to reflect the dynamics at a smaller, ecosystem scale. Still others identify a problem in diffused authority and accountability, complicated by a patchwork of legislation and policy. Some

people believe that the councils have too much authority; others believe they have too little.

Many conclude that a big issue related to council decisionmaking is a lack of accountability among council members. People talk about the pressures on council members to try and make everyone winners and many are concerned that there are few checks against those who want to promote a special interest at the expense of regional or national interests. Some are also concerned about special interests advanced by congressional representatives in political actions taken on behalf of fishery constituents.

People identify some weaknesses from outside the council system as well. Many note that the issues facing the council have increased in complexity over time, and are now so complicated that it's sometimes difficult for part-time council members or the public to stay abreast of all dimensions. Those we interviewed repeatedly identify inadequate funding for staff, data, and analyses to keep up with the issues as a council work-load problem. Some also fault NMFS for failing to take stronger leadership on many issues, ranging from conservation to cooperative research.

Many see a need to strengthen council decisionmaking by building a stronger separation between decisions that affect conservation and allocation. Several scientists and environmentalists are concerned that scientific advice is often discounted in setting total allowable catch levels, and they advocate changes that would strengthen the role of science in decisions. Some believe that the MSFCMA may have begun to address a number of these weaknesses, while others think that the last reauthorization only added mandates and workload requirements that are inflexible, unrealistic, and add further stress to the council system.

Stakeholder participation: People have different views on the degree to which user-group participation has led to better management decisions. Some think that involving fishery participants as decisionmakers is effective as long as checks against conflict of interest are in place. Others think that fishery participants are far too involved in decisionmaking. They note, for example that, over time, council composition has become far more political and special-interest driven. One remarks that the Magnuson Act removed the foreign "enemy" from fishing only to replace it with the new domestic "enemy."

People from all sectors strongly support keeping fishery participants involved in fishery management. But what is the appropriate level of involvement?

This is where different perspectives enter in. Some note that industry knowledge has been very helpful to the NMFS and the councils in decisionmaking. A few would extend this reasoning to say that the fishing industry should be given even more management responsibility and that decisionmaking should be devolved to a local scale. Even those who are concerned about the potential risks of having user groups making fishery management decisions support their involvement as long as there are strong conflict of interest provisions in place and a greater variety of interests represented in council composition. Many see the benefit of involving interests other than those of fishery participants. And several worry about how to find formal mechanisms to involve those fishery participants who tend not to now be represented in the council system; for example, fishing families, crew members, or low income recreational fishermen.

If we could wipe the slate clean: How would people start over if they could? Many would address the need for accountability, the importance of council structure, and the tendency to take risks in decisionmaking. These are the general themes that arise in our interviews.

Some think that councils made up of citizens without a vested interest, but advised by fishery participants, would be more accountable and would help to avoid capture by special interests. Others argue for a better distribution of council membership across interest groups—particularly for more recreational and environmental members. More public involvement and education would contribute to greater council accountability, they say.

But others point to the value of having fishery expertise directly represented in council decisions. They say only that council appointments should be more carefully considered and much less political. And still others think that the question of accountability does not apply to council members only, but extends beyond to all participants in the council process. They suggest that NMFS, industry, scientific advisors, and environmental organizations should all be held to higher standards of accountability. In their responses, people make it clear that what they mean by accountability is different for different people.

How council decisions are made is on many minds. Running through the interviews is the idea that decisions need to begin reflecting the transition in fisheries from growth to stability. Several mention the tendencies of councils to take risks with conservation in order to alleviate allocation pressure. As mentioned earlier, some think that conservation and allocation decisions should be completely separate, with councils having less influence over

conservation decisions and paying more attention to allocation. This separation might, for example, have scientific and statistical committee scientists set total allowable catch levels and might also involve more peer review of the science. Several suggest that all councils should adopt the practice that some already use of incorporating risk factors to adjust for uncertainties in stock assessments.

Some people we interviewed believe that changes in council structure are due. A few suggest that the management system would work better if all accountability and decisionmaking authority rested in a single place, such as the NMFS Regional Administrator or the council Executive Director. Some think that the councils should be strictly advisory. Others believe the state model of a single administrator overseen by a citizen body has merit. A few people propose dividing councils into ecosystem-based territories to make conservation decisions more ecologically relevant. Various other ideas emerged for reorganization, such as creating a new federal department for fisheries and oceans, rewriting and simplifying the Act, or restructuring management to make it more local than regional.

6. INCENTIVES

A lot goes back to the guy on the deck. He doesn't get paid unless he catches fish^¾Bill Gordon, formerly National Marine Fisheries Service

The easiest way to improve effectiveness is to gain industry support for management decisions. The perception that regulations are being forced down the industry's throat needs to be corrected^¾Paul Howard, New England Fishery Management Council

Vesting responsibility for stewardship in the broadest range of users through participatory management seems to be the best incentive for responsible management^¾Sam Pooley, National Marine Fisheries Service

INCENTIVES

WE ASKED

- What are the major changes needed to improve incentives for stewardship and effectiveness in fishery management?
 - What incentives could be used to encourage innovative solutions to management problems?
-

STAKEHOLDERS ANSWERED

To improve fishery management performance: The people we interviewed identify three important changes needed to improve management performance: 1) specify clear goals and objectives and make decisions in reference to them; 2) introduce stronger sanctions for not meeting goals and objectives; and 3) allow experimentation with incentives.

Although it may seem obvious that management would begin with a long-term goal, then develop incentives to reach that goal, people make the point repeatedly that this has not been done in an effective way. Some say government policies change so much that they are hard to follow, leaving the emphasis of the management system on getting the most we can now rather than on rebuilding stocks for the future. But people from different sectors have fundamentally different views on how far ahead our goals and objectives should extend. The environmental representatives we talked to tend to focus on longer time scales than either managers or industry. In one interview, the observation is made that the industry's sight is much too short, and that of the environmental organizations much too long.

When goals and objectives are not met, many feel that stronger sanctions should be applied. These would include the specification of thresholds that, when reached, trigger strict actions such as a fishery closure. Many also believe that experimentation with different incentives can improve management performance.

To improve council decisionmaking: What is mentioned most often in our interviews is the need to improve overall accountability in the council system. People speculate on the incentives it would take to do this. A few

suggest that the votes of council members should be recorded and published in the same way congressional votes are ranked. One proposes that council members' compensation be tied to performance, but doesn't offer a mechanism to do so.

To make fishing more responsible: Many emphasize the need to reward good fishing behavior and penalize bad fishing behavior. Rewards for good behavior—like reduced bycatch or certified responsible fishing practices—could include additional days at sea, increased trip limits, or more opportunities to participate in research. Several see a need to change the penalty systems for unacceptable behavior. They say penalties should be more obvious and fair. They would also like to see the councils given greater scope to administer rapid sanctions against known violators rather than wait for an administrative law review.

To make progress on responsible fishing practices, several say, we need to first eliminate the disincentives to fish responsibly. They observe that a major disincentive facing fishermen is the lack of assurance they have about the future. Since under many types of management fishermen have no assurance about their future stake in the fishery, they know that when they take conservation actions they may not be the ones to benefit from them. Until fishermen have a stronger stake in the future of the fishery, many observe, the incentives of fishing will be to catch as much as possible in the present.

As a way of providing assurance and encouraging stewardship, many propose rights-based management tools. But others think that giving away rights to fish does nothing in itself to induce responsible fishing. Many others focus on the importance of reducing overcapacity to strengthen assurance, especially through incentives that allow people to exit the fishery with dignity and financial equity.

To encourage innovative management solutions: Many believe that opportunities to innovate will come from removing barriers to experiment. They also believe that positive incentives to try new approaches should be provided. In particular, several say, we should reward fishermen and managers for cooperative research and joint management experiments, and encourage cooperative arrangements among fishermen as well.

7. SCIENCE

*Major management failure doesn't result from inadequate science, but from institutional paralysis and politics*¾Dayton L. Alverson, Natural Resources Consultants, Inc.

*The science doesn't affect the agenda as much as it affects the packaging*¾Michael L. Weber, freelance writer and researcher for marine conservation

SCIENCE

WE ASKED

- How adequate is the science available for fishery managers? What trends do you see with the role science plays in fishery management?
 - Thinking about your region, or the fisheries with which you are involved, to what extent is scientific information used in decisionmaking? What improvements would you suggest?
 - What is your view of the fishing industry as an information source and/or as a participant in data collection and analysis?
-

STAKEHOLDERS ANSWERED

Adequacy of science: Perspectives on the adequacy of science depend on the fishery in question and ideas about appropriate goals. Many of the people we interviewed believe that, in general, the information provided by stock assessments is adequate to reasonably inform critical fishery management decisions. But most hastily add that biological fishery science is far from perfect. Criticisms focus on limitations in the frequency and coverage of survey sampling. Industry representatives, in particular, declare that more real-time data collection and analysis is needed. Some people also believe that the generation of biological science is excessively dominated by government agencies.

The fact that information on the status of stocks is still not available for two-thirds of our nation's fish stocks is of serious concern to many of the people we interviewed. Some criticize managers for regulating some fish stocks on the basis of incomplete data. But others argue that the councils are required to use the best available data and that, sometimes, incomplete data are the only data available. Many comment that stock assessments will never be able to provide precise estimates of stock responses to management and that fishery management simply demands too much of biological science. Since we know that this type of information will never be complete, they argue, we must accommodate by taking precautionary measures.

Many also emphasize the importance of acquiring more ecological information, suggesting that biological information alone isn't sufficient to inform fishery management decisions. Several indicate that getting information on fishing gear impacts is necessary if the councils are to adequately fulfill essential fish habitat requirements. Others describe the need to develop a greater understanding of fish behavior, life histories and the ecology of benthic ecosystems. A number of people are concerned that natural variability is still not incorporated better into fishery management science.

Despite recommendations for increased attention to biological and ecological research, others argue that too much attention has been given to biological goals relative to the social and economic concerns of the fisheries—that information on the latter is completely inadequate to management requirements. Many complain that the NMFS and the councils don't collect adequate social and economic data, don't have programs in place to regularly conduct social and economic impact assessments, and don't adequately staff social scientists and economists. Fishery managers and academics, in particular, note that the NMFS lacks social scientists in every region. This is particularly relevant, since the majority of council decisions now relate to allocation, where social and economic issues are fundamental.

Proponents of increased social and economic research suggest that attention should be focused on analyzing the short- and long-term implications of management decisions to fishermen, fishing families, managers, communities, and the public. They also propose that social and economic information be used to incorporate commercial practices into fishery management plans and strategies, and to help scientists better understand incentives.

The most frequent recommendation among the people we interviewed is to increase the funding for science to make scientific information more reliable. One academic argues that the absence, or inadequacy, of crucial scientific information can lead to crude "meat-ax approaches" to management, such as the net ban movement, the congressional moratorium on individual fishing quotas and, possibly, the recent support for marine protected areas. Such approaches may be based more on frustration with the fishery management process than on science, he says. But opinions diverge about how, or on what, monies should be spent. Industry representatives and fishery managers, in particular, emphasize a great need for more data on recreational marine fisheries.

Use of scientific information: The most widely held view about how science is used in fishery management is that it's both highly politicized and selective. Many believe that the councils tend to exploit scientific uncertainty, using it only to the extent that it supports their agendas. But several also note that the degree to which scientific information is used, or misused, varies among council regions.

Most argue that fishery management decisions should be more risk-averse and precautionary to protect fisheries from suffering the consequences of scientific uncertainty. Many propose that creating a stronger position for scientific and statistical committees in the council advisory structure would improve the use of biological information. Others suggest that simply strengthening the communication of biological information between fishery biologists, fishermen, managers, and the public, will improve its use.

Many believe that the available economic and social science analyses are insufficient to consider the human component of the fisheries in a systematic way. Because the best available social and economic information is often very little, they argue, these aspects of fishery management are routinely ignored except through public testimony and the knowledge of council members. They suggest that more social and economic analyses of management alternatives should be done before a council makes a decision. Such information would inform, rather than rationalize, fishery management decisions. In order to produce these analyses, they suggest that scientific research be more interdisciplinary, and that fishery management plan development teams should be required to include social scientists.

Collaborative research: There is very strong support among those we interviewed for greater collaboration between scientists and the fishing industry in the collection of data and the conduct of research. Many supporters see collaboration as being a partnership that could have multiple benefits, as long as fishery research takes place within a structured, scientific framework.

Some say that collaborative research will provide a much needed opportunity to expand the biological and economic information base through direct observations, monitoring, and recording. A few argue that good science should include "fishery-dependent" information, and that collaboration will help scientists to better understand fishing operations. Others believe that as a practical matter the cost of research can be lowered by allowing fishermen, processors, and communities to collaborate, and that collaboration will increase buy-in to scientific conclusions. Several others

argue the potential benefits from education in biology, sampling techniques, and assessment methods, noting that although some industry members understand stock assessments, many others don't. Both fishermen and scientists know less than they think they do, another reasons, and joint research can help each group to learn from the other. Others agree that the lack of credibility between fishermen and scientists can be improved through collaboration so that trust is strengthened, information transferred, and education advanced.

But collaborative research and data collection also have opponents in each sector. A few people we interviewed argue against any role for industry in data collection and analysis. They say that it's asking too much to expect industry to participate in the collection of data that could ultimately result in stricter quotas and regulations, that industry members are unskilled or untrustworthy, or that scientists and industry simply have different interests.

8. EVALUATION

*In fifty years we want an outcome that we intended, not a surprise*¾Bob Storrs, Alaska Marine Conservation Council

EVALUATION

WE ASKED

- How should we evaluate the performance of fisheries and fishery management? What should be our objectives? What criteria or measures should we use?
 - In your view do we have adequate infrastructure to evaluate fishery and fishery management performance?
-

STAKEHOLDERS ANSWERED

How to evaluate: The majority of those we interviewed believe that the effects of fishery management actions are seldom evaluated. They are concerned that managers take the same actions again and again, without keeping track of whether they actually accomplish management goals and objectives. Several note that until the 1996 provision required councils to evaluate the rebuilding of overfished stocks, there wasn't any mechanism forcing councils to keep score.

All believe that management objectives need to be both concrete and measurable so that performance criteria and measurement standards can be developed. To develop specific objectives, some say, we need to set a management goal for each fishery. One complains that the councils appear to have no goals and objectives except to get through each year's annual management cycle. Some add that managers should be better educated about how to approach management in a scientific and systematic, rather than *ad hoc*, manner. They note, for example, that social and economic factors appear to be evaluated more on the basis of people's impressions than under a structured, scientific framework.

Some respond to the question of evaluation at a different scale. A few focus on the MSFCMA, noting that its performance has never been properly evaluated. Many new ideas are layered on in each authorization of the Act, they argue, without ever going back to re-examine the fundamental policies. A number of others propose that the individual performance of fishery managers be evaluated as well. This group believes that required evaluations of managerial performance would institute much needed accountability into

the fishery management system.

Goals and objectives: Several of the people we interviewed suggest that each fishery's performance should be measured against the MSFCMA and its National Standards. But many more argue that fishery management goals should be regionalized—specifically designed and defined for each fishery. There is much disagreement over which objectives should be given the highest priority and what tradeoffs are acceptable. Many, in fact, see priority-setting as the greatest challenge in establishing a structured evaluation system. But, despite differences in individual priorities, broad-based support exists for the pursuit and evaluation of a balance of objectives. Most agree that achieving some balance between biological, ecological, social, and economic objectives is necessary to achieving the “greatest overall benefit to the nation.”

Criteria and measures: According to people we interviewed, the biological health of a fish stock can be determined from the size and age distribution of fish, the stock's geographic range, its spawning ability compared to spawning potential, the rate at which it recovers from fishing, and its productivity over the long term. Some also suggest that ecological factors such as habitat condition, biodiversity and the quantity of bycatch and waste can serve as indicators of biological health. But many note that indicators of such baseline ecological factors are rarely monitored. As a practical matter, people most frequently choose sustained biological production as the indicator of biological health.

A number of criteria are offered as useful measures of industry status, including distribution of catch by gear type, the geographic distribution of landings, average age of fishermen, vessel sinkings, industry structure, fleet composition, value of vessels and licenses, vessel profitability, and value of capital in the fishery. Suggestions for indicators of coastal community status include population, age structure, commuting distances to work, number of serious crimes, educational attainment, ethnic population breakdown, and net migration and economic diversification.

Some identify additional criteria for the social and economic status of fisheries, including geographic distribution of effort, distribution of wealth, equity and fairness, product supply, quality and price, consumer satisfaction, technological and economic efficiency, and overall return of commercial and recreational fisheries to the U.S. economy. People we talked to suggest the need to also examine non-market values such as recreational fishing experiences, aesthetic enjoyment and public satisfaction with the state of

fishery resources. The costs of management should also be considered, some say. A few indicate that fishery stakeholders' and, in particular, fishermen's views of management can be used as an indicator of performance. But others disagree, claiming that, to the extent that everyone is happy with their situation in the fisheries, managers are not doing their jobs.

Evaluation infrastructure: Those we interviewed recognize that the information needed to evaluate depends on the management objectives being evaluated. But most believe that, overall, we have inadequate information to evaluate fishery performance. Those who think evaluation of social and economic objectives is important indicate that, in contrast to biological evaluation, there is no infrastructure that allows for systematic social or economic evaluation. Some suggest that social scientists should develop a simple equivalent of maximum sustainable yield. Many indicate that ecological factors also need to be quantified, and that collecting baseline data on ecological aspects of fisheries is of great importance. A few believe that biological criteria alone should be used to evaluate and that, for these, the infrastructure is adequate.

Most agree that a regular, formal system of evaluation is critical to understanding our success in achieving fishery management objectives. Without exception, they recognize the importance of performing evaluation externally. Several suggest that it be done by an independent overseer, such as a program evaluation unit or a scientific advisory board.

9. LOOKING AHEAD

*We are doing most things right in fishery management. We need resources to do the job, and we need to stick it out*¾Mike Orbach, Duke University

*We all believe in the goals of having enough fish for tomorrow, and having enough fishermen and processors around for tomorrow. If we don't learn to work together, none of us will be in business 10 years from now*¾Rod Moore, West Coast Seafood Processors Association

LOOKING AHEAD

WE ASKED

- What do you see as the major policy choices facing us in fishery management today?
- What issues do you see as most needing to be addressed in the next reauthorization of MSFCMA?

STAKEHOLDERS ANSWERED

Policy choices and reauthorization issues: The most common response across the sectors is to say that individual fishing quotas and other types of rights-based management tools should be available to managers. There is almost universal consensus that the moratorium on individual fishing quotas should be lifted. Industry, government, and academic stakeholders also note the importance of developing a means for the equitable allocation of catch between recreational, commercial, and subsistence interests—especially in those fisheries that become managed under rights-based management.

Although many of the people we interviewed emphasize the importance of managing fisheries at the ecosystem level, university scientists are the most vocal in this regard. Quite a few members of each sector identify the use of marine protected areas as a major policy choice because they are concerned about managing fisheries at a larger scale, accounting for scientific uncertainty, and conserving declining biodiversity. But marine protected areas are highly controversial. There is as much disagreement among sectors as there is between sectors regarding their use as a fishery management tool.

In response to these questions—as well as to many of those that came before—many echo the need to clearly determine the goals and objectives of fishery management, to distinguish between goals of conservation and development, to identify tradeoffs, and to make a decision regarding what society as a whole really wants from its fisheries. Should we strive to sustain fish stocks? Preserve coastal communities? Maximize efficiency? Again and again, people we interviewed emphasize the need to distinguish between

short- and long-term management goals, make clearly-stated choices, choose the appropriate management tools, and monitor and evaluate the performance of those tools.

Everyone agrees that the 1996 reauthorization of the MSFCMA brought significant changes to fishery management. The Act's new provisions are frequently mentioned in our interviews. Although there is disagreement regarding the effectiveness and legitimacy of the provisions, all agree that their implementation is going to take significant amounts of time and resources. To assist, many suggest increasing cooperative research and collaborative efforts with industry. In addition, some recommend amending the legislation to allow for the collection of user fees.

Many representatives of each sector also recognize the need to develop a uniform response to scientific uncertainty. To some this means discarding incomplete, or inadequate information, to others it means that when using such information, buffers be added. The majority of environmentalists, along with some industry members, fishery managers, and scientists, recommend a more formal adoption of the precautionary approach.

A number of people indicate the need for management to better recognize the effects and needs of recreational marine fisheries. Members of all four sectors comment on the importance of coordinating and integrating federal fisheries legislation. And, finally, the issue of funding for scientific research, council support, NMFS enforcement, capacity reduction, and community support, is frequently identified as both a major policy choice and reauthorization issue.

The Heinz Center council roundtables will provide each region with the opportunity to address the issues identified in this handbook, talk about the challenges of implementing the 1996 provisions, and define options for improving the MSFCMA through reauthorization.

IMPLEMENTING MSFCMA PROVISIONS

*Implementation of the MSFCMA is critical and is coming under fire*¾Roger McManus, Center for Marine Conservation

*The SFA is a good change. Congress and NMFS have done the rulemaking but have not gone the next step to look on a region-by-region basis at how the implementation is going and what the Act means in terms of transition for fisheries in each region. Councils and regional offices haven't assessed what it means either because they have been on a treadmill trying to meet the new regulations*¾Neal Coenen, Oregon Department of Fish and Wildlife

*Very few legislators knew what the SFA was going to mean for the fisheries or fishers. The process is driving management although few even know what it intended*¾Jim Kendall, New Bedford Seafood Coalition

IMPLEMENTING MSFCMA PROVISIONS

The 1996 Sustainable Fisheries Act added new provisions to the Magnuson-Stevens Fishery Conservation and Management Act. Four of these provisions contain significant new requirements for the regional fishery management councils and NMFS. These relate to overfishing, bycatch, habitat, and communities.

The overfishing provision requires that fishery management plans contain measurement criteria for overfishing, actions to prevent overfishing, and plans to rebuild overfished stocks.

The bycatch provision requires that management measures contain standardized bycatch reporting methodology as well as measures to minimize bycatch and bycatch mortality.

The habitat provision requires that fishery management plans describe and identify essential fish habitat, minimize fishing effects on habitat, and identify actions to encourage conservation and enhancement of habitat.

The communities provision adds a national standard requiring that the effects of management measures on fishery participants, fishing communities and fisheries in related areas be assessed.

The following sections contain the four provisions, each with its legislative requirement related to management plans and its associated National Standard. Also included are lists of implementation issues related to each provision. These issues were identified in our interviews and in various recent publications.

1. OVERFISHING

NATIONAL STANDARD #1

Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry [MSFCMA Sec. 301(a)(1)].

MSFCMA Sec. 303(a) REQUIRED PROVISIONS.—Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall—

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery.

OVERFISHING IMPLEMENTATION ISSUES

The issues below were identified in our interviews as well as in recent publications related to MSFCMA implementation and reauthorization (Waldeck and Buck 1999; Ecosystem Principles Advisory Panel 1999; Marine Fish Conservation Network 1999; National Research Council 1999).

DEFINITION

- Overfishing: Is the definition clear? Appropriate to all stocks?
- Stocks and species: If stocks can include several species, are mixed-stock fisheries being overfished?
- Rebuilding goals: What kind of variation is allowed?
- Critical uncertainties: What are they?

RESEARCH AND DATA NEEDS

- Data adequacy: Do we have data appropriate to estimate overfishing?
- Multispecies effects: What are the risks for species in a mixed-stock complex? Do we manage for the weakest link?
- Recreational fishing: How does it contribute to overfishing? How complete are recreational landings data?
- Environmental conditions: Can they support rebuilding?
- Evaluation of rebuilding progress and results: Do explicit plans exist?
- Rebuilding guidelines: Are they suitable to all fish populations?
- Funding: What are the critical needs?

APPLICATION TO DECISIONMAKING

- Implementation timelines: Are they workable? What are the critical constraints?
- Rebuilding timelines: Is the "upper limit" now the standard recovery period?
- Long-term plans for fisheries: Is rebuilding taking place within an overall long-term fishery plan?
- Consistency of application: How have different FMPs addressed overfishing?
- Guidelines: Are they adequate? Can NMFS monitor and enforce?
- Sequencing of controls and fishery development: Should effort controls be in place in advance of new fisheries?

2. BYCATCH

NATIONAL STANDARD #9

Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch [MSFCMA Sec. 301(a)(9)].

MSFCMA Sec. 303(a) REQUIRED PROVISIONS.—Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall—

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority—

(A) minimize bycatch; and

(B) minimize the mortality of bycatch which cannot be avoided.

BYCATCH IMPLEMENTATION ISSUES

The issues below were identified in our interviews as well as in recent publications related to MSFCMA implementation and reauthorization (Waldeck and Buck 1999; Ecosystem Principles Advisory Panel 1999; Marine Fish Conservation Network 1999; National Research Council 1999).

DEFINITION

- Bycatch goals: Have they been defined? Target dates included?
- Measurable bycatch objectives: Are they included in FMP amendments?
- Critical scientific uncertainties: What are they? What are the key information needs?

RESEARCH AND DATA NEEDS

- Data adequacy: What information exists by gear/fishery type? What are the gaps?
- Data reporting: How are data collected? How well are data standardized across gear types?
- Bycatch quotas: What alternatives exist? Which have been tried?
- Full utilization: What alternatives exist? Which have been tried?
- Incentives for bycatch reduction: What alternatives exist? Which have been tried?
- Incentives for gear innovation: What alternatives exist? What are the barriers?
- Technical assistance for cooperative research: What ongoing projects exist? What are the needs?
- Funding: Do funding resources match the needs?

APPLICATION TO DECISIONMAKING

- Actions taken in fishery management plan: What are they?
- State/federal consistency: Does it exist?
- Authorization requirements for new gear: Are they a disincentive to innovate?
- Monitoring and evaluation: Is it being done? How?
- Enforcement coverage: How complete is it? What process is used?
- Penalties: Is the administrative law hearing process too slow?

3. HABITAT

MSFCMA Sec. 303(a) REQUIRED PROVISIONS.—Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall—

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat.

HABITAT IMPLEMENTATION ISSUES

The issues below were identified in our interviews as well as in recent publications related to MSFCMA implementation and reauthorization (Waldeck and Buck 1999; Ecosystem Principles Advisory Panel 1999; Marine Fish Conservation Network 1999; National Research Council 1999).

DEFINITION

- Essential and nonessential habitat: How to distinguish between them? How broad should the definition of “essential” be? How should priorities be set?
- Fishing impacts: What level of impact requires action?
- Nonfishing effects: Have they been defined in each region?
- Critical uncertainties: What are they?

RESEARCH AND DATA NEEDS

- Data adequacy: What are the gaps?
- Documentation of fishing effects: What information is available? What are the gaps?
- Documentation of nonfishing effects: What information is available? What are the gaps?
- Identification of conservation and enhancement actions: Do FMPs contain action plans?
- Linkages between habitat, fishery productivity, and ecosystem health: Have these been examined? What are the research needs?
- Linkages between habitat, overcapacity, and management tools: Have these been examined? What are the research needs?
- Cooperative research opportunities: What are they? What are the needs? What are the barriers to implementation?
- Funding: What are the critical needs?

APPLICATION TO DECISIONMAKING

- Intent of EFH provision: Is it clear?
- Regulatory authority over nonfishing effects: What do councils and NMFS need?
- Tradeoffs in scientific resources: Has EFH implementation taken resources away from other council activities?

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- Measures: What actions have been taken in FMPs? How will it effect regulations?
- EFH and gear allocations: What are the implications?
- Marine protected areas: What role could they play?
- Burden of proof: How will it effect new fisheries?
- Interagency, state-federal coordination: What are the needs?
- Monitoring and enforcement: Does NMFS have adequate resources?

4. COMMUNITIES

NATIONAL STANDARD #8

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities [MSFCMA Sec. 301(a)(8)].

MSFCMA Sec. 303(a) REQUIRED PROVISIONS.—Any fishery management plan which is prepared by any Council, or by the Secretary, with respect to any fishery, shall—

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on—

(A) participants in the fisheries and fishing communities affected by the plan or amendment; and

(B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants.

COMMUNITIES IMPLEMENTATION ISSUES

The issues below were identified in our interviews as well as in recent publications related to MSFCMA implementation and reauthorization (Waldeck and Buck 1999; Ecosystem Principles Advisory Panel 1999; Marine Fish Conservation Network 1999; National Research Council 1999).

DEFINITIONS

- Fishing community: What is it?
- Fishing-dependence: What is it? How is it measured?
- Sustainability: What should be sustained? What will guide tradeoffs?
- Critical uncertainties: What are they?

RESEARCH AND DATA NEEDS

- Economic and social data: What should be measured? Are existing data adequate?
- Statistical groupings: Do existing databases represent fishing communities?
- Recreational communities: How are they different from commercial fishing communities? What role do they play?
- Interpreting and measuring sustainability: What are the indicators? How do they change over time and area?
- Community impacts: Which impacts are monitored? What level of impact requires action?
- Methodology: Are data collection and research methods well-defined?
- Funding: What are the critical needs?

APPLICATION TO DECISIONMAKING

- Intent of communities provision: Is it clear?
- Interpretation: How is it addressed in FMPs?
- Use in decisions: How will councils use community information?

ISSUES FOR REAUTHORIZATION

The reauthorization should focus on better defining the goals and objectives of fisheries management, particularly with respect to society and not just the fish^¾James E. Kirkley, Virginia Institute of Marine Sciences

The MSFCMA is now extraordinarily complicated. It is festooned with bells and whistles from special interest groups and needs to be simplified^¾William T. Burke, University of Washington

ISSUES FOR REAUTHORIZATION

The reauthorization issues below were identified in our interviews as well as in recent publications related to MSFCMA implementation and reauthorization (Waldeck and Buck 1999; Ecosystem Principles Advisory Panel 1999; Marine Fish Conservation Network 1999; National Research Council 1999). They are clustered into groups related to the background conditions under which fisheries operate, the functions of fishery management, and the tools with which management decisions are made.

BACKGROUND CONDITIONS

- Capacity reduction: What are the needs? What are the possible actions? What additional authorities are required?
- Fishery dependent communities: What role will they play in management?
- Transition/long-term planning: What needs to be done?

MANAGEMENT FUNCTIONS

- Cooperative research: What are the opportunities? What is needed to implement?
- Economic and social data: What are the critical gaps? Funding needs?
- Review and approval of plan amendments: What changes in procedures are needed?
- Evaluation of fishery management plan performance: What needs to be done? What are the tools for implementation?
- Funding for expanded management mandates: Is the funding base adequate? What are the needs?
- Application of precautionary principle: How should it be implemented?
- Collection of fees: What are the needs? What changes are needed?
- Council operations: What works well? What needs improvement?

TOOLS

- Individual fishing quotas: Lift the moratorium or not?
- Allocation between sport, commercial and subsistence interests: Are the current procedures adequate? Are the guiding principles clear?
- Ecosystem management: What is it? What is needed to implement?
- Marine protected areas: What are the research needs? Monitoring and evaluation needs? Enforcement needs?

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