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THE SCIENCE AND ART OF MANAGING FISHERIES

"We don't know a millionth of one percent of anything," Thomas Edison once remarked. The genius behind the lightbulb and other enlightening inventions knew better than anyone that we're still in the dark about much of the world we live in; that the extent of our knowledge is measured by how much we've yet to learn.

That's especially true of the ocean, which makes up three-fourths of our world. In managing ocean resources, we are severely hampered by the limits to our understanding of marine life and our impact on it. Then we compound the problem by being indecisive as to when and how to act on what we *do* know.

A fundamental principle of the Magnuson Fishery Conservation and Management Act, the federal law governing ocean fisheries, is that they be managed based on the "best scientific information available." While this may seem obvious, nevertheless considerable time is spent debating whether a fishery *should* be managed in accordance with the information at hand. Part of the resistance is attributable to greed, or a refusal to consider the long-term consequences of over-exploitation. But it also results from a lack of public confidence in the science and the way it's interpreted by fisheries "experts."

The object of most fisheries research is to assess present stock conditions and predict future stock sizes. Yet predicting population trends of ocean-going species is and always will be an inexact science, confounded by a host of variables and gaps in our understanding of the interaction of environmental factors and population dynamics.

To maintain stable and productive fisheries we need to improve both the quality and the credibility of the science that managers rely on. But above all, if we accept that the "best" science will never be complete or conclusive, we must embrace a more conservative approach to managing marine fisheries that takes these limitations into account.

National Research Objectives

The National Marine Fisheries Service (NMFS) is responsible for providing managers with information on the status of the fisheries. However, the agency and its mission have always been a poor relation within the Department of Commerce. The NMFS budget for Information Collection and Analysis - its research programs - has been virtually frozen for the last ten years, restricting the agency's ability to keep pace with growing management needs. Throughout the 1980s, the Reagan Administration annually asked Congress for debilitating cuts in NMFS funding. As a result, research directors, who should have been planning ahead to meet the demands of managers faced with declining fisheries, could rarely look beyond the next year fiscal year.

So far, the prospects under George Bush are only slightly better. The President's FY1992 budget asks for $173 million for NMFS, compared to the $201 million Congress appropriated for 1991, and holds the line in virtually every area of research and data collection.

In addition to fiscal neglect, inconsistent leadership has hurt fisheries research programs even more, as last year's National Fish and Wildlife Foundation critique of NMFS pointed out (Marine Bulletin No. 48). The Foundation recommended that NMFS prepare a long-range plan to prioritize areas of research and the funding needed to conduct it. Congress agreed, passing an amendment to the Magnuson Act directing NMFS to develop a Five-Year Strategic Plan for Fisheries Research, which the agency says it is already working on and will implement in August.

The National Coalition for Marine Conservation (NCMC) applauds this move. We are suggesting that the Strategic Plan, as prepared by NMFS and approved by Congress, should include the following basic criteria to enhance the efficiency, credibility and accountability of federal research programs:

- Research must be planned and carried out with a clear conception of how the information derived will directly support critical management needs and priorities;
- Sufficient flexibility must be built into the administration of research programs in order to adapt to changing needs and priorities over time;
- Programs undergo periodic peer review to assess

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progress toward achieving management objectives;

- Federal, state and academic efforts be coordinated at both the planning and operational levels, with information shared freely to avoid duplication of effort and undue cost; and finally,

- A commitment from both Congress and the Secretary of Commerce that funding for fisheries research will be available to NMFS on a continuing basis to protect the integrity of the information base from changes in the fiscal/political climate.

Maintaining The Proper Balance

Despite the critical need for better information to help managers escape the endless cycle of declining fisheries, it's only half the problem. Stock assessments, for instance, while they will always contain a degree of uncertainty, are often adequate enough to justify a response. The chief problem is those who exploit this uncertainty for their own ends. Fishing interests, seeking more favorable allocations or quotas, often question the validity of the science simply because they don't like what it suggests, i.e., the need to reduce harvests.

Managing fisheries is the skillful translation of the best scientific information available into timely and effective action. It's an art, not a science. It's also a balancing act, since managers must take into account the social and economic consequences of their actions, but without allowing those concerns to undermine their overriding duty to conserve fish stocks in abundance for the long-term.

It's a particularly difficult balance for NMFS, since it's both a scientific and a regulatory agency (which also happens to run programs to assist industry). In the Gulf of Mexico red snapper fishery, for example, NMFS did the stock assessment that showed the population of fish at dangerously low levels and identified shrimp trawlers as the main culprit; the agency also developed the exclusion device, or TED, touted by conservationists as the best way to reduce the trawl bycatch; and it is ultimately responsible for approving and enforcing fishing regulations proposed by the Gulf Council.

Wearing all these hats hurts the agency's credibility as a scientific agency and undermines its effectiveness as a regulatory body. Wherever possible, the science function (NMFS) should be distanced from the regulatory function (the Councils), to insulate the integrity of the science from politics and to destroy any perception that management goals pre-determine scientific results. Indeed, if given the choice, NMFS would probably choose to have fewer, not more, regulatory responsibilities.

If NMFS were to get out of the sometimes conflicting businesses of assisting and regulating industry, it would free up scarce resources to devote to science and data collection and to problem-solving. In the latter are such critical needs as habitat restoration; developing more efficient fishing gear to reduce bycatch waste; and experimenting with innovative management schemes, such as limited entry.

Ideally, NMFS should limit its involvement in fisheries management to holding plans prepared by the Regional Councils to the Magnuson Act's National Standards and the strict guidelines the agency has laid down to ensure that all plans define and prevent overfishing. It should not substitute its judgment for that of the Councils in how they elect to meet these objectives. Provided with the best possible scientific information the government can provide; with the onus on harvesters to refute it, not on the managers to defend it; and secure in the knowledge that NMFS will support their decisions according to the law, the Councils would still make mistakes. But they'd err on the side of conservation, and that's as it should be.

WHITE ELEPHANT STILL STALKS CAROLINA COAST

Proponents of building jetties at Oregon Inlet, North Carolina, among them the state's Governor and two U.S. Senators, are pressing Interior Secretary Manuel Lujan, Jr. to reverse that Department's longstanding opposition and grant permits for the two mile-long structures. Getting Interior's permission is viewed as the last hurdle to construction. Lujan's predecessors, including James Watt, denied permits for the jetties out of concern they would erode beaches in federal parklands on both sides of the inlet.

According to advocates of the twin jetties, which could cost taxpayers over $100 million to build, they are the only way to stabilize the shifting shoals at treachorous Oregon Inlet and allow safe passage for ocean-going vessels. This, they say, would in turn open the way to expanding North Carolina's fishing fleet and shoreside processing facilities. Opponents of the project, including a broad coalition of surf fishermen, environmentalists and groups who watchdog government spending, contend the jetties are unlikely to stabilize the inlet, but would speed erosion of the nearby shoreline and interfere with the migration of larval and juvenile fishes, while increasing the federal deficit with yet another barrel of pork.

The NCMC has been arguing that the Oregon Inlet jetties would be an environmental disaster and a public boondoggle for at least ten years, and we are once again expressing our strong objections to Secretary Lujan. We agree that the inlet should be cleared, but regular dredging is the only environmentally and fiscally sound way to do it. Past experience with jetties and other permanent structures built on the dynamic Atlantic coast demonstrates that any benefits are short-lived and quickly outweighed by permanent damage to the shoreline. Often the cost of repairing this damage exceeds the original outlay.

The potential for significant losses to coastal fisheries is another big concern. An economic analysis by the U.S. Army Corps of Engineers, which would build the proposed jetties, relies on increased fish harvests offshore for the project's benefits to outweigh its costs. But as Bo Newell, President of the Raleigh, North Carolina Saltwater Sportfishing Club, warns, building the jetties would only place additional fishing pressure on already stressed stocks of fish. Indeed, the species that would likely be targeted include summer flounder, bluefish and sea bass, all overfished as it is. Fishery managers are trying to reduce catches, not increase them.

BILLFISH DECLINE MIRRORS RISE IN LONGLINING

The evidence is circumstantial, but compelling. Since the early 1980s, there's been a huge increase in the number of American longliners fishing for tuna in the Gulf of Mexico. Pelagic longlines are known to take a large incidental catch of billfish, too. Beginning in 1985, according to the National Marine Fisheries Service, there has been a decreasing trend in the apparent abundance of marlin and sailfish in the gulf.

The apparent decline in the gulf population of Atlantic billfish reached a record low in 1989, according to a January report by the NMFS Southeast Fisheries Center. The Panama City, Florida laboratory has conducted annual recreational billfishing surveys since 1970 in order to gauge the relative abundance of blue marlin, white marlin and sailfish, based on hooked fish per hour of trolling (HPUE). White marlin numbers have been on the skids for the last seven years and in 1989 hit the lowest point in the history of the survey, with an HPUE rate 71% below the 19-year average. The HPUE for sailfish was also the lowest ever, while the rate for blue marlin was the worst since 1978.

The period through 1978 coincided with heavy fishing by Japanese longliners in the gulf. After the Japanese reduced their fleet and then left altogether, billfishing began to rebound. However, with the boom in U.S. longlining during the1980s, the fish are obviously taking another beating.

Estimating the Bycatch

The decrease in recreational billfish catches cited above mirrors the rise in tuna catch and effort. In 1983, the U.S. gulf yellowfin tuna harvest was just a few thousand pounds. But it rose sharply each year thereafter, peaking at 7,800 metric tons (MT) in 1988. In 1989, despite continued heavy fishing pressure, the catch dipped 28% to 5,600 MT, indicating tuna stocks are starting to show the strain, too.

The true extent of the billfish bycatch is not known, chiefly because of the limited number of observers aboard longliners to record bycatch data. However, the NCMC recently used observer data collected by NMFS from 1985-1989 and extrapolated this information onto the gulf tuna fleet, based on what we know about its size and fishing practices, in order to estimate longline mortality.

NMFS reports that 217 vessels were operating in the gulf in 1989. The fleet shrunk from well over 250 boats as catches diminished and many left for less pressured waters in the Caribbean or Pacific. We assume, based on information from the South Atlantic Fishery Management Council, that the longliners were making between 100 and 150 sets a year, or from 21,700 to 32,550 sets. Observer data shows that an average of .3472 blue marlin, .5078 white marlin and .3627 sailfish were hooked per set. For fish hooked, the mortality rate was 28% for blue marlin, 48% for white and 67% for sailfish.

From this, we estimate that the number of billfish killed in the Gulf longline fishery in 1989 was within a range of 2,109-3,164 blue marlin; 5,289-7,933 white marlin; 5,273-7,909 sailfish. The total would be between 12,671 and 19,006 fish.

This is a very rough estimate, fraught with uncertainties, again because information on the fishery is so very limited. The National Marine Fisheries Service's own estimates of bycatch are lower. In 1987, according to one NMFS estimate, 4,695 billfish were discarded dead in the gulf yellowfin tuna longline fishery. (NMFS data comes largely from swordfish logbooks. There is some question as to how many tuna longliners file them, although they are supposed to if they catch swordfish, which many do.) This figure, however, is discards only, not total mortality, since it doesn't count the thousands of fish that were kept for sale in 1987. (As of 1989, federal law requires commercial vessels to release all billfish caught in the Atlantic.)

More recently, NMFS reported to the International Commission for the Conservation of Atlantic Tunas (ICCAT) (National Report of the United States, 1990) that the 1989 U.S. commercial longline bycatch of billfish was 266 metric tons (MT). It's hard to translate that into numbers of fish. Still, we can compare it with the 1989 U.S. recreational catch as reported by NMFS for these billfish species in the gulf, Caribbean and northwest Atlantic, which was140 MT (down from 252 MT the previous year). By NMFS's own estimate, the commercial longline fishery killed and discarded nearly twice as many fish as sport fishermen landed.

Some Recommendations

The bycatch mortality in the tuna longline fisheries is undeniably high, and by any measure, it's intolerable. The objective of U.S. management for Atlantic billfish is to protect marlin and sailfish from commercial exploitation and overharvest. The direct correlation between the indiscriminate harvest of billfish by longlines and recent declines in recreational catches cannot be overlooked.

The government needs a comprehensive program putting enough observers on longline vessels to gain an accurate assessment of the billfish catch. As it is, federal observers are aboard on a limited, piecemeal basis, with no long-term funding. NMFS says it would cost $3 million just to get 20% observer coverage of the yellowfin tuna longline fleet. We believe it would be money well spent, because the benefits would be far-reaching. Such a program would provide valuable information to stock analysts and managers on the whole range of species - yellowfin, bluefin tuna, marlin, swordfish, sharks, and marine mammals - that are caught regularly and in large numbers.

Another area of research can no longer be ignored. The 1988 federal law protecting Atlantic billfish called for NMFS to investigate ways to modify longline gear to minimize the bycatch. There is reportedly money for such research available in the Saltonstall-Kennedy and MARFIN programs, but no research is underway. The agency is not initiating it, but instead seeking outside proposals. We believe it's ultimately the longline industry's responsibility to correct wasteful fishing practices that are threatening common property resources. If the industry needs an incentive to accomplish this, the government has the authority under the Magnuson Act to make them do it.

Of course, all bycatch problems are the product of the use of non-selective fishing gear multiplied by the amount of gear in the water. Another way to reduce bycatch, then, would be to strictly limit the number of longliners operating in U.S. waters.

CATCHING TOMORROW'S FISH YESTERDAY

The failure of government officials to control the harvest of New England groundfish has driven stocks of cod, haddock, flounder and other valuable bottom-dwelling species to historical lows. The Yankee free-for-all that ensued after 1976, when rapacious foreign trawlers were expelled from the new U.S. 200-mile zone and replaced by a rapidly growing domestic fleet, continues to this day. As a consequence, the New England fishing industry, which once stood tallest in the nation, is now on its knees.

The industry, and an important sector of the northeast economy, is suffering from a situation it created, with the complicity of passive fishery managers. To accommodate the short-term economic needs of commercial fishermen, managers have relied entirely on indirect controls on fishing effort, mainly tinkering with mesh sizes in trawl nets and gill nets, which are of questionable effectiveness and virtually unenforceable anyway.

The New England Fishery Management Council and the Secretary of Commerce are both culpable for the fishery's decline; the Council for sticking with a weak regulatory scheme, and the Secretary for not insisting on tougher measures. To mend the damage done to this once productive resource, they now must implement a conservation program that will radically change the fishery for good.

That's the assessment of a special Massachusetts Offshore Groundfish Task Force. Its scalding report, "New England Groundfish in Crisis -- Again," released in December, explains what's happened to the groundfish stocks and why, documents the severe economic cost of poor management (Marine Bulletin No. 52), and presents a laundry list of recommendations for managers to implement, immediately, if the situation is to be turned around.

The situation is urgent, the Task Force says, because of recent strong year-classes of Atlantic cod and yellowtail flounder. "Uncontrolled fishing threatens to squander an opportunity for rebuilding that may not come again for many years," they warn. The Task Force urges the Council and the Secretary to take emergency action to protect the remaining groundfish stocks so there will be something to build on for the future.

The goal of the Task Force's plan is to rebuild the stocks to pre-1960 levels within 5-10 years. To accomplish this, the current harvest will have to be cut in half, through strict quotas for each species of groundfish, area closures, and modification of indiscriminate otter trawls and gill nets to reduce waste of both young and adult fish. Managers are also urged to limit entry into the overcrowded fishery.

Changes must be made in other areas, too, particularly enforcement. Conservation measures, no matter how well intended, are worthless if they can't be enforced. Fishermen working the Georges Bank routinely violate mesh size limits and closures and are rarely apprehended. Regulations, the Task Force says, must be written with enforceability in mind, with close coordination with enforcement agents, using rules that can be enforced at dockside whenever possible.

It remains to be seen whether fishery managers can bite the bullet, given their traditional deferrence to the short-term concerns of their commercial constituents. Or if the industry will appreciate the severity of this crisis and cooperate. The acceptance of the new measures, especially limited entry, won't come easy. Their dilemma is that they face Draconian regulations at a time when they are already struggling. But it's a case of allowing some to swim or all drowning together.

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GIANT STEPS

The bluefin tuna is one of the sea's most spectacular creatures. Its awesome size, strength and speed give it few peers as an ocean predator. A bluefin may live for 30 years and grow to 1,500 pounds or more, roaming the Atlantic from the Gulf of Mexico to the Arctic Circle and swimming in bursts of speed approaching 55 miles an hour. The bluefin is the perfect antidote for anyone who thinks of tuna as something that comes in a can.

Deep sea fishermen have been captivated and challenged by the majestic bluefin for generations. For those who've wrestled with a giant, it's an experience not soon forgotten. But as prospects of encountering a big bluefin grow more remote every year, such memories are dear. Sadly, the bluefin is being hunted into oblivion. These giants of the deep are rapidly disappearing, for the same reason the great elephants are disappearing from the plains of Africa - greed.

The bluefin gets its name from the steel-blue color it shows to fishermen when it breaks the surface of the water. But when it reaches the dock, the fish turns green, the color of money. The meat is a high-priced seafood delicacy, netting fishermen as much as $30 a pound straight off the boat. One huge specimen reportedly sold for $32,000 in the Tokyo fish market, where most commercially-caught bluefin end up.

Money Talks, Reality Walks

Dollar signs have blinded government officials to the severity of the bluefin tuna's plight. The international commission entrusted with conserving wide-ranging tunas in the Atlantic, ICCAT, disregards its own scientists, who advise that catch levels should be only the minimum needed to monitor the health of the fishery. This country's representatives on the commission pretend its meager conservation measures are working, even though U.S. fisheries officials say they're not and call for more stringent measures. Nonetheless, those same officials permit American fishermen to kill many more fish than ICCAT recommends.

The key elements of the management regime recommended by ICCAT, the International Commission for the Conservation of Atlantic Tunas, are an annual catch limit of 2,660 metric tons, divided among the U.S., Canada and Japan, and a prohibition against fishing for bluefin in the Gulf of Mexico, where the remnants of the breeding population concentrate each winter and spring to spawn.

In spite of this program, started back in 1982, the population of bluefin tuna in the western Atlantic is at an all-time low and continues to decline. Of greatest concern is the number of spawning age fish, which now stands at less than 10% of the number twenty years ago. Fishing mortality on adult fish is actually higher now than it was in 1982. Large catches of small and medium size fish prevent the spawning population from rebuilding.

If bluefin were still fetching only $.08 a pound, as they were in 1971, only sportsmen would be chasing the few remaining giants. But because every big fish is a mother lode, fishermen will continue to profit from the fishery, no matter how low the numbers get. Landing a giant bluefin may one day be like winning the lottery; the odds are against it, but the payoff is irresistible.

Conservationists fear that, as the number of adult fish dwindles, we risk reaching a point where the spawning population becomes too small to rejuvenate the species. Where is that point? How close are we to it now? We don't know the answers to these questions, but if we don't do more to protect the bluefin, we may be destined to find out.

Step One: Put Our Own House in Order

The U.S. will have to take the lead in convincing the other members of ICCAT to enact stricter measures to conserve bluefin. That's a tough sell. But before we can make the pitch, much less hope to succeed, we have to demonstrate stronger leadership in the conservation of tuna right here in the States.

The U.S. is currently allotted 1,387 tons of bluefin annually. At the very least, we have an obligation to regulate our domestic fishery so as to keep catches within that limit. But we aren't doing that. Each year, American fishermen *report* killing 25% more bluefin than they're supposed to. The actual overkill is unquestionably much higher, perhaps as much as 100% in excess of our ICCAT quota.

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The unmistakable intent of the 1982 ICCAT agreement was that fishing was to be for "scientific monitoring purposes only," and to this day, the commission assiduously describes the 2,660 ton quota as a "monitoring level" (never mind that it's several times the level needed to monitor the fishery). But U.S. officials treat it as a target level for fishing effort, to be divided among user groups based on economic, not biological, considerations. The agreement also intended that the Gulf of Mexico would be a sanctuary where spawning bluefin would be protected from excessive exploitation. Instead, the U.S. permits what it calls a "legitimate bycatch fishery" that kills thousands of giants each year.

The National Marine Fisheries Service reports that the gulf tuna and swordfish longline fishery discarded 249 tons of dead bluefin in 1989. Yet only the fish landed, the 131 tons the longline fleet is allowed to keep as bycatch, are counted toward the annual quota. But what matters is the total number of fish killed. Using NMFS data, the longline fleet killed 380 tons, nearly triple its limit.

Furthermore, both the landings and discard totals are under-reported. Given the absence of observers in the huge gulf fleet (several hundred boats) and recent accounts of routine violations of trip limits and rampant illegal trade in bluefin, it's reasonable to assume the killing of giants in the Gulf of Mexico may be several times what is reported.

The National Coalition for Marine Conservation (NCMC) has asked NMFS, which is currently revising regulations for the U.S. fishery, to enact the following measures to reduce bluefin mortality:

- Prohibit U.S. vessels from catching or possessing bluefin tuna in the Gulf of Mexico.
- Close U.S. waters in the gulf to longlining from December through May, when the giants concentrate in the gulf.
- Deduct the weight of bluefin discarded in the bycatch fishery from the following year's total allowable catch.
- Limit rod and reel fishermen to one fish landed per day.
- Investigate fishery-independent methods of monitoring bluefin abundance.

These measures are absolutely necessary both to bring the U.S. into compliance with the letter and the spirit of the current ICCAT program, and to enhance the U.S. position in favor of stronger international action.

Step Two: A Full-Court Press at ICCAT

At the 1989 ICCAT session in Madrid, the U.S. delegation raised the issue of a lower catch limit for bluefin in order to hasten the recovery. The commission voted to extend the current measures for two years, but agreed to take up the U.S. request in November 1991, if the number of medium and large fish isn't rebounding. It isn't.

The official U.S. position this fall must be that the current program is a demonstrable failure. The U.S. delegation should make the case for a quota based on biology, not economics. NMFS has recommended that the U.S. seek a quota "as close to zero as possible," allowing only what is necessary to monitor the fishery. This tracks with the original 1982 recommendation of scientists advising ICCAT.

In the past, the U.S. commissioners have gone to ICCAT with no clear notion of what they want to achieve, if anything. That doesn't cut it in an international forum. The commissioners must begin now, working closely with NMFS, to prepare the U.S. position, the scientific presentation to support it, and a strategy for achieving our objectives at the negotiating table.

In the 15 years of U.S. participation, ICCAT has managed only one fish, the bluefin tuna, and has almost nothing to show for it. Patience is wearing thin. If the U.S. returns from the 1991 ICCAT session without a substantial change to improve the prospects for bluefin, conservationists will have no choice but to conclude that ICCAT's only value is as an international forum for sharing scienfic information, and that we must look elsewhere for management.

Present U.S. policy is to adhere strictly to ICCAT quotas. That policy will have to be changed to permit the U.S. to implement a more effective conservation program of its own. Otherwise, there could be but one option left -- managing the fishery as a "threatened species" under the Endangered Species Act. No one wants this. The NCMC certainly doesn't. It would be a profoundly sad commentary on the failure of the fishery management process, a process we most emphatically want to see succeed. But in the final analysis, it's the resource, not the process, that we're trying to save.

DEATH BY A THOUSAND CUTS

Wetlands Laws Aren't Tough Enough

Coastal wetlands, the collective term for salt marshes, estuaries and other tidal areas, are extremely valuable natural resources providing, among other things, essential habitat for marine fish and wildlife. About three-fourths of the fish and shellfish caught at sea depend on wetlands to survive, using them primarily as nursery and spawning grounds but also for food and refuge from predators. The National Marine Fisheries Service says the economic value of fish dependent on wetlands is about $14 billion a year.

When we lose wetlands we're losing our fisheries. Yet they're being drained and filled for development, dredged and channeled, polluted by chemical discharges and runoff from cities and farms. Losses are most acute in Louisiana, California, Florida, Texas and New Jersey. NMFS estimates that wetland losses are costing the U.S. fishing industry $208 million a year.

The NCMC's March Symposium on Coastal Fish Habitat Conservation concluded that the loss of wetlands and other critical fish habitats is the greatest long-term threat to the future of our fisheries. (Overfishing remains the most immediate.) We identified substantial holes in the protective web that's supposed to keep wetland resources from slipping away.

Existing laws have succeeded in modifying and sometimes blocking projects threatening substantial areas of wetlands. But they're not stopping the chronic loss of tens of thousands of acres yearly. Wetlands are dying a death by a thousand cuts, warned national fisheries chief William Fox in his keynote address to the Symposium. Clearly, this makes the President's avowed goal of no-net-loss of wetlands impossible.

The Clean Water Act is the only federal statute directly regulating development in wetlands. The current rate of loss

says it's not up to the task. The Clean Water Act is being reauthorized in Congress this year, and conservationists are supporting amendments to strengthen Section 404, the Act's wetlands protection program.

Section 404 permits covering activities in wetlands are limited to the discharge of dredge or fill material. But this accounts for only 20% of the activities adversely affecting wetlands. Farming and forestry practices, for instance, do not require a permit, although they are a major cause of wetlands pollution and degradation. The scope of the 404 program should be broadened to cover all activities that could degrade productive wetlands.

The U.S. Army Corps of Engineers issues "general permits" exempting certain types of activities from the usual permitting process. One of these allows the filling of wetlands up to 10 acres without review. The general permit process must be reformed so that all permits comply with Section 404 guidelines, as well as with the national no-net-loss goal. To bolster that goal, the Clean Water Act should be amended to state that no-net-loss of wetlands is the short-term goal of the Sec. 404 program and that net restoration of lost wetlands is the long-term objective.

Attacks on the Act are already underway, most challenging the inclusion of certain types of "low quality" wetlands within the EPA's Wetlands Manual, which defines what areas are subject to regulation under the 404 program. Admittedly, the manual should be scrutinized, but the delineation of what is a wetland should be based on biology, not politics. The fact that wetlands loss continues at an alarming rate, while dependent fisheries decline, should be proof enough that, instead of being too tough, the laws protecting wetlands aren't tough enough.

Note: Copies of "Stemming the Tide: Conservation of Coastal Fish Habitat In the United States," the results and recommendations of the March symposium, are available from the NCMC on request.

NCMC BACKS NEW SHARK PLAN

Proposal Would Cut Landings, Ban Finning

Sharks are apex predators, sitting atop the ocean food chain where they serve a vital ecological function. They evolved with no natural enemies, and as a result, most species don't bear young until late in life and produce very few when they do. But now that record numbers of sharks are falling prey to man, their slow growth and reproductive rate are a major liability. Too much fishing pressure can quickly wipe them out.

Pressure on shark populations has risen astronomically in recent years, for three reasons: the international trade in shark fins; consumer demand for shark steaks, cheaper and more available than tuna and swordfish; and the growing popularity of shark tournaments among recreational fishermen.

The fins of certain species are used in the Orient to make shark fin soup. In the commercial tuna fisheries, where sharks are a bycatch, fishermen remove the fins and discard the mutilated fish at sea. Those suffering most from the fin trade are the blue, hammerhead, blacktip and dusky sharks.

Longlines and gill nets are used to catch sharks for the meat market. The decline in other offshore species, swordfish in particular, has made sharks a more attractive target. U.S. commercial landings were an estimated 7,000 metric tons in 1990, 20 times the amount landed a decade ago.

Recreational shark fishing also boomed during the 1980s. The number of tournaments has skyrocketed, playing on the mystique that goes with taking on, and conquering, "Jaws."

In 1989, the National Marine Fisheries Service announced that shark populations in the Atlantic are being so overfished that fishing would have to be cut back severely. A draft conservation plan was introduced in October of that year, but was withdrawn for revision following 22 public hearings. Finally, after being extensively rewritten, the shark plan has surfaced again.

The new Secretarial Shark Fishery Management Plan will bring 39 species of Atlantic sharks under federal management. They are divided into three categories - large coastal, small coastal and pelagic - with quotas and bag limits tailored to each. The regulated fishing season would run from July to June each year. The key features of the plan are:

- a prohibition against the removal of fins from sharks at sea;
- a commercial quota of 3,050 metric tons (6.7 million pounds) annually, or about a 50% cut from the 1990 landings;
- a limit of two "large coastal" and "pelagic" sharks and five "small coastal" sharks per boat per trip for anglers;
- no sale of recreational catch; and
- a minimum size limit of 66 inches fork length for mako sharks in both the commercial and recreational fisheries.

The NCMC, which sounded the alarm on the impending threat to sharks in 1987 ("Marine Bulletin" No. 24) and has been critical of the slow federal response, strongly endorses approval of the NMFS plan. If it's implemented on schedule, the commercial fishery for large coastal species, the most threatened, would be shut down completely on October 1st for the remainder of the fishing year. Finning would be outlawed effective the same day.

Still, there is one serious flaw in the plan that will need to be corrected as soon as possible. The catch limits will reduce landings, but a substantial number of sharks are killed incidentally in other fisheries. The plan contains no proposals for reducing this source of mortality. Thousands of large coastal and pelagic sharks are hooked routinely on longlines meant for other species. These sharks will continue to die even when the directed fishery is closed, because longlines are not species-selective and many of the sharks they hook are already dead when the lines are retrieved. Also, the shrimp trawl fisheries capture significant numbers of sharks. According to the latest figures available from NMFS, the Gulf of Mexico shrimp fishery alone catches 5.6 million pounds of sharks. That's almost equal to the proposed commercial quota.

The fact that the shark plan doesn't properly address bycatch waste is no reason to hold up the plan any longer - it's already been delayed two years, to the serious detriment of the shark resource. It should be approved and implemented as quickly as possible. Nonetheless, the plan should be amended to include measures to reduce bycatch so that total mortality is brought down to a level that will allow sharks to survive as the ocean's dominant predator.

TRAWLING TAKES ITS TOLL

New Shrimp Bycatch Numbers are Numbing

The government has released a new estimate of the damage to finfish populations caused by shrimping. The fleet of 6,000 shrimp trawlers dragging federal waters of the Gulf of Mexico caught 9.6 billion fish in 1989, according to the National Marine Fisheries Service. This total dwarfs previous estimates and further underscores the urgency of efforts by conservationists to curb incidental catch by modifying shrimp trawls with finfish exclusion devices.

At the top of the bycatch list is the Atlantic croaker, with an astonishing 5.6 billion fish caught by shrimpers in one year. The table to the right lists the most prevalent bycatch species. (Around 115 species of finfish are caught by shrimpers.) Of the species listed, king and Spanish mackerel (gulf stock), red drum, red snapper and sharks are considered severely overexploited. Nearly all the finfish caught in shrimp nets, mostly juveniles, are killed. Most if not all of the bycatch is sorted and shoveled overboard.

An estimated 20 million red snapper are taken in shrimping operations, according to NMFS. The decline of red snapper in the gulf brought the shrimp finfish bycatch issue to the fore last year. Biologists advising the Gulf of Mexico Fishery Management Council determined that the severely depleted snapper population needed protection from overfishing. They identified shrimp trawling as the number one culprit, killing an estimated 12 million young snapper each year (based on a previous NMFS study), and advised that the bycatch would have to be cut by at least half if the fishery is to recover within the next ten years.

The new figures on bycatch are the first compiled by NMFS since 1987. That earlier study had come under fire from the industry in the wake of snapper management proposals. Shrimpers claimed the numbers, extrapolated from random samples, were inflated. The new study, however, puts the kibosh on that notion. The bycatch totals are much higher, several times higher for some species.

Though the latest numbers confirm the magnitude of the bycatch problem in the shrimp trawl fishery and its devastating impact on the fishery resources of the gulf, we can only look forward to more studies, not action. Last fall Congress, bending to pressure from the shrimp industry, amended the Magnuson Fishery Conservation and Management Act to forbid managers from regulating the shrimp bycatch in any way until 1994, when a 3-year research program is to be completed. This program will assess the status of the stocks of species taken by trawls in significant numbers, collect and evaluate data on the nature and extent of the mortality caused by shrimping, and evaluate other sources of fishing mortality. In addition, government and industry are to work together to design technological devices to reduce bycatch.

The Congressionally-mandated study was primarily a way of justifying a delay in management and heading off proposals that shrimpers use the NMFS TED, a turtle excluder that can reduce fish catch by more than 50%. Meanwhile, the Gulf Council has revised its red snapper regulations in accordance with the new law and proposes to lower the bycatch of juvenile red snapper by 50% beginning in 1994. But with the estimate of snapper bycatch now 20 million fish, instead of 12 million, the percentage reduction in shrimp trawl bycatch should be increased from 50% to 70% to achieve the same result.

GULF SHRIMP TRAWL BYCATCH

Atlantic croaker	5.6 billion fish
Sea trout	1.3 billion
Longspine porgy	1.3 billion
Spot	680 million
Butterfish	400 million
Cutlassfish	130 million
Hardhead catfish	112 million
Bumper	110 million
Red snapper	20 million
Spanish mackerel	3.2 million
King mackerel	1.3 million
Vermilion snapper	900,000
Red drum	200,000
Sharks	5.6 million pounds

The National Coalition for Marine Conservation will be working to keep managers to the timetable they've set, while monitoring the progress of and participating in research efforts until then. It is our position that bycatch mortality of red snapper, or any other species for that matter, must be counted toward the total level of fishing mortality allowed under a fishery management plan and that because it is waste, managers must make eliminating bycatch a top priority.

GOOD NEWS FOR A CHANGE

Council Raises Mackerel Quotas

The South Atlantic Fishery Management Council met in April to give commercial and recreational fishermen more fish, a welcome change from the usual task of taking them away. Scientists from the National Marine Fisheries Service reported to the Council that king mackerel are healthy and Spanish mackerel continue to show improvement. Years of strict management in state and federal waters are evidently paying off and fishermen can now begin to cash the dividends.

The Council voted to increase allocations, but will maintain a conservative management approach to make sure the upward trend continues. The total allowable catch will increase 2 million pounds for both kings and Spanish, to 10.3 million pounds and 7 million pounds respectively. The recreational bag limit for Spanish mackerel will stay at 10 fish per day from New York to Georgia and 4 fish in Florida. But the daily limit on king mackerel will increase to 5 fish throughout the plan's jurisdiction, from New York to Florida.

Management of the southeast mackerel fisheries is a success story because managers moved quickly to check fishing pressure. Forewarned by the collapse of the Gulf of Mexico mackerel fisheries, they implemented measures to halt overfishing seven years ago. In addition, the South Atlantic Council was able to regulate the net fisheries, something the Gulf Council was not allowed to do until it was too late.

MANAGING ACROSS BORDERS

Migrating Fish Pose Unique Problems

In the early 1980s, when the fate of striped bass hinged on twelve east coast states dropping their differences and cooperating on an interstate management plan, the prospects for recovery were not very good. Although the striper was widely recognized to be in very deep trouble, implementing a consistent fishing regimen in every state from North Carolina to Maine was a daunting prospect. One or two recalcitrant states could render the effort to manage a species moving freely the length of the Atlantic coast ineffective.

But today, the striped bass decline is being turned around, largely because of agreement by all states involved to bite the bullet. Agreement would not have come, however, were it not for Congressional intervention in the form of the Atlantic Striped Bass Conservation Act. This 1984 federal law, still in force, imposes a moratorium on catching striped bass in the waters of any state not in compliance with interstate conservation objectives.

The history of striped bass management provides us with a lesson and a model. The striper is not the only fish that regularly migrates through the waters of adjoining states and back and forth between state and federal waters. Bluefish, weakfish, summer flounder and red drum, to name just a few, have no regard for state boundaries. Conservation measures in one state can be nullified by inaction in another. Like the striped bass, these fish would also benefit greatly from consistent management throughout their range.

Unfortunately, the striped bass is the only coastal migrant which is the object of a federal program to assure interstate cooperation. As managers develop plans for other species, the need for a comprehensive program covering all interjurisdictional fisheries, similar to that covering striped bass, is imperative.

Bluefish Plan in Jeopardy

In 1990 the Atlantic States Marine Fisheries Commission (ASMFC) and the Mid-Atlantic Fishery Management Council jointly approved a coastwide plan to conserve bluefish, an abundant species which, during the absence of the striped bass, replaced it as the premier inshore fish on the Atlantic seaboard. The state/federal plan restricts sport fishermen to 10 fish per day and limits commercial fishermen to no more than 20% of the overall catch.

The plan is meant to prevent overfishing and keep bluefish populations healthy, but that goal is being sabotaged by New Jersey's refusal to join in. A sizable share of the U.S. bluefish catch is landed in New Jersey. Without that state's cooperation, not only is the effectiveness of the bluefish plan undermined, but so are the prospects for interjurisdictional plans now in the works for summer flounder (also known as fluke) and weakfish. Both these species have declined in recent years due to overfishing.

The National Marine Fisheries Service has warned the Mid-Atlantic Council that it may be forced to withdraw the bluefish management plan if New Jersey does not enact complementary regulations, and may withhold approval of future interstate plans if there is continued lack of cooperation on the part of state managers.

The Need for New Legislation

We cannot afford to wait for each fishery to reach rock bottom, like the striped bass did, before implementing a program that will protect it throughout its range. Nor can we treat each fishery separately, one at a time. What we need is a comprehensive federal law, modeled after the Atlantic Striped Bass Conservation Act, that will provide uniform management to all interjurisdictional fisheries.

There are three possible ways to do this. First, the Striped Bass Act might be expanded to include other interjurisdictional fisheries requiring management. The Act is up for reauthorization this year and sources in the House Fisheries Subcommittee, which will hold hearings on the striped bass bill in May, say there is interest in applying it to other inshore fish.

Or, the Magnuson Fishery Conservation and Management Act might be amended to give force to plans, such as the bluefish plan, developed jointly by the eight Regional Fishery Management Councils and three Interstate Commissions (Atlantic, Gulf and Pacific). The Magnuson Act is not scheduled for reauthorization until 1993, however, and there is no eagerness on the part of Congress to open that can of worms again any sooner than they have to.

A third option would be to enact brand new legislation, a comprehensive "Interjurisdictional Fisheries Management Act," that would supplant the Striped Bass Act. But whether it's a separate piece of law, or part of existing law, the framework for interjurisdictional management should look something like this:

The legislation would pertain to management of any population of fish that is caught in the territorial waters (0-3 miles from shore) of two or more states and the federal zone (3-200 miles offshore). Fishery Management Plans would be prepared by the Regional Fishery Management Councils, in conjuction with the Interstate Commission, in whose jurisdiction the fishery occurs.

Each Council would subsequently determine whether the coastal states in its area of responsibility have adopted regulatory measures necessary to implement the plan and if these measures are being adequately enforced. The Council would notify the Secretary of Commerce of states that do not comply.

The Secretary would then have 60 days to determine if the failure to implement or enforce the plan adversely affects its objectives. If so, the Secretary would be authorized to declare a moratorium on fishing for all species of fish under the plan within the recalcitrant state's boundaries. The moratorium would apply to commercial and recreational fishing, as well as to incidental harvests in other fisheries. It would remain in effect until such time as the Council determines that appropriate remedial action has been taken.

There is broad support for coordinating and enforcing state/federal management of interjurisdictional fisheries. But predictably, some will claim it tramples on state's rights. Not so. Under the Striped Bass Act and the proposal outlined above, the states, through their representation on the Interstate Commissions and Regional Councils, would participate in devising management plans. The purpose of federal legislation is to ensure that the plans agreed upon are implemented.

SPECIES DECEASES

Playing Politics With the Nation's Fisheries

With plans now getting underway to clamp down on fishing for summer flounder and weakfish, the latest casualties of overfishing, a long list gets even longer. One out of three species of fish found off our shores have suffered population declines since the 1970s. Fifteen of these are currently designated severely overfished by the U.S. government. And it may be even worse than we know. Information on population trends for another third of our ocean fisheries is not sufficient to accurately assess their status.

The Magnuson Fishery Conservation and Management Act of 1976 assigns the Regional Fishery Management Councils and the National Marine Fisheries Service the job of preventing overfishing. But they rarely do. Instead, fisheries are subjected to uncontrolled exploitation until they exhibit sharp declines. Then, and only then, is action taken. To minimize the economic and political costs of management, the recovery is stretched out over many years, perpetuating an anemic fishery, producing far below its biological potential.

Study after blue-ribbon study has pointed to the intrusion of politics into the fishery management process as the key reason for this paralysis. The Councils and NMFS have each taken their turns as whipping boys for this sorry state of affairs, and justifiably so. But the political buck ultimately stops with the U.S. Congress, which drafted the Magnuson Act. It's a progressive and workable law, but laws only clutter the national landscape if those who make them don't stand behind those who are charged with implementing them.

Under the Magnuson Act, the Councils draft fishery management plans and NMFS reviews and approves them, if they meet standards set out in the Act. NMFS also has authority to develop its own plan if the Councils fail to produce an adequate one. NMFS, therefore, is ultimately accountable if declines occur. Even so, Congress has the power to provide NMFS as well as the Councils with the fiscal and political support they need to perform their jobs agressively, or to intervene and make that job difficult if not impossible.

Unfortunately, as the number of troubled fisheries mounts and with it the need to limit fishing effort, Congress is choosing to abort, rather than support, the management process, for blatantly political reasons. The most egregious example of this is the law passed last year preventing managers from controlling shrimp trawl bycatch for a period of three years. When the head of NMFS persisted in exploring ways to resolve the bycatch problem - one of the most serious resource problems we face - a Congressional aide warned him: "We didn't want you to do anything in those three years. If (NMFS) really wants its hands tied, we'll tie them next time."

This extraordinary remark not only confirms Congress' intent to micro-manage fisheries, but takes things to another dimension, where political interference is no longer implicit but explicit. The message to managers is clear - dare to cross an industry with powerful friends in Congress, and expect to have your hands tied.

Appeals from constituents to their representatives for redress of grievances is a legitimate part of the democratic system. So it is understood that fishermen, pleading hardship, will seek relief from their Congressmen. Nevertheless, Congress must decide whether they are serious about their mandate to protect the nation's fisheries, for all its citizens, or whether the economic concerns of their most vocal and influential constituents will prevail. They can't have it both ways.

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THE HIDDEN HARVEST

Discarded Bycatch Leaves Conservation Goals Dead in the Water

In some states, Texas for instance, it's illegal to land a fish and leave it to die without the intent of using it for consumption or bait. Such laws are meant to discourage waste. But without laws to curb indiscriminate fishing practices at sea, the unnecessary slaughter of fish, mammals and other marine life will continue to work against our best efforts to conserve dwindling ocean resources.

Each year, according to one estimate, up to 20 billion pounds of sea life is caught and then thrown away by the world's fishermen (Audubon Wildlife Report, 1990). That's about double the annual U.S. commercial and recreational fish landings combined. Our own shrimp fleet puts over 10 billion finfish on the deck before discarding them. On average, shrimpers kill 10 pounds of fish to catch one pound of shrimp.

Bycatch waste is a problem in every major fishery, and unquestionably one of the most critical marine conservation issues we'll face in the coming years. A national workshop on bycatch sponsored by the National Marine Fisheries Service in January 1990 declared it "among the most difficult fishery management challenges." The inability to control bycatch and discards, the workshop participants concluded, is keeping us from attaining the conservation and economic goals of fishery managers and the fishing industry. And yet, they noted with concern, there is a "lack of national commitment to finding methods to reduce bycatch." It's time for that to change.

Wasteful "Efficiency": Generally speaking, bycatch is the incidental capture of fish or other aquatic animals not targeted by fishermen. Unwanted species, under-size fish, fish of poor quality, and protected species are routinely discarded. These animals are usually dead or near death when thrown back into the sea.

At the root of the problem is the widespread use of fishing gear that does not discriminate between target and non-target fish. Otter trawls (the kind used to net shrimp and groundfish), pelagic longlines, drift entanglement nets and other passive gill nets, and reef fish traps are examples of non-selective gear with a high rate of incidental catch. In some fisheries the waste exceeds the amount of fish brought to market (National Fish and Wildlife Foundation, 1990).

Modern fishing methods were developed to be efficient in producing high yields with a minimum of effort and expense. Until very recently, the capture of non-target fish was treated as an unavoidable consequence of commercial fishing; maybe a nuisance, but not a conservation problem. Fishery managers made little effort to measure the extent of the bycatch and virtually no effort to control it.

But today, such neglect is inexcusable. Discarded bycatch accounts for a significant source of mortality for many fish populations, stocks that are at historically low levels, and for some species, it's a direct threat to their survival. At a time of rising competition for diminishing resources, to feed and provide recreation for a growing world population, we can ill afford the thoughtless luxury of wasting billions of fish in the name of some cockeyed notion of "efficiency."

Lawmakers Take Note: Federal laws to protect marine mammals and endangered species are quite specific about regulating bycatch and, in some instances, have led to strong measures to control purse seines, drift nets and shrimp trawls. But the U.S. has no consistent national policy for dealing with the bycatch and waste of fish. Regulations to control fish bycatch, when they're considered at all, come on a case-by-case basis, usually in response to public pressure.

Any type of fishing gear, no matter how indiscriminate, is permitted in any fishery, unless or until it is expressly forbidden. The burden of proof is on the managers to demonstrate a serious threat, and that can be difficult, especially when confronting powerful fishing interests already feeling victimized by too many regulations, over-capitalization and competition from imports. For one thing, the magnitude of the bycatch for most fisheries is not well documented, and much of what is known comes from reports by the fishermen themselves. On top of that, management authority to regulate bycatch directly is still ambiguous.

Until last year, the Magnuson Fishery Conservation and Management Act, the 1976 federal law governing fishing activities offshore, contained only a single, unnoteworthy reference to "incidental catch." But because conservationists pressed the issue with Congress, the Fishery Conservation Amendments of 1990 amended the law to address bycatch for the first time.

Actually, the Magnuson Act has always contained the tools needed to regulate non-selective fishing gear. The Regional Fishery Management Councils and the National Marine Fisheries Service (NMFS) have broad authority to "prohibit, limit, condition or require the use" of certain types of gear to achieve management objectives. But this authority is usually applied to managing target, not non-target, species.

Even then, proposals to restrict gear are often overruled by what many managers perceive as their mandate, under the Magnuson Act's National Standards (Section 301), to "promote efficiency" in fishing operations. Efficiency isn't defined, but the prevailing interpretation has been the narrow economic one, i.e., efficiency equals cost-effectiveness.

The 1990 Amendments feature several new provisions aimed specifically at resolving the bycatch problem. For starters, the Act now "encourages development of practical measures that avoid unnecessary waste of fish." Beyond that, however, the substantive changes in the law mostly pertain to research and do not provide a directive to minimize bycatch or enhance the means with which to do it. In fact, one new amendment exempts the shrimp fishery, the most indiscriminate of them all, from any bycatch regulations for at least three years.

Still, the research components of the amended Magnuson Act are important and long overdue. NMFS is required to develop a 5-year Strategic Plan for Fisheries Research, to include "conservation engineering," i.e., "the development of new gear technology and fishing techniques to minimize the harvest of non-target species and promote efficient harvest of target species." (NMFS previewed its new strategy on June 26, and bycatch research was indeed accorded high priority, but without specifics.) Note that efficiency, in this new context, clearly refers to conservation, not exploitation.

Basic Changes Needed: The National Coalition for Marine Conservation believes that reducing bycatch waste should be among the highest priorities of fishery management. Problems and solutions differ from fishery to fishery, as the seven case studies featured in this special issue demonstrate. Nonetheless, a preponderance of non-selective fishing gear, poor data on bycatch and inadequate responses from managers are common to all, and point to fundamental changes that must be made in the way this country manages its marine fisheries. The NCMC recommends we start with the following changes:

1) The Magnuson Act should be amended to include language *requiring* that conservation and management measures reduce or eliminate bycatch waste. All Fishery Management Plans should designate allowable gear, on the basis of its impact on non-target species; assess bycatch in each fishery; the impact of each fishery on bycatch species; and contain specific measures to minimize it.

2) Fishery Management Plans should be required to count the anticipated bycatch mortality (based on most recent figures) of a certain species towards the quotas or allocations established for that species.

3) A comprehensive at-sea observer program should be initiated by NMFS to monitor bycatch and discards in all fisheries using non-selective gear. The cost should be borne by the vessels participating in the monitored fishery, e.g., through a value added tax on landings.

4) The Magnuson Act should provide economic incentives to encourage fishermen to use selective methods of fishing. Limited entry schemes, for instance, such as Individual Transferable Quotas or ITQs, would remove the need to simply catch as many fish as possible, thereby allowing for the use of more selective gear without fear of lost revenues.

SHARKS STILL UNDER ATTACK

Reduce Mortality, Not Just Landings

More sharks are killed in fishing operations directed at other species than are killed by all the fishermen trying to catch sharks, for food or recreation, combined. According to the Draft Secretarial Shark Fishery Management Plan for the Atlantic Ocean (April 1991), annual U.S. shark landings for the period 1979-1988 averaged over 6,000 metric tons. Estimates of yearly discards during the same period averaged almost 16,000 tons. Although discard rates have probably been lower in recent years - shark meat is more marketable and live-release is catching on among sportsmen - experts still believe the number of sharks discarded dead vastly exceeds the number landed.

Longlining for tuna and swordfish and trawling for shrimp are the two main culprits. NMFS admits that, although total shark throwbacks are known to be "extensive," "accurate information on amounts and species discarded cannot be derived without onboard observers." NMFS can be no more specific than to say "large numbers" of sharks are caught incidentally by the longline fleet: blue, porbeagle and hammerhead sharks, among others, in the tuna fisheries; swordfish longlines hook mako and thresher as well as dusky, bignose, silky and night sharks. However, one independent study of the longline fishery off the east coast of Florida reported an annual shark bycatch of 4.8 million pounds (Berkeley and Campos, 1988).

Trawling for shrimp kills an unfathomable number of small coastal sharks and the young of larger species, because much shrimping is done in shallow water nursery areas. NMFS recently extrapolated data from a limited number of observer trips to estimate that 5.6 million pounds of small and juvenile sharks are caught and discarded in the Gulf of Mexico's shrimp trawl fishery each year.

Bycatch Left Unchecked: Many species of shark, especially the large coastal and pelagic varieties, are considered overfished and in danger of stock collapse from excessive fishing pressure. Yet the Draft Shark Fishery Management Plan, by not adequately addressing bycatch mortality, allows total shark mortality to remain at an historically high level. Although it cuts landings by about half, the plan does little to directly reduce bycatch.

NMFS suggests that the use of TEDs by southeastern shrimpers may cut shark kills substantially. This is wishful thinking, unsupported by the facts. TEDs are not used at all times in all areas by all shrimpers, and the models most widely used are not the most effective in keeping fish out of the nets.

Forbidding longline fishermen from killing incidentally-caught sharks for their fins, or requiring them to release all sharks after the annual commercial quota is reached, does not reduce the amount of longline gear in the water, actively

fishing for other species, and will most likely allow the number of sharks discarded to remain higher than the number brought to market by shark fishermen. Finally, the proposed rules could actually increase the number of discards in the longline fisheries. Limited in what they can land - but no more discriminate in what they catch - longliners may discard all but the highest priced species of sharks.

Enforce Cleaner Fishing: The key to shark conservation, as with any living marine resource, is controlling the number killed, not just the number brought to the dock. To do this in the shark fishery, managers have but two choices: 1) regulate longlining and shrimp trawling in a way that will substantially reduce bycatch; or 2) prohibit any directed commercial fishing for sharks, making it a bycatch-only fishery, and closing the longline and shrimp fisheries when the year's quota is reached. Since the latter is not feasible, management should attempt the former:

- Require that all shrimp trawlers employ an excluder device demonstrated to reduce finfish bycatch by at least 50%. The requirement should take effect July 1, 1994, the start of the first shark fishing season after the current moratorium on shrimp regulations expires.
- Initiate a longline observer program to produce an accurate assessment of the bycatch and discard rate. The bycatch should be applied against the total allowable landings (quota) for the commercial sector.
- Undertake a research program to investigate modifications or alternatives to longlining - both the gear and the way it's used - to reduce the incidental hooking of non-target species in the pelagic fisheries.
- Reduce discard of finned sharks by requiring that fins and carcass remain attached beyond the point of landing to the point where the shark is first presented for sale to a permitted dealer purchasing either the fins, the carcass or both. By bringing the carcass into the market place, it is less likely to be discarded as worthless.

SWORDFISH REGS NEED SHARPENING

Size Limits Don't Limit the Kill

Emergency regulations to conserve Atlantic swordfish, effective June 12, are based on the 1990 recommendations of the International Commission for the Conservation of Atlantic Tunas. The ICCAT program relies heavily on a minimum size limit to ease fishing mortality on small swordfish and eventually rebuild the spawning stock, down to only a third of what it was in 1978. The problem is, all the available evidence suggests that a size limit won't work.

Imposing a minimum size limit on a fishery using gear that is not size-selective, in this case longlines, is not conservation. Requiring the release of fish under 31 inches or 41 pounds (except for a tolerance of 15% of total catch per vessel) will decrease landings of young fish, but provides no assurance that mortality will be reduced.

The U.S. commercial quota was reduced to 6.9 million pounds for the 1991-92 season. According to NMFS, that's a 35% cut from 1988 landings. The widely-supported plan developed by the South Atlantic Fishery Management Council, shelved last fall when management authority was transferred to the Secretary of Commerce, targeted a 38% reduction. On the surface, the two plans may appear equivalent, but because the emergency plan relies on a minimum size limit, they're not.

Repeatedly Rejected: Using a minimum size limit to cut fishing pressure was dismissed by the South Atlantic Council on the grounds that it would not prevent continued high mortality of young fish. Fish below the minimum size, 1 and 2 year olds, will continue to be hooked on longlines and most of those that do will die. Observers recorded 76% of swordfish under 50 pounds dead when brought alongside the vessel, according to Council documents (DiCosimo and Berkeley, May 1989).

The rejection of a minimum size limit as a conservation measure was seconded by the independent Swordfish Review Panel charged in 1990 with considering the biological soundness of the Council's plan: "We have no evidence at hand which indicates that substantial reductions in the proportions of small swordfish in the catch can be achieved by altered fishing tactics. We also recognize that virtually all small (i.e., below some accepted minimum size) fish are dead or would die upon release from a longline catch. This mortality would not permit effective control of growth overfishing." (Swordfish Review Panel, July 1990)

NMFS isn't very confident of reducing the killing of juveniles with a minimum size limit, either. "The realized 1991 mortality rates on small fish could be substantially higher [than expected]," says NMFS, "depending on discard mortality rates and fleet behavioral practices." Nevertheless, ICCAT did adopt a minimum size, in large part because it's favored by the fishing industry over a more severe quota. The U.S. was obliged to implement it in accordance with a 1990 amendment to the Atlantic Tunas Convention Act, requiring the U.S. to abide by the letter of ICCAT recommendations.

Proponents of a minimum size argue that it will cause longline vessels to direct fishing away from areas where they catch a lot of small fish. But in a seriously depleted fishery, where the average size of swordfish landed dropped from 115 pounds in 1978 to only 60 pounds in 1988 (and has presumably gotten smaller since), that may not be possible. Also, to offset the discard of fish under 41 pounds, which reportedly make up about half of all swordfish caught by U.S. fishermen, effort might have to be increased, resulting in not only a continued high catch and discard of young swordfish, but greater mortality overall.

Reduce Effort Further: Fishermen using drift entanglement nets claim their gear is more size-selective than longlines. The jury's not in on that yet. But other problems caused by drift nets are well known, and these argue strongly against their use. Data from observers aboard net boats in 1989 show an alarmingly high bycatch of tuna, sharks, dolphin and whales. The incidence of marine mammal entanglements per mile of net is significantly higher than occurs in the notorious Asian fleets of the North Pacific.

The Emergency Swordfish Plan, which stays in force for six months after which NMFS will develop permanent regulations, allows a small quota for drift nets. The fishery reached that quota on July 9 and was shut down for the duration of the emergency period. The NCMC is urging that drift nets be permanently banned from the swordfish fishery when the final plan is implemented on December 10. We

would also like to see that plan contain:

• A lower commecial swordfish quota as the best way to achieve the target reductions in mortality, small fish included, with discarded fish counted toward the quota using onboard observers.

• Prohibit night time longlining after the year's quota is reached. Tuna fishermen, who set their 20-plus mile longlines over night as well as during the day, have a higher incidence of hooking night-feeding swordfish.

• Revive the traditional harpoon fishery, the most selective fishery of all, as the preferred method of commercial swordfishing.

THE NEW ENGLAND TRAWL FISHERY

Indirect Controls Can't Stop Overfishing

Catches in the northeast mixed fishery for cod, haddock and flounder are the lowest ever, with some species yielding less than a tenth of their potential. Although catch rates have declined steadily since 1978, there are no direct limits on fishing effort - either the number of fishermen or the number of fish they can harvest. Instead, the Mutli-Species, or Groundfish, Fishery Management Plan employs only indirect controls, mainly minimum mesh sizes in trawl nets.

Otter trawls are the predominant gear in the New England fishery, with a small catch by gill nets, longlines and rod and reel. These stern trawls, like their cousins in the shrimp fishery, are extremely unselective. As much as 70% of the catch may be discarded. Discard rates for yellowtail flounder and cod are 90% and there is poor survivability for discarded juveniles (Massachusetts Offshore Groundfish Task Force, December 1990).

In 1963, cod-like fishes (cod, hakes, haddock, redfish) made up 55% of the trawl catch, with undesirable bycatch species such as spiny dogfish and skates only 24%. In 1986, the undesirables accounted for 74% of the catch, while fishes from the cod family were down to 11%. This not only shows that the non-selectivity of trawl gear worsens as abundance declines, but also warns of radical changes in the ecosystem of Georges Bank, one of the most productive in the world. Dogfish, for one, have proliferated as cod disappear, and could keep groundfish stocks from coming back.

No Escape: Nine species of groundfish are regulated by minimum size limits. Minimum sizes are designed to allow juvenile fish to escape and grow to reproductive age. This is especially important now, because the 1987 year-class was a bumper crop. However, setting mesh sizes to allow escapement of small fish hasn't worked, and unless something more is done, this influx of youngsters will be wiped out before it can help stabilize the depressed stocks.

Concentrations of small fish are regularly trapped in nets that individual fish are supposed to swim through. As the cod-end of the net fills with large fish, the exits for under-size fish are blocked. In addition, regulating mesh sizes is problematic in a mixed fishery where size limits vary for different species. The complex system of large- and small-mesh net zones, closed and open areas, etc., is a nightmare to enforce.

Too Much of the Wrong Gear: Some, inside and outside the industry, have suggested that the only answer is to get rid of the otter trawl. It's not only ineffecient and wasteful, but damages bottom growth and conflicts with fixed gear such as lobster pots. Short of that, virtually every objective observer agrees the number of boats in the fishery must be greatly reduced. A moratorium on permits, under consideration by the New England Council, would only be closing the barn door after the horses have run off. These measures should be considered:

• Modify otter trawls to improve their selectivity. Several techniques pioneered by European fishermen should be tested. If selectivity can't be increased satisfactorily, trawls should be replaced with an alternative gear.

• Quotas should be set for each groundfish species, and the fishery closed when the quotas are reached.

• Gill nets may be more size-selective, but there is a serious problem with the proliferation of nets, the use of multiple sets and poor tending habits. Nets are lost and continue to ghostfish. Gilled fish often fall out of the nets before they're boated. Or, fish not hauled in promptly enough are of lower quality and are discarded. Gill net fishermen should be required to tend their nets at all times.

REVOKE SHRIMPING'S LICENSE TO KILL

Exemption Imperils Gulf Fisheries

The shrimp trawl fishery is the least efficient on the planet, with a bycatch-to-catch ratio of 10 to 1. Shrimping yearly kills over 10 billion pounds of fish, according to government statistics. The casualty list includes over 100 species besides shrimp. Discarded along with the fish bycatch are countless numbers of hapless crabs, rays, sponges, jellyfish and under-size shrimp, as well as seagrasses and numerous other marine organisms.

The thousands of boats that make up the American shrimp armada pull two and often four small-mesh nets behind them, sucking up everything in their path like an underwater vacuum cleaner. The nets are emptied onto the deck, the shrimp are culled, and the rest of the harvest is dumped back overboard.

The most recent attempt to quantify the shrimp bycatch in the Gulf of Mexico, where the bulk of the fleet works, estimated that 9.6 billion fish meet their end in a shrimp net every year (NMFS, August 1990). However, that total represents just the 13 most commonly caught species; the overall death toll could be several billion higher. When that's added to natural mortality and catches from directed fishing operations, one can only conclude that the shrimp trawl bycatch is keeping southeastern fisheries depressed, causing hardship to other fishermen and stifling the marine ecosystem.

The shrimping bycatch is a threat to almost every fishery in the southeast and gulf regions. Not only is it a major source of mortality, but managers are powerless to do anything about it. Ironically, the Congressional authors of last year's amended Magnuson Act, which took a big step forward by recognizing the need to reduce bycatch waste, contorted themselves and took a bigger step in the other direction, as far as shrimping is concerned, by expressly forbidding measures to force shrimpers to clean up their act before 1994. Until then, the killing will go on.

The best use must be made of the intervening time, so that managers can hit the ground running in 1994 with workable solutions to the problem of bycatch in the shrimp fishery:

• NMFS should make sure that studies to assess the extent and impact of the bycatch problem are completed by 1993, and that full support and funding are given to perfecting fish excluder devices. In lieu of this, the NMFS TED, proven capable of eliminating over half the fish bycatch, should be made mandatory on all shrimp vessels beginning in 1994.

• The Gulf of Mexico Reef Fish Fishery Management Plan, which covers the severely depleted red snapper (20 million snapper are killed by shrimping each year), should be amended to include the latest bycatch figures in mortality estimates and in setting total allowable catch levels for the 1994 fishing season. The Coastal Pelagics (Mackerel) Plan and others significantly impacted by shrimping should be similarly amended.

UNFINISHED BUSINESS

No Sale of Billfish Isn't the Same as No Kill

The chief motive for the 1988 law prohibiting the sale of marlin and sailfish caught in the Atlantic Ocean was to remove the economic incentive for commercial exploitation. By the mid-1980s, the rapidly growing fleet of U.S. longliners working off the east coast, in the Gulf of Mexico and throughout the Caribbean posed an unprecedented threat to billfish stocks because of the high incidence of bycatch on the non-selective gear. The growing bycatch was priming the commercial market for marlin and jeopardized the traditional recreational fishery, which was steadily becoming release-only to preserve the species' abundance.

Government managers couldn't directly control longlines, because most of them fish for tuna, which until a year ago was exempt from U.S. management authority. So requiring commercial vessels to release all species of billfish was the only way to discourage the rapid, wholesale decimation of the marlin population.

Bycatch Exceeds Sport Catch: Despite this requirement, tens of thousands of billfish - blue and white marlin, sailfish and spearfish - are still caught on longlines each year. On average, about half the fish hooked are dead when released. The National Marine Fisheries Service's estimate of the total number of fish hooked and discarded dead - 266 metric tons in 1989, compared to 140 tons caught by anglers that year - is, by the agency's own admission, unreliable: "Bycatch mortality of billfish and other species in the pelagic (longline) fleet are highly uncertain, due to the paucity of information and since most of the information comes from self-reporting systems." (Atlantic Large Pelagic Research and Data Needs, NMFS, March 1991)

After reviewing all the information available on the size of the longline fleet, the average length of set and number of hooks used, the NCMC believes that dead discards are more in the neighborhood of 12,000 to 19,000 billfish a year. ("Marine Bulletin," No. 53). That would translate into 600-950 tons, if the average fish weighed 100 pounds, a very conservative guess. But even the unconvincingly low NMFS estimate indicates that commercial fishermen are killing twice as many billfish as recreational fishermen.

In the Pacific Ocean, where the sale of billfish is still legal (except for California, where striped marlin are gamefish), the bycatch problem is just beginning to rear its ugly head. The number of longliners in Hawaiian waters, where some of the best marlin fishing in the world takes place, exploded from 45 boats in 1987 to well over 150 in 1990. NMFS reports a corresponding drop in catches of pelagic species - yellowfin tuna, swordfish, billfish, mahi mahi (dolphin) - by commercial trollers and handliners and recreational rod and reelers.

Testimony at a recent meeting of the Western Pacific Council, where measures to protect the local fisheries were debated, revealed that 226,000 pounds of blue marlin caught as bycatch were landed in Hawaii in 1988. That number jumped to 830,000 pounds in 1990. And that total doesn't include the fish cut loose.

Must Do More: Preventing commercial fishermen from keeping billfish doesn't prevent them from killing them. That will require direct controls on how, where and when longlines are used:

• NMFS must put observers aboard longliners to get accurate bycatch estimates and to properly assess the impact on billfish populations. This recommendation must sound like a broken record by now, but obviously a longline observer program would produce much needed information on billfish, swordfish and sharks, not to mention the principal target, tunas.

• Limit the number of permits issued to longliners, so that fishing capacity does not exceed what is required to harvest commercial fisheries at a safe and sustainable level.

• Create "longline free zones" in areas of high billfish bycatch.

• Explore ways to modify longline practices to select for target species.

• Amend the Atlantic and Pacific Billfish Fishery Management Plans to place a cap on the number of marlin and sailfish that can be killed as bycatch, and close the longline fisheries when the cap is reached.

"BACKGROUND MORTALITY"

Striped Bass Bycatch is Unknown Factor

Last year, limits on fishing for striped bass were relaxed for the first time since 1982, when east coast states adopted a coastwide conservation plan. This action was taken after a good spawning season the year before in Chesapeake Bay, where a fishing moratorium had been in effect for six years. But, amid the rush to celebrate the long-awaited turnaround in the depressed striped bass fishery, there are signs that the situation is far from under control.

The number of striped bass killed as bycatch, particularly in the ocean shad gillnet fisheries, may be much greater than previously thought. Biologists for the Atlantic States Marine Fisheries Commission have noted mortality rates substantially higher than would be expected for such a tightly controlled fishery. No one is certain of the cause, leading some to label it "background mortality." Others suggest that both natural and bycatch mortality had been underestimated in prior stock assessments. But, warns the ASMFC stock assessment panel, "If these high fishing rates are considered to be reliable.....our prognosis for the future rebuilding of the Chesapeake Bay stock would be pessimistic."

This cautionary note argues for going slow in easing limits on catches of striped bass in the directed fisheries. It also means the government should make bycatch research a

a priority of the Emergency Striped Bass Study under the federal Atlantic Striped Bass Conservation Act, so that managers will know what the bycatch mortality is, can factor it into their stock assessments, and control both direct and indirect fisheries accordingly.

NO REFUGE FOR GIANT BLUEFINS

"The Hooks Aren't Meant for Them," But...

The heart of the international bluefin conservation program is protection of the remaining population of spawning-age fish, a population reduced to less than a tenth of what it was in 1970, when biologists first started measuring stock abundance. By that time, though, the bluefin had already been subjected to years of intensive fishing, which began in the 1960s. Today, the spawning stock is dangerously small, and getting smaller still.

The chief reason it's still shrinking is that, despite the International Commission for the Conservation of Atlanic Tuna's stated objective of protecting giant bluefin (fish 8 years and older, weighing upwards of 300 pounds) from exploitation, neither the international agreement nor U.S. regulations implementing it effectively control the number of bluefin taken as bycatch on longlines fishing for other species of tuna.

Fishing vessels are not allowed to direct their effort at bluefin in the Gulf of Mexico, the bluefin's primary spawning territory in the north Atlantic. Each vessel is limited to a bycatch of 2 fish per trip until the annual quota is met. But that didn't stop U.S. longliners from killing the 249 metric tons of bluefin they reported discarding in 1989. The number of giants killed is unquestionably much higher - given the lack of observers in the gulf; reports of rampant illegal trade in bluefin with Mexican fishermen; and foreign buyers active on the docks in Louisiana long after the season has officially closed. U.S. fishermen, therefore, are contributing to the demise of the giant bluefin and thwarting the objectives of the ICCAT plan.

The U.S. shares the western Atlantic bluefin quota with Japan and Canada. The 2,660 metric tons allotted the three countries is too high to reverse the bluefin's decline, much less rebuild this once great fishery. Last November, ICCAT's own scientists concluded that "continued harvest at the 2,660 MT level will continue to result in an increase in the estimated fishing mortality and a corresponding decline in the estimated stock size of large and medium fish." (Standing Committee on Research and Statistics, 1990)

As long as the price paid for bluefin is in the neighborhood of $20-30 a pound, fishermen will continue to direct their efforts at harvesting the big fish. And as long as there are so many longline vessels working the waters of the Gulf of Mexico - some 600 at last count - they will continue to hook bluefins concentrating there to spawn, to be sold illegally or discarded in favor of larger fish, after each trip limit is reached or the season is closed.

- The U.S. should make the Gulf of Mexico a true sanctuary for spawning bluefin by forbidding any longlining, for tuna or swordfish, while the giants are in the gulf during spawn season.
- Bycatch mortality in the longline fisheries should be subtracted from subsequent allocations.
- The U.S. should adopt a position in favor of an annual harvest level "as close to zero as possible," as previously recommended by both NMFS and ICCAT scientists, and vigorously pursue that objective at the next meeting of ICCAT in November 1991.

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FISHERIES IN CRISIS

NMFS Unveils A New Strategy for Saving America's Fisheries

The National Marine Fisheries Service is a relatively small federal agency with a Herculean mission - conserving the living resources found off America's 90,000 miles of shoreline and within our 2-million-square-mile Exclusive Economic Zone. As caretaker of the nation's fisheries and fish habitat, NMFS is entrusted with a national treasure, capable of producing billions of dollars annually in seafood and recreational benefits.

But mounting problems threaten U.S. fisheries: unbridled exploitation, user conflicts, non-selective fishing gear, inadequate scientific information and habitat degradation lead the list. To date, NMFS has been ill-equipped and, more importantly, unprepared to cope with these problems. The result is the sorry state of our fisheries today, with widespread resource depletion and economic waste a commonplace.

Seventy-eight species of fish are overfished, according to a recent review by NMFS scientists. That's probably a conservative estimate, since we don't know enough to assess the condition of many species. So many fish populations reduced by excessive fishing pressure and producing far below their biological potential is costing the nation dearly. In 1989, these 78 depressed fisheries accounted for $1 billion or 27% of total revenues to U.S. fishermen. They could provide billions of dollars more if overfishing were halted and the populations allowed to return to a healthy state. To use a single example, restoring depleted populations of cod, haddock and flounder could return an additional $350 million in benefits to the New England economy. But more than dollars are at stake; intangibles such as public health, social and aesthetic values, and the stability of ecosystems are at risk, too.

A Sense of Urgency. On June 10th, declaring that "The need has never been more urgent for NMFS to fulfill its mission," the agency released a blueprint for rebuilding the nation's fisheries. The "Strategic Plan of the National Marine Fisheries Service," prepared under the direction of NOAA Assistant Administrator for Fisheries William W. Fox, Jr., sets a new standard for managing the ocean's resources, a "fundamental departure" from the path that led to the present crisis.

Although NMFS operates under more than 100 federal statutes and international treaties, its primary mission comes from the Magnuson Fishery Conservation and Management Act. The 1976 law gave the agency a dual charge: promote the growth of the domestic fishing industry and at the same time prevent overfishing and rebuild overfished stocks. Congress did not foresee that, without assigning priority to one or the other, pursuing these two goals could pull fishery managers in opposite directions. NMFS and the Regional Fishery Management Councils have been engaged in this tug of war for 15 years, to the detriment of our fisheries.

Predictably, expansion of the fishing industry succeeded, but at the expense of the resource. Overcapitalization was encouraged and overfishing tolerated. Fishing capacity swelled and fish stocks shrank; some collapsed. Every species caught commerically or recreationally off the Atlantic, Pacific and Gulf of Mexico coasts, NMFS reports, has been reduced to historic low levels of abundance.

Conservation, Then Commerce. The most significant aspect of the new Strategic Plan is an unequivocal declaration that, when a tough choice is to be made between exploitation and conservation, the health of the resource must come first. "The NMFS Strategic Plan....reflects a fundamental departure from past approaches" to managing fisheries, the agency says. "In particular, in the face of uncertainty, NMFS will reduce the risk to living marine resources by making decisions that *err toward conservation, not overfishing.*" Those words warrant emphasis. For the first time in a statement of national fishery policy, the Administration is giving clear precedence to maintaining the long-term productivity of the resource over the immediate economic needs of the fishermen.

To put this management philosophy into practice, the Plan lays out specific goals and objectives for the agency to meet in the critical years to come. These are described below:

• *Rebuild overfished marine fisheries.* Depleted resources cause substantial economic losses, deprive the nation of invaluable recreational benefits and diminish the overall well-being of the ocean ecosystem. To reverse overfishing, effort must be reduced. Emphasis will be put on implementing the Magnuson Act 602 Guidelines, requiring all Fishery Management Plans to include a quantifiable definition of overfishing and a rebuilding plan with built-in criteria for measuring progress. Short-term losses to fishermen will inevitably accompany rebuilding, so plans must anticipate this and contain options for mitigating losses as a bulwark against

industry opposition. Finally, because bycatch contributes to overfishing, reducing bycatch, through changes in fishing gear and/or practices, will be a top priority.

• *Maintain currently productive fisheries.* That the goal of preventing overfishing is placed after that of restoring depleted fisheries is merely a commentary on past performance. It is always wiser, not to mention far less costly, to prevent overfishing before it happens. To make sure productive fisheries stay that way, NMFS will adopt a "risk-averse" approach to uncertainty in management decisions, "giving the benefit of the doubt to conservation, instead of erring toward overfishing." Improved scientific information can reduce the margin of error. NMFS will advocate moving from open access to controlled access fisheries to reduce the "race for the fish" that increases the pressure to overfish. The agency will seek authority to charge user fees for access to fisheries.

• *Advance fishery forecasts and ecosystems models.* Information available to fishery managers has usually been good enough to justify a response. Lack of data is rarely the excuse for doing nothing it's made out to be. Still, better information in a wide range of areas would allow managers to act in a more timely and effective manner, while promoting a more stable and efficient use of the resource. In addition to reducing the uncertainty in stock assessments and improving data collection and analysis, NMFS will expand research into predator-prey relationships and develop models for predicting stock fluctuations due to environmental factors.

• *Integrate conservation of protected species and fisheries management.* In addition to fish, NMFS has responsibility for "protected species," i.e., marine mammals and endangered animals such as sea turtles. Fish and protected species are managed under different rules, even though they share the same ecosystems, often compete for the same food source, and are sometimes caught together in non-selective fishing operations. NMFS will put at-sea observers aboard vessels in fisheries that take protected species to monitor bycatch and determine what gear modications or time/area restrictions are necessary to avoid interactions.

• *Improve seafood safety.* NMFS will work with other federal and state agencies to implement a national seafood inspection program to reduce health risks from biotoxins, chemical contaminants and bacteria in the marine environment. Risks will be assessed, and the public provided with accurate information about safe and unsafe fish products.

• *Protect living marine resource habitat.* Managing fisheries without proper consideration of and allowance for the habitat needs of the fish will ultimately fail. NMFS must play a stronger role in federal decisions affecting coastal and ocean habitat. NMFS will devise a strategy for enhancing its effectiveness as an advocate for conserving habitat, taking full advantage of authority given under existing laws and seeking new authority if necessary. Research to establish the effects of habitat alteration or degradation on sea life will be enhanced.

• *Improve the effectiveness of international fisheries relationships.* Some animals under NMFS management travel beyond U.S. jurisdiction, and thus involvement in agreements with other nations is necessary to advance research and conservation throughout the range of the species. NMFS will seek agreements where none exist (e.g., Pacific Rim), increase its scientific support for U.S. participation in existing treaties, and consider ways to better coordinate domestic fishery management plans with regional and ocean-wide management regimes. Before this can be done, however, the U.S. must find a way to resolve the sometimes conflicting objectives of domestic and international management.

• *Reduce impediments to U.S. aquaculture.* Harvests from wild stocks of fish have been static, to the point where increased effort doesn't yield more fish so much as it reduces stocks and diminishes future catches. Aquaculture may be a viable alternative for some commercial fisheries and may have potential for speeding the recovery of some depleted fisheries. However, before U.S. aquaculture can be expanded, concerns about adverse effects on habitat and mixing of cultured with wild stocks must be addressed and resolved.

From Promise to Practice. The National Coalition for Marine Conservation views the release of the NMFS Strategic Plan as a critical first step toward reversing our present destructive course and getting fisheries management onto the right track. Two of the prerequisites for doing that now exist: a good plan and strong leadership in the person of NMFS Director Bill Fox. But NMFS will also need additional resources, human and fiscal - the agency's budget has been stagnant since 1976, which is in itself indicative of how badly the nation's fisheries have been neglected.

Nonetheless, it would be just as wrong to blame all our present troubles on inadequate spending as it would be to think more money will turn things around. What's been in shortest supply is political will. So we'll be closely watching the plan throughout the next, most important phase, its implementation. [Copies of the Plan are available from National Marine Fisheries Service, 1335 East-West Highway, Silver Spring, MD 20910.]

FISH TRAPS ARE OUT IN '92

Commerce Department Approves Council Ban

Florida's fish trappers are the most recent casualty of the changing times. There is a definite move away from indiscriminate types of fishing gear to more selective, resource-friendly ways of fishing. The fact that virtually all marine fisheries are stressed to the breaking point or beyond makes this move inevitable. To the extent that doing away with problem gear makes fisheries easier to manage, it's irresistible.

On August 26th, Secretary of Commerce Robert Mosbacher approved the South Atlantic Fishery Management Council's recommendation to outlaw the use of fish traps from North Carolina to the Florida Keys. The new law, effective January 1, 1992, puts 20 to 25 fishermen using traps to catch snapper and grouper out of business. It was a tough call. The Council was split on doing it - the vote was 7 to 6 and the Southeast Regional Director of NMFS, a voting member, disagreed with the majority decision - but just the same, the right decision was made.

The reasons for banning traps include bycatch of non-target fish (1/3 to 1/2 of fish trapped are tropicals); the capture of undersized snapper; damage to reefs where traps are dropped and retrieved; and ghost fishing by lost gear, which is almost routine. To head off a ban, trap fishermen offered to limit the number of traps and tend their gear more

carefully, but they couldn't overcome the widespread belief that the trap fishery is inherently unenforceable. The sheer number of traps that can be set by one individual (hundreds), and the fact that they fish passively far from shore and out of sight, make enforcement of any proposed regulations extremely difficult.

Making federal law consistent with the law in Florida, where fish traps have been prohibited since 1980, was another reason behind the ban. Pressure will now be on the Gulf of Mexico Council to take similar action off Florida's west coast. Meanwhile, the trappers have indicated they will file suit to overturn the law. Because of concern that traps in use when the ban takes effect might be abandoned at sea, which the Florida League of Anglers says occurred when the state law took effect, the NCMC is joining in a request to federal authorities that trap operators be required to account for the number of traps they were given permits to use.

STRIPER RECOVERY TALK PREMATURE

Chesapeake Spawning is Down Again

The summer 1991 survey of juvenile striped bass in Chesapeake Bay indicates another poor year of reproduction in that troubled fish's chief spawning ground. It's the second bad year in a row, and it's putting a damper on the optimism that followed the 1989 young-of-the-year index, the second highest ever. State officials are being urged to postpone any consideration of further expanding the striped bass fisheries, and to begin planning for the possibility that a recovery is not yet underway.

The 1989 index triggered a re-opening of the striped bass fishery in 1990, a move the NCMC opposed, arguing for a more cautious response. However, the Interstate Plan developed by the Atlantic States Marine Fisheries Commission (ASMFC) called for ending the moratorium when the index produced a 3-year average of 8.0. The 1989 value of 25.2 was itself high enough to open the fishery, however it needed to be, since 1987 and 1988 produced typically poor spawns. The original intent of the trigger mechanism was to keep the moratorium in place until spawning production in Chesapeake Bay stabilized at an acceptable level, but that has yet to happen.

The 1991 survey, conducted by the Maryland Department of Natural Resources, showed an index of 4.4. Last year's was 2.1, the fourth lowest in the 37 years biologists have been counting young-of-the-year stripers. The average index for the seven years since 1984, when fishing for striped bass in the Chesapeake was temporarily suspended, is 6.5, below the long-term average of 8.0. Discounting the extraordinary index for 1989, which there is good reason to believe was flawed, the average has been an anemic 3.5.

The ASMFC will meet in annual session October 6-10 and striped bass will be high on the agenda. The NCMC supports the position of the Commission's own Stock Assessment Subcommittee, that no further relaxation of fishing regulations should be permitted. There are too many question marks about the state of the striper recovery. Fishing mortality is probably underestimated. In particular, the number of fish killed as bycatch in other fisheries is unknown but presumed to be significant (see "Marine Bulletin" No. 55). Besides, it usually takes a year or more to estimate mortality, so what's happened in the fishery in 1990-91, the first full year of renewed fishing, won't be understood for at least another year.

We are asking the ASMFC to prepare a contingency plan outlining a specific response in the event of continued poor spawning success next summer. While the states agreed on what to take as a signal to resume fishing, the Interstate Plan contains no process for dealing with signs that the hard-won striped bass recovery is in jeopardy.

ICCAT CHANGES ARE NEEDED

To Strengthen U.S. Role in International Fisheries

The NCMC, pointing to the International Commission for the Conservation of Atlantic Tuna's failure to effectively manage highly migratory species in the western Atlantic, is recommending changes in the way the United States participates in the international body. "The U.S. effort has been handicapped by poor leadership, lack of Administration support, a lackluster scientific program and opposition from the domestic commercial fishing industry," says NCMC president Chris Weld. "ICCAT has allowed a devastating decline in bluefin tuna stocks [see following article - ed.] and more recently the collapse of swordfish fisheries in the Atlantic. Other species taken as bycatch in ICCAT-regulated fisheries, such as sharks and billfish, are also in a state of overfishing."

The proposed changes, which we believe would strengthen U.S. efforts to achieve more effective international conservation, are:

- Designate the National Marine Fisheries Service, in consultation with the State Dept., as the agency responsible for setting and carrying out U.S. policy with respect to U.S. participation in ICCAT; specifically, determining the national interest and setting short-term goals and long-term objectives for U.S. fisheries negotiations. The three U.S. Commissioners who represent the U.S. at ICCAT also develop the U.S. position, but in doing so are not accountable to anyone, least of all to our national fisheries agency. They are free to give more weight to the views of their advisory committee, dominated by commercial fishermen, than to the advice of NMPS scientists, or ICCAT scientists for that matter. The present situation is a little like allowing our Ambassador to the United Nations to make the country's foreign policy instead of carrying out policies set by the President.
- Increase funding for the support and improvement of scientific and statistical programs necessary to formulate and assert U.S. international fishery policy. A strong science foundation is an essential pre-requisite for successfully making a case at ICCAT for the conservation of highly migratory species. Key information about factors which determine the abundance of species, such as stock structure, fecundity, natural mortality and the relationship between stock size and spawning success, are largely unknown. Unfortunately, the NMFS budget for fisheries management declined in real dollars by about 23% between 1982 and 1990. The new Magnuson Act amendments give NMFS additional responsibilities for managing highly migratory species, but no new money.

• Elevate the priority of achieving U.S. policy goals at ICCAT by using economic leverage as appropriate. ICCAT negotiations pit short-term economic needs against the long-term needs of the resources being exploited. The positions of the major fishing nations at ICCAT are based almost solely on economic considerations. In order to get concessions at ICCAT, it may be necessary for U.S. negotiators to employ linkage of non-fishery considerations. The U.S. has employed such linkage to achieve other goals, but has so far refused to use it on behalf of our national fisheries interests.

C.I.T.E.S. COULD SPELL RELIEF FOR BLUEFIN

The following is excerpted from NCMC testimony submitted August 21, 1991 to Charles Dane, Chief, Office of Scientific Authority, U.S. Fish and Wildlife Service, in support of a proposal to list the Atlantic bluefin tuna under CITES, the Convention on International Trade in Endangered Species. Our members should know the full rationale for this unprecedented recourse to CITES. The NCMC will seek relief through all channels, including ICCAT, until appropriate action is taken. Indeed, action taken by ICCAT at its upcoming November meeting could, and we hope will, make this proposal irrelevant.

The National Coalition for Marine Conservation supports listing the Atlantic bluefin tuna under Appendix I of the Convention. We are convinced that excessive fishing to supply the international trade in high-priced tuna poses a significant threat to the future viability of the bluefin in the western Atlantic. We believe a CITES Appendix I listing, which would ban the export of bluefin, is warranted by the facts. The bluefin spawning population has declined 95% during 20 years of international "management." In this same period, the price paid for adult bluefin has risen from $.10 a pound to $30 a pound, causing fishing pressure to increase substantially even as the number of fish dwindles. Removing the economic incentive to over-exploit bluefin tuna is the only way to avert continued decline and preserve the species.

Listing under Appendix II, in that it would result only in closer monitoring of export activities, is an inadequate response to a very serious and deteriorating situation. Further information gathering, as useful as it might be, in lieu of action will only delay bluefin conservation further.

Serious Mismanagement. The international body entrusted with responsibility for managing bluefin tuna, the International Commission for the Conservation of Atlantic Tunas (ICCAT), has failed that public trust. ICCAT has instead merely presided over the steady demise of this magnificent and once abundant fish. Limits on fishing implemented by ICCAT in 1982 were, from the outset, insufficient to halt the disappearance of bluefin. Ten years later, despite mounting evidence that the population has continued to shrink to a dangerously low level, ICCAT steadfastly refuses to enact tougher measures to reverse this decline and head off a possible collapse of the fishery.

The following assessment of bluefin comes from the ICCAT Standing Committee on Research and Statistics (SCRS):

"The results of this year's (1990) assessment indicate trends similar to those of the 1989 SCRS assessment and earlier analyses, especially in the most recent years....The January 1, 1990 large fish abundance (age 8+) is about 10 percent of the 1970 value; ages 6 to 7 approximately 50 percent; ages 1 to 5 for 1987 (last year with useful estimates of young fish) approximately 20 percent of the 1970 value. The population of small fish (ages 1 to 5) in the most recent years is not well estimated. The best estimates of recruitment (age 1) in recent years (1983-1987) appear to be approximately the same as those of earlier years (1979-1982). The estimates of medium size fish in recent years have increased from the low value of 1983. The estimates of abundance of large fish have continued to decline since 1970" (ICCAT Report, 1990-91, p. 168).

The SCRS went on to conclude that the present international management program isn't stopping the decline and is not likely to do so in the near future. "Since implementation of catch limits in 1982, fishing mortality rates of large fish have increased to values greater than those immediately prior to 1982. Therefore, the 2,660 MT of the recommended catch for monitoring will cause the decline of the age 8+ group (the spawning population) to continue for at least the near term....the continued harvest of 2,660 MT is expected to result in an increase in the estimated fishing mortality rate and a corresponding decline in the estimated stock size of large and medium fish" (ICCAT Report, p. 170).

The National Marine Fisheries Service (NMFS) concurs with the SCRS assessment of the status of bluefin, and also sees poor prospects for recovery under the present regime. On October 12, 1990 NMFS officially recommended that the U.S. delegation to ICCAT seek a reduction in the current allocation to "as close to zero as possible." (Please note that the best available information on the status of the Atlantic bluefin tuna, the assessment cited above, comes from ICCAT itself, not a private group supporting a CITES listing. It should also be noted that the only members of the scientific community disputing the above assessment are in the employ of the tuna fishing industry, which has a vested interest in the results.)

Spawning Population in Critical Condition. The most serious danger for the bluefin is that the number of spawning-age fish is at an extremely low level and, according to scientists advising ICCAT, will continue to decline unless something more is done to protect these fish.

Until November 1990, the SCRS defined large bluefin, or fish of breeding age, as 10 years and older. Between 1970 and 1990, the number of large fish had been reduced from approximately 234,911 fish to only 13,322 fish (ICCAT Report, p. 222), or a reduction of about 95%. Needless to say, there are hardly enough age 10+ fish left for scientists to count. At last fall's ICCAT annual meeting, the SCRS revised its definition of adult fish to age 8+. Without questioning the legitimacy of this change in the growth models of bluefin, the timing of the change has the convenient effect of increasing the size of the spawning population, albeit only slightly. The relevant point is that the only way ICCAT has succeeded in slowing the rate of decline in the bluefin spawning population is by expanding it two year-classes. But even doing that has hardly made a blip in the overall downward trend in the number of breeders, on whom any future turnaround ultimately depends.

By not acting decisively to protect the bluefin, we risk reducing the population to such a low level that it's ability to

replenish itself is severely impaired for the indefinite future. As the spawning population continues to die away, we are putting the species in increasing jeopardy.

Despite the seriousness of the threat to bluefin, a threat that is still growing, not subsiding, there seems little prospect for a significant change in the ICCAT position. Nor does there seem to be any likelihood of action on the part of the United States to remedy this situation. For one thing, although Congress recently gave the Secretary of Commerce authority over tuna fishing in the U.S. 200-mile zone as of January 1, 1992, that authority is limited to implementing quotas and allocations recommended by ICCAT.

How NMFS manages the U.S. fishery under the ICCAT agreement aggravates the problem and demonstrates the agency's own lack of will. The 2,660 metric tons permitted the U.S., Canada and Japan by ICCAT is ostensibly not a quota but a scientific allocation for the purpose of monitoring the rebuilding of the population. But NMFS treats it as a quota, to be allocated among domestic fishing interests according to economic need and traditional participation in the fishery. For monitoring purposes, it would make the most sense to allot any catch to those methods of fishing (rod and reel, harpoon, handline) which provide the best sampling of a wide range of year classes. NMFS, however, gives a significant share to the purse seine fishery (just 5 boats catching 28% of the U.S. allocation) and the longline "bycatch" fisheries, including those hundreds of vessels active in the Gulf of Mexico, the chief spawning area for giant bluefins and an area that is supposed to be off limits to fishing for bluefin.

To make matters worse, NMFS regulations focus on limiting landings, not mortality, and thus allow U.S. fishermen to kill 25% more bluefin than the amount recommended by ICCAT (ICCAT Report, p. 216). Requests that the U.S. enact regulations that would, at the very least, reduce mortality to within the limit set by ICCAT have been consistently rebuffed, by both NMFS and the head of the U.S. delegation.

Economic Sanctions Are Needed. Both international action at ICCAT and domestic action controlling U.S. fisheries have been and continue to be driven by short-term economic considerations, not the long-term health of the resource. The economics of the bluefin fishery is such that as the number of fish has diminished, the value of each fish has risen dramatically. Total catch is about half the pre-1982 level, but the value of the catch is substantially higher. Catch per unit of effort may be at an all-time low, but the return on each fish caught is at an all-time high. Therefore, those currently profiting off the remnants of the bluefin population have little incentive to stop overfishing, much less rebuild the population to a higher, more productive level.

The price paid for high quality, "export grade" bluefin tuna flesh is often as high as $30 per pound at the dock. Recently, according to the "Commercial Fisheries News" (August 1991), a giant bluefin (572 pounds) brought $43.72 a pound, $25,000 for one fish! Not all fish caught and landed are of this quality and command such an extraordinary payoff, but the prospect of landing one is so attractive to so many fishermen (many of whom can't distinguish high- from low-quality fish, or bluefin from a large yellowfin tuna, for that matter) that the tuna fishery sometimes resembles a feeding frenzy. In fact, fishing pressure on bluefin (measured as fishing mortality rate) is greater now than it has ever been.

The demand that sets the price comes from the Tokyo sushi market, where bluefin is an extremely valuable product. When the fat content of big bluefins runs high, Japanese buyers swarm all over docks on the U.S. east coast, as well as in other parts of the Atlantic, and the fish are air-shipped directly to Japan the day they are bought.

While the high price paid for bluefin exported to Japan is driving this fishery, pressure from a small sector of the U.S. fishing industry and Japan prevents the appropriate management bodies from taking the action necessary to stop overfishing. If anything is going to be done to halt the 20-year decline in the bluefin population, it will have to come from outside the present system. And to be effective, that action will have to remove the economic incentive to exploit bluefin.

A CITES listing in Appendix I would prohibit international trade in Atlantic bluefin and thereby substantially reduce their dockside value. This would be a disincentive for fishermen to kill medium and large bluefin in the excessive and unsustainable numbers they do now. Most important of all, it would put the bluefin on the fast-track to recovery. The sooner the population is returned to a healthy level, the more productive the fishery will be for all those who benefit from the bluefin resource.

COASTWIDE PLAN FOR FLUKE PASSES COUNCIL, NOW GOES TO STATES

Interstate Cooperation is Essential

The summer flounder, a.k.a. fluke, is in trouble. Fishing pressure is so intense that 70 percent of the fish alive at the beginning of the fishing season are dead by the end. Government scientists say that's three times the fishing mortality the population can sustain. Commercial and recreational catches are comprised almost entirely of fish less than 2 years old. The few adult females left get to spawn once, if they're lucky, before they are killed. The spawning stock is currently producing at only 2% of its potential.

The Mid-Atlantic Fishery Management Council has approved new measures to avert further depletion and begin rebuilding the overfished fishery. Amendment Two to the Fishery Management Plan for Summer Flounder is designed to protect young fish until they recruit to the spawning population. It proposes limits on total commercial catch, requires a minimum size mesh in trawlers to allow juvenile fish to escape, and imposes a moratorium on new entrants into the commercial fishery. Sport fishermen, whose share of the catch dropped from an average of 40% to just 13% in 1989, will be regulated by possession and size limits but no overall quota.

The plan is a joint state/federal project and will go before the Atlantic States Marine Fisheries Commission for approval at the annual ASMFC meeting in October. The winter fishery takes place offshore, while in summer and fall fishing is concentrated in state waters. This makes it imperative that the states not only agree to the proposed plan, but implement it quickly and uniformly. However, as we have seen before with other coastal migratory fish, namely striped bass and

bluefish, implementation by every state can't be taken for granted. In some states, regulations must be approved by their legislatures, where special interests can water them down or kill them altogether. For instance, the New Jersey State Assembly rejected the coastwide bluefish management plan. In the case of striped bass, it took the threat of federal pre-emption to force cooperation from all states. Legislation is being considered to promote state implementation of interjurisdictional fisheries management, including a bill being drafted by NCMC staff.

MANUAL LABOR

Politicians Wrestle with Wetlands Rules

"The definition of a wetland in the Wetlands Delineation Manual must be based on biology, not politics," declares the March 1991 report of the NCMC's National Symposium on Coastal Fish Habitat Conservation. This seemingly obvious statement was prompted by steadily building attacks on the federal wetlands protection program by developers and agribusiness, and the fear that politics, not science, would define policy. That appears to be happening.

A report on the status of wetland resources in the United States, presented to Congress earlier this year by the Interior Department, revealed that the lower 48 states lost 53% of their original wetlands between the 1780s and 1980s. That's an average loss of 60 acres an hour during the last 200 years. Twenty-two states have less than half their original wetlands, with California losing 91%. Florida's lost the most acreage to wetland conversion, 9.3 million acres, while Louisiana, with the greatest amount of coastal wetlands outside Alaska, has the highest rate of loss, 25,000 acres a year.

Protection of wetlands for their critical value as home to fish and wildlife, flood control and cleansing of ground water supplies is a fairly recent phenomenon in our history. The federal program regulating development in wetlands, Section 404 of the Clean Water Act, began in 1977. That year the Corps of Engineers developed a test for scientifically defining what constitutes a wetland. Disagreement over how to delineate the boundaries of wetlands caused inconsistencies and delays in the permitting process and allowed thousands of acres that should have been protected to be destroyed.

In 1989 a revised Wetlands Delineation Manual was prepared, to prevent valuable wetlands from slipping through the system unprotected. But critics charged that the rules had been changed and broadened to cover marginal lands of little value as wetlands. They focused in on specific criteria for defining wetlands, such as soil saturation time, ignoring the fact that a wetland must satisfy all *three* paramaters for soil type, vegetation and saturation set out in the manual.

Political pressure on the Bush Administration to re-revise the manual reached the boiling point this year, coinciding with Congressional re-authorization of the Clean Water Act. Conservationists are worried that it could lead to a wholesale weakening of the 404 program, and in fact several bills gaining substantial support in Congress would accomplish that.

In August the Administration released a new Wetlands Manual, with a much narrower interpretation of what constitutes a wetland. Some wetlands scientists call the new rules "scientifically indefensible," writing off a considerable amount of wetlands for political reasons.

Given that the existing 404 program has slowed but not come close to stopping the loss of valuable wetlands, it's hard to see how anyone can argue it's been overzealously applied. If there's something wrong with it, okay, fix it, but don't break it. President Bush promised the nation no-net-loss of wetlands. The only way that goal stands a chance is if the laws get tougher, not weaker. Of course, if the American people don't care about achieving that goal, that's something else. But that's not the message we're hearing.

The "Marine Bulletin" is edited by Ken Hinman and published by the National Coalition for Marine Conservation, an independent, non-profit organization dedicated to the conservation of ocean fish and their environment. Articles may be reprinted without permission provided credit is given to the source.

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ONE COAST, ONE LAW

Congress Needs to Put Teeth Into Interjurisdictional Fisheries Management

The Atlantic States Marine Fisheries Commission (ASMFC) voted on October 10th to support national legislation to improve efforts to conserve and manage marine fisheries the length of the Atlantic coast.

The ASMFC, whose members represent 15 states from Maine to Florida, is responsible for preparing interstate management plans for inshore migratory fish. Many of these species are in poor condition, and because they traverse state boundaries, effective conservation depends on coastwide cooperation. But jurisdictional differences and parochial interests have inhibited coordinated efforts and, as a consequence, management of east coast fisheries has suffered.

Acknowledging this, the ASMFC approved the following position statement: "The Commission supports new federal legislation to improve the effectiveness of interstate cooperation in conserving and managing marine fisheries along the Atlantic coast. This legislation should improve the partnership between the States and the federal government; provide incentives to the States (including financial incentives and the potential for moratoria) to improve cooperation; and provide a substantial role for the States in deciding when and how those incentives will be applied."

The ASMFC's declaration of support for federal legislation to oversee interstate action, including the authority to restrict fishing in non-conforming states, is significant. In that it reflects a consensus of all 15 Atlantic coast states on a very touchy issue, it underscores the urgent need to put some teeth into the management of interjurisdictional fisheries.

The National Coalition for Marine Conservation believes the necessity for doing so is as evident as is the declining status of most coastal fish populations. We are actively studying and promoting draft legislation to improve the current system. Executive Director Ken Hinman was invited to address the ASMFC at its recent meeting to present the case for a new federal law.

Striped Bass and Beyond

When the fate of the seriously depleted Atlantic striped bass hinged on 12 states adopting the ASMFC's 1981 Interstate Striped Bass Management Plan, the prospects for recovery weren't good. A few recalcitrant states could, and did, undermine the joint effort. It soon became clear that without some way to compel compliance, there was no way to guarantee it would ever be implemented.

Ten years later most would agree that striped bass stocks are showing signs of improvement and everyone knows why: a unified coastwide effort, with all the states involved biting the bullet on conservation. But that would never have happened were it not for federal intervention in 1984 in the form of the Atlantic Striped Bass Conservation Act. The Studds Bill, as it is widely known, empowers the federal government to prohibit the catch of striped bass in the waters of any state not in compliance with interstate conservation measures.

Whereas the slow and inconsistent response to the striped bass crisis warned us not to leave state compliance on a voluntary basis, the cooperative effort we've seen since 1984 provides us with a model we should apply on a broader basis. The striped bass is not the only fish that regularly migrates across the borders of adjoining states and back and forth between state and federal waters. So do bluefish, weakfish, summer flounder, sea bass, red drum and scup. By the same token, the striper is not the only fish that would benefit greatly from consistent management throughout its range. But it is the *only* fish on the Atlantic coast benefitting from a statute forcing compliance with coastwide management efforts.

Time is running out on the opportunity to use what we've learned from striped bass to protect other species facing similar problems. The state/federal bluefish plan is stalled, leaving a large portion of the fishery vulnerable to overfishing. Weakfish, summer flounder and redfish are under severe stress and are desperately in need of consistent management throughout their range.

"We cannot afford to wait for a stock to deteriorate to a level such as striped bass before a full and effective program for rebuilding can be imposed," says NOAA Fisheries Administrator Bill Fox. "This represents crisis management of a last resort." In other words, passing a Studds Act to rescue each fishery, one at a time, isn't good enough. We need a comprehensive law now.

The Bluefish Test

In 1990 the ASMFC and the Mid-Atlantic Fishery Management Council jointly approved a plan to conserve bluefish, an abundant species that, during the absence of striped

bass, replaced it as the premier inshore fish on the Atlantic seaboard. The state/federal plan restricts sport fishermen to 10 fish a day and limits commercial fishermen to no more than 20% of the overall catch in any one year.

The plan will prevent overfishing and keep bluefish populations healthy, but that goal is jeopardized by the inability to get all states to come aboard. The most notable nonconformist is New Jersey, whose legislature rejected the plan under constituent pressure and is not inclined to change its mind. A sizable share of the bluefish catch is landed in New Jersey. Without that state's cooperation, the effectiveness of the plan is seriously compromised, other states may break ranks, and overfishing could occur.

This points up two root problems in achieving interstate cooperation. First, different fisheries pre-dominate in different areas, so management objectives and the constituencies that support them vary from state to state. Second, state representatives participating in interjurisdictional agreements must answer to politicians back home.

In a few states, the fisheries agencies may have the final say in the decision-making process. In most, though, regulations must be approved by a regulatory commission or the state legislature, where special interests can water down or kill them outright. At the very least, approval can be a long time coming, especially when legislators convene just a few months out of the year.

Convincing politicians, not to mention their fishing constituents, of the need for regulation is not an easy task. An important aspect of the Striped Bass Act, and a virtue that should not be underestimated, is that it takes state managers off the political hook. Each state has no choice but to enact and enforce the striped bass plan, or explain to its fishermen why they can't fish at all.

We should also not underestimate the importance of quick action to implement the bluefish plan. Some might find little urgency in adopting regulations for a species in good condition. But this plan is a test of whether we can preserve a healthy stock by preventing overfishing, something fishery managers have not been very successful at so far, and there are precious few fisheries left where it's even possible. If adopted, the bluefish plan can prevent the economic disruptions to fishermen, the substantial losses to coastal economies, and the loss of future opportunities that result from overfishing.

Ominously, the National Marine Fisheries Service has warned the Mid-Atlantic Council that it may be forced to withdraw approval of the bluefish plan if interstate coopreation isn't achieved, and may withhold approval of future plans if there is continued lack of cooperation on the part of the states.

Averting a Disaster for Flounder

Granting the undeniable wisdom of acting early to conserve bluefish, some might still argue that federal intervention is an extreme solution that should be reserved for fisheries in trouble. But even if we do have time to get our act together on bluefish, there are other species, fast approaching the condition of the striped bass in the early 1980s, for which time is of the essence.

If we need to feel a sense of real urgency, consider the summer flounder, or fluke. U.S. commercial landings plummeted from 42 million pounds in 1979 to only 12 million pounds in 1990. Fishing mortality is so high that 70% of the fish alive at the beginning of the season are dead by the end. Scientists say that overfishing has depleted the stock of adult fish to just 2% of its spawning potential and tough action is needed to avert disaster.

Summer flounder range from Nova Scotia to Florida but are concentrated in the mid-Atlantic region. They move seasonally between inshore and offshore waters. The winter fishery takes place offshore, in federal waters, while in the warmer months fishing occurs in state waters. The Fishery Management Plan for Summer Flounder is another joint effort between the Mid-Atlantic Council and the ASMFC. New measures have been recommended to halt further depletion and begin rebuilding the fishery. The plan is designed to protect young fish until they join the spawning population, through limits on total commercial catch, a freeze on new entrants into the fishery, minimum mesh sizes in trawlers and possession and size limits for sport fishermen.

The next step is implementation by each state. Unfortunately, as we've seen with striped bass and bluefish, full compliance is hard to get. Without it, particularly in those states with the largest fisheries, the flounder population will almost certainly continue to decline.

A Deteriorating Situation for Weakfish

Weakfish, like summer flounder, are found the length of the Atlantic coast but are most abundant from New York to North Carolina. Like flounder, adults migrate seasonally between nearshore and offshore waters. And weakfish populations, too, are in deep trouble.

Sport catches dropped 95% between 1980 and 1989. Commecial landings fell 60% in the same period. The sharp decline is the result of overfishing and the absence of a strong year class since 1978. Historically the fishery has relied on regular strong year classes to maintain abundance. But as the class of 1978 disappears, the number of fish left is dwindling.

Biologists advising state and federal managers say catches must be cut in half to remove weakfish from danger. To protect and rebuild the adult population, generally believed to be fish at least 14 inches in length, limits on the kill of small fish are critical, especially those taken as bycatch in shrimp trawls. The average size of fish caught has steadily declined, to about 11 inches in 1990.

The ASMFC, which first adopted a Weakfish Management Plan in 1984, is proposing stronger regulations to respond to the deteriorating situation. The Mid-Atlantic Council is preparing a federal plan to complement the ASMFC's. The problem now becomes devising a uniform program that will be implemented by every state. New York, for instance, already has the 12-inch minimum size biologists say is necessary to brgin rebuilding the breeding population. North Carolina, on the other hand, where the most weakfish are caught and landed, has no minimum size and has indicated anything higher than 9 or 10 inches would be unacceptable to that state's fishing industry.

As a result, the plan adopted by the ASMFC and the Council could either be impossible to implement throughout the range of the weakfish, or be so diluted in order to be universally accepted that it offers very little real protection for the resource.

A Law That Follows the Fish Wherever They Go

Fish in coastal waters of the Atlantic contribute to the food supply, economy, health and recreation of coastal states and the nation as a whole. These are national resources. The question is, can we accept a situation wherein individual states, by their inaction, nullify broad-based management initiatives that are in the national interest?

A comprehensive federal law to provide coordinated management to coastal migratory fisheries is not a radical suggestion. It's been proposed many times, in many different forms, during the last 20 years. In fact, the ASMFC charter recognizes the advantage of some kind of regulatory authority to enforce interstate fisheries agreements. It allows member states to delegate to the Commission the authority to regulate fishing activities in state waters for the broader public interest. Yet it has only been used in one limited circumstance, to manage the northern shrimp fishery in 1972. The fact that it has never been employed in any other fishery, before or since, even during the darkest days of the striped bass crisis, seems ample proof that state legislators will not voluntarily relinquish "states' rights."

The impetus will have to come from outside, from Congress, and it can't be done species-by-species or only in resource emergencies, as with striped bass. (H.R. 2588, introduced this year, is essentially a Studds Act for weakfish.) Congress must establish a permanent system for enforcing interjurisdictional fisheries management, and it must be broadly applied to all species. Options being discussed include expanding the Striped Bass Act to cover other coastal species; amending the Magnuson Fishery Conservation and Management Act to give force to plans developed jointly by the Regional Councils and Interstate Commissions; or similarly amending the Interjurisdictional Fisheries Act of 1986.

The important thing is to create the proper framework consisting of those elements essential to making it work. Also, in developing legislation to accomplish this, we must acknowledge political realities.

The law should pertain to all marine fisheries occuring in the waters of two or more coastal states and the federal zone, with the exception of oysters, blue crabs, soft clams and marine mammals. It should be limited to resources of the Atlantic Ocean, excluding the Gulf of Mexico. The Pacific coast has only three contiguous states and they seem to be able to work together, while the Gulf states appear complacent with things as they are and oppose further federal intervention in their affairs. The need is more urgent in the Atlantic and there is a greater understanding and acceptance of that need among the states, as evidenced by the ASMFC's recent support for a new federal law.

Under the new law, fishery management plans should be developed jointly by the appropriate Regional Councils and the Commission. The states would participate through their representation on both bodies. The purpose of federal oversight is to ensure that the plans agreed upon are in fact implemented by the states, not to cut them out of the decision-making loop. Indeed, states should be permitted to modify regulations to reflect different conditions in different states, subject to approval of the Councils/Commission. And of course the right of states to enact more stringent measures would be reserved.

But if any state should fail to enact and enforce the agreed upon regulations within a prescribed time limit, and the Secretary of Commerce, after consulting with the Councils/Commission, determines that this failure adversely impacts the success of the plan, the Secretary would be authorized to impose a moratorium on fishing for any species managed under that plan. The ban on commercial and recreational fishing, as well as incidental harvests in other fisheries, would remain in effect until the Secretary, again on advice from the Councils/Commission, determines that appropriate remedial action has been taken.

The threat of federal pre-emption is the stick that will make the whole thing work, and presumably that will always stick in the throats of some. To make it go down easier, a carrot, or financial incentive, might be offered. Federal grants could be made available to states to assist in developing and enforcing state fishery plans consistent with approved interjurisdictional plans. These grants could be made contingent upon the state empowering a single agency to prepare and implement fishing regulations, thereby getting these decisions out of state legislatures altogether. Finding new sources of federal revenues, however, will be difficult.

To sum up, no informed person can deny that the Striped Bass Act is the glue that holds the interstate recovery effort together. Without it, it most surely would have fallen apart. ASMFC director Jack Dunnigan calls it "perhaps the single most effective piece of fishery conservation legislation ever passed by Congress." It's time to extend this proven formula to other migratory species, before it's too late.

PACIFIC SALMON PUT ON ENDANGERED SPECIES LIST

The National Marine Fisheries Service on November 14th declared the Snake River sockeye salmon an endangered species. The only thing good about this somber event is that the Endangered Species Act allows the federal government to do whatever is necessary to prevent the sockeye's extinction. NMFS will put together a long-term recovery plan, but has immediate power to stop activities that threaten the distinctive red salmon's survival, including hydropower, logging, farming and fishing.

Many thousands, even millions of sockeye used to swim hundreds of miles up the Snake, Salmon and Columbia Rivers to historical spawning beds. Sockeye are peculiar in that they adapted to spawning in lake basins. Today, fish that survive the increasingly perilous odyssey find their spawning beds are gone. When NMFS announced its proposed listing last April, there was some concern that the sockeye might already be extinct; no fish came home to reproduce in 1990. Last summer a total of 4 fish reached their spawning grounds in Idaho. The species breeds in 4 to 5 year cycles, and officials are counting on there being more potential spawners still at sea.

The decision on whether or not to declare a species endangered is based solely on biological criteria. Federal agencies are not permitted to consider economic factors, although they are taken into account when drafting the recovery plan. The Endangered Species Act is currently under attack from those who think economics should be weighed before listing a species. The Act comes up for renewal in

Congress next year. Opponents of federal regulations to protect the endangered spotted owl in the northwest's old growth forests and endangered sea turtles in the south Atlantic are already lobbying to weaken the Act. Sources in Congress say the pols will extend the present law into 1993, moving the incendiary debate out of an election year. If that happens, Congress will be wrestling with bills to re-authorize and amend the Endangered Species Act, the Marine Mammal Protection Act and the Magnuson Fishery Conservation and Management Act in 1993. It's a disturbing prospect for conservationists, because in that environment anything could happen.

SOMETIMES LESS IS MORE

There are some 5,000 to 7,000 boats dragging the offshore waters of the Gulf of Mexico for shrimp, according to the region's Fishery Management Council. Some experts estimate a fleet less than half that size could harvest the same amount of shrimp. Overcapitalization - too many boats competing for a finite resource - coupled with competition from cheaper imports, has the industry reeling and the Gulf Council looking for a solution. One option being talked about is restricting the number of boats allowed to catch shrimp.

Limited entry - any of a number of regulatory schemes that directly controls the number of participants in a particular fishery - is, to put it mildly, a controversial management tool. It's typically a reaction to a free and open access fishery that's degenerated into an unmanageable free-for-all. Critics say it's an over-reaction and that exclusionary management policies are un-American.

Without question, limiting entry is not appropriate for every commercial fishery, just as gamefish status is not appropriate for every recreational fishery. There are often better, more conventional ways to achieve the same end. Nevertheless, when faced with a "tragedy of the commons," wherein a publicly-owned resource is subjected to uncontrollable fishing pressure, such as we have in the shrimp fishery, it merits serious consideration.

The greatest threat caused by overcapitalization in the Gulf shrimp fishery may not be to the shrimp resource, which is remarkably regenerative. Rather, the greatest threat posed by the thousands of unlicensed shrimp trawlers - no one knows how many there really are - is to the billions of finfish they kill as bycatch every year.

Contrary to what many think, limited entry can have conservation as well as economic benefits. That is the NCMC's interest in this debate. Those benefits are summarized below:

- A successful limited entry scheme requires using observers to gather accurate and detailed information on catch. The same observers could collect badly needed bycatch and discard data, too.
- Reducing the number of trawlers in the Gulf and thus reducing total fishing effort would decrease bycatch significantly.
- Fishermen less compelled to catch as many shrimp as they can as fast as they can are more apt to experiment with fish excluder devices and other bycatch reducing measures.
- The economic squeeze resulting from uncontrolled access ends up undermining conservation objectives. Overcapitalization leads to overfishing which in turn leads to the need for more regulation. But the severe economic impact on so many struggling fishermen makes regulation difficult.
- Taxpayers foot the bill for management, research and enforcement, but the government is running on empty. Shrimpers should be required to lease the right to harvest shrimp, with fees paying for enhanced fisheries programs, including developing new gear technology. Marine fish are virtually the only common property resource that we allow private interests to exploit for free.

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PRODDED, ICCAT BUDGES

But a Real Move to Conserve Bluefin Tuna is Still to Come

A year of unprecedented activity on behalf of bluefin tuna conservation went out with neither a bang nor a whimper, but a rumbling of more to come in 1992.

The November 1991 session of the International Commission for the Conservation of Atlantic Tunas (ICCAT) produced several firsts. For the first time ever, the United States delegation traveled to the annual meeting in Madrid with a written position developed by this country's fishery experts and approved by the Administration. The official U.S. position was a 50% reduction in the 2,660 metric ton quota for western Atlantic bluefin (the allowable catch we share with Japan and Canada) to jump start the stalled recovery.

In response, the 22-nation Tuna Commission acknowledged the need for "more effective management of western Atlantic bluefin tuna" and agreed to the first new conservation measures since 1982. But with an ambiguous report from its Standing Committee on Research and Statistics (SCRS) in hand, ICCAT voted to cut down on fishing pressure by only 10% over the next two years. The catch will return to the 1991 level in 1994, unless the SCRS recommends that additional cuts be made.

By being timid instead of prudent, ICCAT assured its decision would be only the first in a series of international efforts to protect the bluefin from overfishing. In deference to the U.S. request for a more restricted catch, ICCAT instructed the major fishing nations (U.S., Canada and Japan) to meet in Tokyo in February "to consider a possible reduction of the fishing level to 50% of the 1991 scientific quota to allow for a more rapid rebuilding." If that doesn't happen, the stage will shift to the March meeting of CITES, where a proposal to ban trade in Atlantic bluefin is on the agenda.

Giant Decline Continues. Prior to the ICCAT meeting, the National Marine Fisheries Service (NMFS), joined by independent scientists, determined the existing limits on bluefin have been a "partial success" in that increased numbers of immature fish are moving toward the severely depleted spawning population. The problem is, according to NMFS, record fishing pressure on medium and young adult bluefin is preventing these fish from reaching breeding age. The number of spawners (fish at least 8 years old) is now estimated at less than 10% the 1970 number.

The conservative U.S. position taken to ICCAT was based on this assessment. But since the SCRS performs its review immediately prior to the session in Madrid, the U.S. Commissioners were allowed a fall-back position if their assessment presented a more positive picture. It did and it didn't.

The 1991 SCRS report is an odd piece of work, compared with those of previous years which were frankly pessimistic about the bluefin's prospects for recovery. The latest report contains optimistic statements about the success of the current program, yet the reasons for optimism are not apparent from the document itself. SCRS reported to the Commissioners that the number of sexually mature fish, or giants, continues to decline, a staggering 24% from last year's estimate. There is no discernible trend in the population of small tuna, but medium-sized fish may have ceased to decline. The year-classes in the 1980s were smaller than those from the 1970s, reflecting the shrinking size of the spawning population.

The scientific committee admits its "general conclusions are quantitatively similar to those presented previously" and that "estimates of stock size in the most recent years...are subject to more uncertainty than are the estimates...for the stock size two or three years earlier." Nevertheless, SCRS put a gloss on its report to the Commissioners, leading some to confuse signs that the abundance of younger age groups has stabilized with progress toward recovery.

A High Risk Strategy. There is a big difference between a bluefin population that's rebuilding and one stabilized at its current low level, which is at best what we have now. With adult tuna reduced to dangerously small numbers and still disappearing at an ever-increasing rate, the future of the bluefin remains at serious risk.

ICCAT's action seems designed less to affect a recovery than to ensure the market for the most valuable fish - mediums and giants - isn't affected. The biggest restriction in the new regulations is on the catch of small fish. Beginning in 1992, fishermen will be prohibited from taking and landing tuna weighing less than 66 pounds. The catch of adult fish is hardly diminished, despite warnings from U.S. scientists that "recent fishing mortality rates near record high levels for medium and large bluefin are likely cropping the potential management program benefits [increased numbers of young fish] to the adult stock before they can be realized."

The National Coalition for Marine Conservation supports reducing the catch of juvenile fish, but that will accomplish little if unaccompanied by a sizable reduction in catch across the board, particularly of medium and spawning-age bluefin where fishing mortality rates are highest. We are recommending that the Administration make the strongest possible effort at its upcoming meeting with Canada and Japan to secure a 50% quota reduction. Our delegates should make it clear to the other parties that if such reduction is not agreed to, the U.S. will seriously consider supporting trade restrictions for bluefin.

Without question, the motivation behind the post-ICCAT get-together is the impending meeting of CITES, the Convention on International Trade in Endangered Species, the first two weeks in March. Indeed, the threat of a CITES listing restricting or forbidding overseas trade - 90% (by weight) of the bluefin caught are shipped to Japan - was a factor in getting the major fishing nations, particularly Japan, to agree to any reduction at all. If CITES convenes with ICCAT having done no more than reduce the kill by 10%, the case for listing will be as strong as if the Tuna Commission had done nothing at all. In that event, conservationists, the NCMC included, are prepared to push for trade restrictions as the only avenue left to rescue the bluefin.

TALKING SHRIMP BYCATCH BLUES

Workshop Looks Ahead to 1994

Since Congress postponed any controls on shrimping aimed at reducing the incidental catch of finfish until 1994, fishery conservationists are determined to make the most of the two years left in the management moratorium. Our goal is to ensure that research leads to the development of more selective trawls so that fishery managers will be ready and able to put bycatch-reducing measures into place as soon after January 1, 1994 as possible.

There is general agreement among managers and conservationists that shrimp trawl bycatch is a serious resource problem demanding quick action. A NMFS study released last year estimated that the number of unwanted fish trapped in shrimp trawls and discarded in 1989 exceeded 10 billion. The Gulf of Mexico Fishery Management Council made reducing bycatch by half an objective of its Reef Fish Plan . The challenge is coming up with a method of reducing bycatch that is both workable and acceptable to shrimp fishermen.

But many in the industry - it's hard to say how many, but leaders claiming to represent thousands of shrimpers are among them - still insist the bycatch problem is largely one of perception. They say bycatch is *not* the problem it's made out to be and one solution is getting that point across to the public.

This dichotomy was exposed at a Shrimp Trawl Bycatch Workshop the NCMC participated in November 22-23. The workshop was sponsored by the Center for Marine Conservation, a Washington-based environmental group best known for its leadership in the campaign to protect sea turtles from shrimp nets. Representatives of the commercial industry, conservation groups, sport fishing interests, scientists and fishery managers sat down together, not just to air their differences, but to engage in a constructive dialogue in search of common ground.

All present said they want to avoid a repeat of the rancorous and sometimes violent confrontations over TEDs and turtles. Communication and cooperation will be key to any resolution, they agreed. But as long as one side is searching for a solution to a problem the other side won't admit is real, confrontation will be unavoidable. When it comes to the facts, we can't just agree to disagree.

Just the Facts. Concerns about the environmental impact of killing huge amounts of fish in normal shrimping operations go back to the 1930s. But it was the 1987 NMFS estimate of bycatch in the gulf shrimp fishery that focused the issue now coming to a head. Among the species at the top of the list were overfished king mackerel and red snapper. This raised the question - what part did shrimping play in the demise of these resources? A follow-up study upped the ante. Over 9.6 billion juvenile fish of thirteen species were caught in 1989, according to NMFS, although over a hundred species are taken. The highest fish-to-shrimp ratio is in the "fertile crescent," the offshore plume at the mouth of the Mississippi.

Many shrimpers, while claiming the NMFS figures are inflated, argue that dead fish thrown back into the sea are recycled into the food chain. They also worry that reducing the bycatch could cause a decrease in shrimp, since some bycatch species compete with or prey on shrimp. But this view was not supported by a workshop presentation by Dr. Joan Browder of the Southeast Fisheries Science Center, a NMFS facility. She concluded that 1) fish contribute more to the ecosystem alive than dead, and 2) substantial bycatch may actually reduce shrimp abundance, by diminishing energy flow, mineral recycling, nutrients and wastes in the ecosystem.

The specious claim that the use of TEDs to save turtles has indirectly solved the fish problem was also heard at the workshop. It's true that the most recent estimates of bycatch were done prior to the use of TEDs and we need new, updated data. But the real need for better catch estimates is for use in assessing the condition of impacted species. The fact is, most of the turtle excluders in use are not proven effective in allowing fish to escape. Not all shrimp boats are required to pull TEDs. The level of compliance with the law is unknown. The total number of fish killed post-TEDs is still intolerable and the case for lowering it no less compelling.

A BRD That Will Fly. Bycatch researchers are no longer looking for a fish excluder device, or FED as it came to be known. The new acronym, introduced at the workshop, is BRD (pronounced bird), for bycatch reduction device. FED carries too much negative baggage. For one thing, it sounds like TED, a dirty word in the shrimping community. It also denotes federal agents, and NMFS is anxious that any new device not be associated with the government.

That's why NMFS has all but dismissed its own version of the TED as a bycatch reducing option, even though the NMFS invention, above all others, lowers the catch of finfish substantially (50-70%) when properly modified. Instead, a source in the agency says, developing a suitable alternative device is now in the industry's hands. The Gulf and South Atlantic Fishery Development Foundation has been given $1.3 million of federal money and until 1994 to come up with a solution. If they don't, that same official told the NCMC, then NMFS will.

BRD watchers see red snapper as a test fish, not because it's the most threatened bycatch species, but because it's the key to perfecting a device that will achieve our bycatch reduction goals. The 20 million yearling snapper caught in shrimp trawls annually are not only small but are very weak swimmers and especially difficult to separate from the shrimp catch. A device capable of excluding 50% of red snapper will allow that percentage and more of other species to escape.

By the way, the oft-cited goal of decreasing bycatch by 50% was selected by the Gulf Council because it was considered technologically feasible at the time, not because it represents an acceptable level of bycatch. Managers could, and should, end up targeting a bigger decrease.

FISH KILLS IN COASTAL WATERS

New Study Focuses on "Hotspots"

The sight of a shoreline littered with thousands of dead fish, pallid and floating belly up, is a sure sign that conditions in the water, at least for a period of time, were unlivable. Many of us have witnessed a fish kill, wondered what caused it, and whether it was an isolated incident or a sign of something terribly wrong in the marine environment.

A new report by the National Oceanic and Atmospheric Administration (NOAA) identifies and assesses the causes and extent of fish kills in coastal waters of the United States during a recent ten year period. NOAA documented thousands of fish kills during this time, yet concludes that "fish kills have not been a pervasive problem in the Nation's estuarine and coastal areas. However, recurring kills or 'hotspots' do occur in some areas."

The Number of Events Is Up. Over 3,650 fish kills were reported in 22 coastal states between 1980 and 1989. A total of 407 million fish died. The general trend over the decade was upward in the number of incidences per year but downward in the number of fish killed nationwide. It is not clear whether the increase in kills is due to declining water quality or greater emphasis on reporting.

Causes range from accidental spills of toxic waste or chemicals to non-point sources, such as agricultural run-off of pesticides and nutrients. Algal blooms and abnormally warm water temperatures will also cause massive die-offs, usually in the summer months. These natural events can combine with human events to place unbearable stress on local concentrations of fish. Algal blooms have been more prevalent in recent years, possibly due to pollution or global warming.

Since fish kills indicate a severe environmental stress, the data collected can be useful in pinpointing areas where there are recurring problems and where clean-ups or new preventive measures are needed. For example, eight of nine fish kills over a four year period on the Mattanawcook River in Maine were ultimately traced to a paper mill upriver. In 1989, the state took legal action against the plant and the problem has been solved. Similarly, numerous kills were reported in the Pamlico River in North Carolina, a total of 23 between 1981 and 1989. This chronic problem led officials to identify deep and ongoing water quality problems in the river. The state set up a special Estuarine Response Team to monitor the severely stressed Pamlico River/Sound.

Dead Fish Are Only One Sign of Trouble. The most common victims of fish kills are menhaden, shad, herring and blue gill, small schooling fish intolerant of sharp fluctuations in oxygen levels. NOAA researchers do not believe any single die-off has had a significant impact on fish populations.

Even so, it's important to point out that dead fish are only one symptom of pollutants in coastal waters. A larger and more pervasive problem is the non-lethal effects on fish behavior, growth, development and reproduction, or on food supplies and habitat that lower the carrying capacity of aquatic ecosystems. These changes can have more drastic yet unseen effects on fish populations.

They also threaten human health. According to the 1991 NCMC report, "Stemming the Tide," on any given day, a third of the nation's shellfish waters are closed because of contamination. In the Gulf of Mexico, 74% of shellfish waters are restricted due to water quality degradation from inadequate sewerage and run-off, problems that are increasing with growing population of the coastal zone. Cancerous tumors have been found in 1 of 4 bottom-dwelling fish in parts of Boston Harbor and Puget Sound.

A stronger Clean Water Act, now up for renewal in Congress, is needed to better regulate the flow of point and non-point sources of toxic and other pollutants into coastal waters. As a member of the national Clean Water Network, the NCMC is working toward that goal.

AMERICANS ABROAD

Making the Seas Safe for U.S. Salmon

Atlantic salmon stocks are not in good shape. Catches remain lower than allowable quotas. But doing what's needed to restore the stocks presents a dilemma for nation's with active salmon fisheries, decisions that have political and economic ramifications.

The toughest problem facing the nations belonging to the North Atlantic Salmon Conservation Organization (NASCO) is the issue of interception of salmon originating in the rivers of one nation but captured as they migrate past the shores of another, or across open seas. The U.S. and Canada make up NASCO's North American Commission, one of three regional groupings, and interception of U.S.-origin salmon by Canadian fishermen remains the sticking point between them. At the 1991 Commission meeting, the U.S. proposed a plan for Canada to reduce its catch of migrating salmon, but it wasn't acted on. Canada is moving to minimize the harvest, but is getting stiff resistance from its offshore fishermen.

Another issue important to U.S. interests in salmon and our ongoing effort to restore fisheries to New England rivers is the catch of U.S. and Canadian salmon off West Greenland. Both the American and Canadian delegations presented the West Greenland Commission with proposed quota reductions, but Denmark, representing Greenland, rejected them.

While Canada can shift its fisheries to in-river only, Greenland doesn't have that flexibility. Deprived of offshore fishing on migrating stocks feeding in their waters, Greenlanders would need an alternative source of income, and that's not readily apparent. An alternative source of salmon, however, is; farming. Wild populations currently supply just 2% of the salmon consumed worldwide.

THE NCMC AT WORK IN 1991

The National Coalition for Marine Conservation made progress this year in every key area of activity - fish conservation, environmental protection and gear management. Following is a brief recap.

New Education Programs. In 1991 we introduced the quarterly Marine Index, providing a graphic presentation of the status of key marine species and efforts to conserve them. The Index has been well received and reprinted in numerous newspapers around the country. We also produced a new full-color educational brochure, "The Sea's Vanishing Bounty," to stimulate concern about the alarming decline of ocean fish and to promote broader public support for fish conservation. Finally, we are co-producing, with the New England Aquarium, a video presentation on the plight of the bluefin tuna.

Restoring Northeast Groundfish. After briefings from the NCMC, the Conservation Law Foundation filed a lawsuit to force rebuilding of the overfished Georges Bank cod and haddock fisheries. The action culminated in an agreement whereby the New England Council has until September 1992 to produce a suitable recovery plan or relinquish management to NMFS. Whether through Council action or NMFS intervention, the first-ever limits on catch and effort should result. We will closely monitor progress toward that goal.

Interjurisdictional Fisheries Legislation. The NCMC drafted legislation and enlisted support for improving the management of coastal migratory fish - weakfish, bluefish, fluke, redfish - along the Atlantic seaboard. Congress will take up proposals to enact a new federal law in the 1992 session.

The Habitat Symposium. We organized and co-sponsored the National Symposium on Coastal Fish Habitat Conservation. After reviewing trends in activities that disturb, alter or contaminate aquatic habitats, we produced a set of recommended changes in law, policy and spending to preserve clean water and healthy habitat. This report, "Stemming the Tide," was widely distributed and its recommendations endorsed by seven Fishery Management Councils, the American Fisheries Society and others. Some have already been implemented. The NCMC will publish the complete proceedings of the Symposium this July.

Protecting the Environment. Throughout the year we supported efforts to strengthen the wetlands protection provisions of the Clean Water Act and fought changes in federal rules that would allow unregulated development of millions of acres of critical fish and wildlife habitat. We opposed renewed efforts to build huge coast-threatening jetties at Oregon Inlet. A bill to guide development away from untouched coastal flood plains passed the House and its chances look good in the Senate. And the end to ocean dumping is still on track, despite last-ditch efforts to derail it in Congress. New Jersey stopped dumping sewage sludge in 1991 and New York is scheduled to quit by next June.

Mackerel Management Pays Off. Past victories in getting strict measures to conserve the Atlantic group of king mackerel, including a ban on drift nets, paid off as the fishery rebounded. Allocations to recreational and commercial fishermen were increased in 1991, tangible evidence of successful management.

Controlling Bycatch. We continued our leading role in bringing national attention to the serious problem of bycatch waste caused by indiscriminate fishing practices. Because of our efforts, bycatch is now recognized as one of the most important conservation issues facing the nation in the 1990s. In 1991 our bycatch program addressed a wide range of issues. In addition to identifying fisheries where bycatch is a major cause of overfishing, and gauging the extent of the bycatch and its impact on individual species, we are promoting research and funding needs and proposing viable solutions. We submitted a plan to end unregulated, indiscriminate longlining on the bluefin tuna's spawning grounds; drafted measures needed to more accurately assess shark bycatch and discards; and provided testimony in support of a successful ban on fish traps in the southeast reef fisheries.

Because Congress disallowed any regulation of the shrimp trawl fishery until 1994, our efforts focused on drawing public attention to the problem and ensuring the current research period leads to effective action when the moratorium expires. And while the world moved closer to a ban on large-scale high seas drift netting, we continued pushing to make the small-scale drift nets used by American fishermen in our pelagic fisheries illegal, too. Strict limits were placed on swordfish netters in what we hope will be an interim step leading to a total ban.

Enhanced Observer Coverage. While we continued to review the effectiveness of the existing observer program, we pushed for a comprehensive program to monitor the pelagic longline fleet and its bycatch. We obtained cost estimates for expanded coverage and backed requests for new funding in the NMFS budget. The 1992 budget resolution contains an increase for NMFS, including new money for its pelagic fisheries program.

Large Pelagics. National and international actions to conserve the big ocean predators - tuna, swordfish, billfish and sharks - occupied a large portion of the fisheries landscape in 1991. The NCMC worked to close loopholes in regulation of the U.S. fishery for giant bluefin tuna and initiated efforts to achieve a lower Atlantic-wide quota through the international tuna commission. We also joined in support of a petition to impose restrictions on the international trade in bluefin.

By taking pelagic fisheries issues directly to the highest levels within the Administration, we succeeded in altering the way the U.S. position is formulated and then advanced at ICCAT. The result was the strongest U.S. position statement on bluefin in a decade. We activated and worked with other conservation organizations never before weighing in on fishery issues. These efforts combined to produce the first new measures to conserve the bluefin in 10 years with a good possibility of more to come.

We continued to press for enactment of a strong shark conservation program, and regulations are now expected to be implemented in March 1992. The NCMC assisted Hawaiian fishermen in combating the rapid spread of longlining in island waters. We joined with other fishing groups in a campaign to discourage a burgeoning commercial market for marlin in the U.S. And we promoted catch and release fishing by awarding a tagging trophy as part of the national TAG/FLAG program for the fifth year in a row.

OREGON INLET'S SEA OF DREAMS

"If You Build Them, They Will Come"

The diehard advocates of jettying Oregon Inlet will clutch at any argument, however tenuous, to support their cause. In a previous report on renewed efforts to have U.S. taxpayers to foot the bill for the $100+ million project (Marine Bulletin, No. 53), we noted that a new cost vs. benefit study done by the Army Corps of Engineers gives an unrealistic projection of increased catches from already stressed fisheries off the mid-Atlantic coast. Jetty proponents are now touting bluefin tuna, the most depleted and heavily regulated of the Atlantic's pelagic fisheries, as the saviour of the state's fishing industry - if only the jetties are built.

In this scenario, "stabilize" the inlet on North Carolina's Outer Banks with jetties and tuna boats will come ashore and Japanese buyers will be waiting on the dock with fists full of cash. According to a story in the Charlotte Times, there were 15 or 20 boats longlining off the coast of North Carolina last fall, but they took their valuable catch of bluefin to New Jersey for fear the inlet would be impassable. The proceeds from exporting millions of dollars of tuna to Japan, the longliners told local fishing interests, could be theirs, if only...

Forget that every environmental agency thinks building the jetties would be a disaster, including the Fish and Wildlife Service and the National Marine Fisheries Service. NMFS says construction would not only interrupt sand movements along the shoreline and speed erosion of adjacent islands, it would block movement of juvenile fish between the sound and coastal waters. Even forget that future catches of large bluefin tuna (the fish prized in Japan) are likely to be reduced, not increased, by either regulation or overfishing.

Before the people of North Carolina buy into the pipe dream of a booming fishing industry, they should consider the comment from a local seafood exporter pumping the "limitless possibilities" of the tuna market. Wanchese, NC at one time was a key port for landing swordfish, he points out. But "swordfish stocks have been depleted largely due to *overfishing by foreign vessels*.." In truth, swordfish disappeared from coastal waters because *American* longliners depleted them. Those same fishermen denied overfishing existed and obstructed efforts to halt it. Now they see a a boon where the rest of us see a boondoggle.

DOWN BY LAW

Swordfish Overkill Will Continue Under New Regs

On December 10th the National Marine Fisheries Service enacted regulations limiting the number and size of swordfish American fishermen may land in 1992. The federal action continues the emergency management program put into place last June to implement the recommendations of ICCAT, the international treaty organization governing highly migratory species in the Atlantic.

The allowable U.S. catch for the 1992 season is 6.9 million pounds, going mostly to commercial longliners with small allocations for fishermen using harpoons and drift gillnets. Pair trawls, introduced into the fishery in 1991, are now illegal. Commercial fishing is subject to a minimum size limit of 31 inches carcass length (or 41 pounds dressed weight), with a 15% allowance for undersized fish based on a vessel's total swordfish landings. When a quota is met, longline and gillnet fishermen will be permitted a bycatch of 2 fish per vessel. Recreational fishermen using rod and reel are not assigned a quota but cannot sell swordfish.

NMFS describes the condition of swordfish as "critical," citing years of rampant overfishing. In 1990, U.S. fishery managers had proposed a 78% cut to be phased in by 1993. But that same year, ICCAT members agreed to reduce fishing effort from peak years (1987-88) by just 15%. The U.S. is confined by law to regulating the Atlantic fishery for swordfish in accordance with the ICCAT recommendation and therefore NMFS is denied the full range of options needed to rebuild the troubled fishery.

As Tough As They Want To Be. It's the National Coalition for Marine Conservation's view that as long as U.S. management is restricted to working within the constraints of the inadequate ICCAT program, overfishing will continue. Until such time as these constraints are lifted, we are urging the agency to be as conservative as present law will allow.

The NCMC presented NMFS with a list of recommendations for strengthening the existing swordfish management program while still fulfilling our obligations as a member of ICCAT. The first of these recommendations concerns protecting small fish. We are not convinced that the 31-inch size limit offers any substantive conservation benefit, since longline gear is not size-selective and undersized swordfish continue to be caught and discarded. As an ICCAT regulation, the minimum size limit cannot be eliminated. However, it should be complemented with time/area closures, similar to the seasonal closure system proposed by the Regional Councils. Council records contain abundant information identifying specific areas that could be closed at specific times to effectively minimize the take of undersized fish.

We've also urged that swordfish discarded because of the size limit or after the directed fishery is closed be counted toward the total U.S. quota. Conservation goals are defined in terms of mortality, not landings. Observers must be placed aboard the swordfish fleet to count discards. Although the NMFS plan contains a limited observer program, the level of at-sea monitoring proposed may not be sufficient to allow extrapolation of the data to the entire fleet, several hundred boats. If this level is not achieved, the observer data will be of dubious value.

The NCMC is working to secure additional funding for observer coverage of the pelagic longline fleet in the next NMFS budget. In addition, we will ask Congress in 1993 for changes in the Magnuson Act to permit managers to assess vessel owners the cost of observers.

We support the prohibition on pair trawls, the newest gear type brought in to sift through the remnants of the adult swordfish population. In this fishery, two vessels pull a modified trawl net between them. Introducing a new, highly efficient gear into a fishery in a depleted state runs counter to the conservation objectives of swordfish management. For the same reason, we vigorously object to allowing the drift gillnet fishery to continue to operate, albeit with a minimal allocation. This gear was introduced at a time when managers were proposing cutbacks in traditional gear types. Now at least 21 boats are setting the large pelagic gill nets for sword-

fish (as well as tuna and shark), with an unacceptably high incidence of marine mammal entanglement. There are more selective gear types available to the commercial sector, namely harpoons and other traditional hand-held gear.

Finally, we oppose re-defining Atlantic swordfish as a single north Atlantic stock for management purposes. This change cannot be supported by the science. Tag returns show little or no trans-Atlantic migration, but rather suggest north-south movement within discrete east and west stocks. In our opinion, combining the stocks could obscure the alarming condition of the western stock and weaken the case for tougher restrictions on catch in the western Atlantic. Such restrictions will need to be sought by the U.S. at the next meeting of ICCAT.

WHEN BAD THINGS HAPPEN TO GOOD FISHERMEN

The National Coalition for Marine Conservation seeks support from a broad-based constituency, including both recreational and commercial fishermen. We believe our guiding principle of wise use for the long-term productivity of the ocean cuts across the lines drawn between different user groups and benefits not only all fishermen, but all Americans.

Nonetheless, those lines do exist. Too often, the ongoing battle to conserve fish, one we've been waging since 1973, is perceived as merely a struggle between competing fishermen. That this is so is not surprising, since until only recently, when the rest of the world woke up to the crisis in our fisheries, fishermen were the only ones in the trenches. But to the extent that this perception undermines conservation, it must be overcome. In so far as conflicts between fishermen grow more intense as our fisheries continue to decline, those of us representing the interests of conservation-minded fishermen have got to try harder.

Each group of fishermen tends to stereotype the other, attributing motives that are true of some but certainly not all. Many in the commercial industry, for instance, wrongly brand "sports" as fishermen with nothing more in mind than putting professional fishermen out of work to get all the fish for themselves. This leads them to dismiss out of hand any and all measures recreational interests advocate or endorse.

Likewise, many anglers have a distorted view of all commercials as the bad guys. The fact that there are fishermen who make a living from the sea and support conservation in order to protect their jobs is usually overlooked. Is it enough to assert that commercial fishermen have the same interests in maintaining healthy fisheries as we do, but too much to think there are any who actually believe it?

"Conservation is the highest form of economic productivity and a penny spent on effective management will save a dollar for later rehabilitation." Nice words those. A commercial swordfishermen said them. But they aren't just words; that fisherman's been putting his money where his mouth is for years and trying to get his comrades to listen to a simple message: poorly managed fisheries result in boats tied to the dock and fishermen looking for shoreside employment.

That he and other outspoken commercial fishermen like him (among them mackerel fishermen in the southeast, lobstermen in Hawaii, salmon trollers in Alaska) are a minority, considered outcasts or even traitors by others in their industry, only underscores the need to get past the labels. Conservation-minded fishermen don't need to find common ground - they know what it is. They need to find each other.

Where we stand on the issues - overfishing, habitat, bycatch - is clear to anyone who reads our newsletters. We'd like to hear from commercial fishermen who share our goals. We'd like to know how we can work together in a true coalition for marine conservation.

The "Marine Bulletin" is edited by Ken Hinman and published by the National Coalition for Marine Conservation, an independent, non-profit organization dedicated to the conservation of ocean fish and their environment. Articles may be reprinted without permission provided credit is given to the source.

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CURRENTS

National Coalition For Marine Conservation, Inc.

A Bi-monthly Summary of Coalition News & Activities

January 1991

RED LIGHT ON REDFISH. Over-harvest of young red drum in nearshore waters of the Gulf of Mexico, aggravated by the rapid development of a purse seine fishery for adult redfish in offshore waters during the mid -1980s, led to the diminution of the gulf breeding stock. Federal authorities closed the gulf fishery in 1988, pending the return of the adult population to a safe level. A similar pattern is now occurring off the south Atlantic coast. As in the gulf, heavy fishing pressure on juvenile fish has drastically reduced recruitment to the offshore population. The spawning stock is at a perilously low level - currently only about 10% of what it needs to be to support a healthy fishery.

As of Dec. 5th, possession and harvest of red drum in federal waters of the Atlantic, from New Jersey to Georgia, is prohibited until further notice. The ban will remain in place until the number of spawning-age fish increases and catch levels can be safely set. The NCMC supported this action, which will also head off development of a net fishery for breeders, as happened in the gulf. The states have been asked to help out by reducing fishing mortality nearshore to allow at least 30% of juvenile redfish to survive and move offshore to replenish the spawning stock.

COASTAL HABITAT CONFERENCE. Fishermen Involved in Saving Habitat (FISH), an alliance of fishermen, environmentalists and resource managers, will hold an information exchange meeting in conjunction with the NCMC's upcoming "Symposium on Coastal Fish Habitat Conservation" in Baltimore March 7-9th. The purpose of the FISH meeting, which will take place from 1 - 5 p.m. on March 6th, is to develop a way to coordinate public information and education programs on habitat issues. The habitat conference begins on the morning of the 7th, with a keynote address by National Marine Fisheries Service (NMFS) director William Fox, who's singled out habitat protection as one of his administration's top priorities. To register for the symposium, contact Ken Hinman c/o NCMC (912-234-8062).

TUNA BUBBLE BURSTS. The predicted crash in the yellowfin tuna fishery may have already begun. Catch totals for 1989, compiled by NMFS, show that 215 American longliners landed 5,600 metric tons of yellowfin in the Gulf of Mexico. That's a 28% drop from 1988, when a 217-boat domestic tuna fleet took 7,800 tons. Since 1981, the U.S. catch grew by leaps and bounds, doubling, sometimes tripling in the span of a year, and peaked in 1988. By 1989, longliners were leaving the free-for-all in the gulf and steaming into the Pacific in search of greener pastures.

The yellowfin is the least migratory of the tunas. The NCMC has warned that the excessive concentration of fishing in the gulf would inevitably turn the U.S. tuna boom into a bust. We are pushing for an expanded observer program to monitor the tuna longline catch along with its bycatch of billfish and other non-target species. We are concerned that the decline in yellowfin may be accompanied by a corresponding decline in fishing for marlin in the northern gulf, since commercial marlin catches rose with tuna catches throughout the 1980s. The recent inclusion of tuna under the Magnuson Act means NMFS is now responsible for developing a domestic tuna management plan, and the NCMC will continue to play a major role in promoting a U.S. program that will protect the long-term health of our pelagic resources.

NCMC ANNOUNCES 1990 AWARDS FOR TAG AND RELEASE. On Jan. 11th, the NCMC awarded trophies to the 1990 winners of the AFTCO TAG/FLAG Tournament program. The program honors those anglers and captains who tagged and released the most fish of eight designated species. Since 1986 the Coalition has sponsored the Blue Marlin Trophies. This year's winners are angler Rus Hensley of Ft. Lauderdale, FL, who tagged and released 36 blue marlin last year, and Capt. Randy Jendersee of Santa Rosa Beach, FL for tagging 63 blues. NCMC director Tim Choate presented the awards at ceremonies held in West Palm Beach.

The NCMC promotes tagging as an important conservation tool and encourages all salt water anglers to do their part by participating in tagging programs for a variety of species. When tagged fish are recaptured, the tags yield much needed information on growth rates, life spans, migration routes and population distribution, all of which helps efforts to conserve marine fish stocks coming under increasing fishing pressure. Write us for information on getting involved in tag and release fishing.

U.S. WEIGHS ITS OPTIONS ON SWORDFISH. The recent shift of authority for managing swordfish and other pelagics in the Atlantic from the Councils to NMFS in the Dept. of Commerce notwithstanding, there is "no reason for U.S. management of swordfish to deviate from the proposed Council plan, or to delay management any further by retracing territory already thoroughly covered during development of that plan," the NCMC told NMFS in December. We advised against any further delay, urging immediate implementation of the plan prepared by the Councils, which would phase in reductions in fishing effort over three years, beginning with a 35% cutback in 1991, and outlaw drift netting.

NMFS held a public hearing on Jan. 15th in Washington to take comment on several options they are considering, including the Council plan, an international plan recommended by the International Commission for the Conservation of Atlantic Tunas (ICCAT) featuring an ocean-wide minimum size limit, or some mix of the two. The NCMC continues to endorse the Council proposal. However, we are also supporting the addition of a minimum size limit in order to make U.S. management consistent with the ICCAT recommendations.

NCMC RECEIVES SUPPORT FOR EDUCATION, BYCATCH PROGRAMS. The Curtis and Edith Munson Foundation has awarded the Coalition a 1991 grant in support of a new public awareness project on endangered marine species, and to continue work on the problem of bycatch waste in marine fisheries due to the widespread use of non-selective types of fishing gear. We also received a grant for capital improvements from the Oakleigh L. Thorne Foundation, which enabled us to purchase additional computer and printing equipment.

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FISH TRAPS MAJOR FACTOR IN DECLINE OF REEF LIFE. The NCMC wrote the South Atlantic Fishery Management Council on December 14th, asking that a prohibition on the use of fish traps in federal waters be included in the Council's proposed Amendment #4 to the Snapper-Grouper Fishery Management Plan. Fish traps are wasteful, indiscriminate and a major factor in the decline of reef resources. Fished in great numbers - currently there are tens of thousands of permits out and vessels may employ up to 100 traps each - they have been known to deplete local reef populations in southern Florida (which has banned trapping in state waters) and throughout the Caribbean Sea. Wire mesh traps attract, capture and kill numerous non-target reef inhabitants. Poorly marked and tended traps are often lost and continue to trap and kill for long periods of time.

The removal of fish traps, whether by an immediate ban or a scheduled phase-out, would significantly reduce fishing pressure and waste and help rebuild reef fish stocks, which biologists say have recently exhibited a sharp drop in average size due to overfishing. It would also enhance the commercial and recreational hook and line fisheries. The NCMC is also supporting strict minimum size and bag limits in the hook and line fisheries as part of the reef fish conservation program. The South Atlantic Council will meet on Feb. 28th to take final action on Amendment #4.

GULF BYCATCH UPDATE. Last November we reported that the crews of some tuna longliners in the Gulf of Mexico were intentionally killing billfish to retrieve their hooks. In response to NCMC inquiries, NMFS alerted its enforcement agents to this illegal practice and issued a press release, in English and Vietnamese, specifically on this subject. We also discovered that there is rampant illegal trade in giant bluefin tuna among American longliners in the gulf and brought this to the attention of NMFS, too. The threatened giants are supposed to be protected by strict limits on catches in the gulf, their main spawning ground. However, in addition to the routine discard of fish inadvertently hooked on longlines, outlaw fishermen are reportedly selling or trading illegally-caught bluefin. The NCMC is urging NMFS to consider closing portions of the gulf to longlining during the bluefin's spawning season as part of domestic tuna regulations. At the very least, the government should severely curtail longlining after the annual bluefin bycatch quota is reached (it was February last year) until spawning ends and the giants leave the gulf in June.

ABUNDANT OCEAN LEGISLATION. Legislation "designed to scientifically manage California's marine fisheries" was introduced into the State Assembly on Jan. 29th. The Abundant Ocean Bill was produced by a committee of sport and commercial fishermen plus representatives of state and federal agencies, under the sponsorship of the NCMC-Pacific Region based in San Diego. The bill is a modification of the federal Magnuson Act, with added emphasis on habitat considerations and management based on science. Management responsibility would go to a new Marine Fisheries Council instead of the state legislature.

RED SNAPPER PLAN STILL WON'T FLY. NMFS still won't accept the Gulf Council's plan to stop overfishing of red snapper, and for good reason - it won't stop overfishing. While the plan's tough on reef fishermen, shrimpers, who kill more fish as bycatch than the others combined, were let off the hook. Scientists say the red snapper stock is so bad off, it can't recover unless the catch in shrimp trawls is greatly reduced. The burden of conservation must be spread fairly among users of the resource; if anything, shrimpers should bear a greater burden because they're not using the snapper resource, they're wasting it. The NCMC has urged managers to require the use of fish excluder devices, but the Council has said it doesn't want to consider that option until 1993. The more likely option is closing certain offshore waters to shrimping at certain times of the year. It's not clear whether an amendment to the Magnuson Act passed late in 1990, which forbids any measures to "restrict the period during which shrimp are harvested" until 1994, precludes closures of selected areas at selected times. The Gulf Council will take up the issue again at its March meeting.

LICENSING GAINS GROUND ON THE EAST COAST. On April 1st, Georgia will become the fourth Atlantic coast state (joining Texas, Louisiana and Florida) to ask sport fishermen to pay for the privilege of fishing and help fund tightly-squeezed marine programs. Georgia's decision to approve a salt water fishing license comes just a year after Florida implemented a license, and it looks like the trend is moving up the coast. South Carolina has a proposl in the works and the New York Sport Fishing Federation (NYSFF), that state's largest angling organization, announced this month it will endorse a licensing scheme to finance a state Saltwater Recreational Fisheries Improvement Act.

The NYSFF has made its support for a license contingent on several guarantees: that the money raised be put aside and protected for fisheries programs; the appointment of a committee of anglers to watchdog how the monies are spent; and assurance that other states requiring licenses will honor New York's. The NCMC, in encouraging licensing at the state level for many years, believes any acceptable licensing system must feature these minimum criteria. A well-designed program can provide additional funds for research, enforcement and resource enhancement, supply managers with data on catch and effort, and make it easier for state agencies to communicate with the angling public, and vice versa.

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HURRY UP AND WAIT They must use a different dictionary in Washington; ours defines emergency as a situation calling for immediate action. Federal regulations to protect Atlantic sharks from over-exploitation, introduced in October 1989 by a National Marine Fisheries Service (NMFS) "fearful of a stock collapse," have been in bureaucratic limbo ever since. During 22 public hearings, NMFS heard complaints that its shark plan - featuring a ban on finning sharks at sea, a freeze on commercial landings, a bag limit for anglers and a data collection system - wasn't fair or was too restrictive or not restrictive enough. The NCMC was in the latter camp, but because thresher, mako, hammerhead and other species face imminent collapse if nothing is done, we urged that the plan be implemented ASAP and fine-tuned later. Since NMFS pulled the plan for revision, we have repeatedly asked the Secretary of Commerce to enact interim measures to halt overfishing, to no avail. On February 21st, NMFS announced that the plan is still being revised but is near completion, after which it will undergo a new series of public hearings beginning in May. Even if it stays on its new schedule, the plan is not expected to become effective before 1992. More than two full fishing seasons will have come and gone. Emergency, eh?

COUNCIL VOTES TO BAN FISH TRAPS The South Atlantic Council voted on March 1st to ban fish traps used to catch snapper and grouper. The NCMC supported the ban as critical to rebuilding overfished reef populations, and because thousands of non-selective traps wreak havoc on coral reefs, the sea's most diverse ecosystems. The new plan also prohibits entanglement nets and contains numerous conservation measures for hook and line fishermen, including minimum size limits for about 20 species of reef fish, bag limits, and seasonal closures. The regulations must be approved by the Sec. of Commerce before taking effect, possibly in Jan. '92. However, the NMFS southeast regional director opposes the trap ban and is likely to recommend a veto.

STEMMING THE TIDE 140 people - representatives of government agencies, the fishing industry, environmental organizations, fishery management bodies and Congressional staff - participated in the NCMC's National Symposium on Coastal Fish Habitat Conservation March 7-9th in Baltimore, Maryland. A detailed summary, including recommendations made by the conferees, is being compiled by Carl Safina, marine conservation director of the National Audubon Society, and will be published by NCMC in late April as "Stemming the Tide: Conservation of Coastal Fish Habitat in the United States." Copies will be available upon request.

READ OUR LIPS: NO MORE LOSS OF WETLANDS The NCMC was among 124 trade, professional, recreational and environmental organizations nationwide that signed a letter, hand-delivered to President Bush on March 13th, urging him to stand firm on the second of his two "no" campaign pledges -- "no net loss" of wetlands. The groups praise the President's new budget, which recommends a 48% spending increase to support wetlands protection. However, the Administration is at the same time supporting initiatives which would weaken existing laws. Congress, too, is entertaining proposals this year to weaken the wetlands protection provisions of the Clean Water Act, the only federal statute specifically designed to halt the loss of productive wetlands. "Basically, we told the President that his stated goal of 'no net loss' of wetlands is one of our highest priorities, and that if he'll stick to his pledge, we'll back him all the way," said Coalition executive director Ken Hinman.

CAMPAIGN TO END ILLEGAL BILLFISH SALES The NCMC, The Billfish Foundation, the I.G.F.A., "Marlin" magazine and several regional groups are working to halt the proliferating sale of marlin. Federal law prohibits the commercial possession or sale of blue or white marlin, sailfish or spearfish caught in the Atlantic Ocean, the Gulf of Mexico or the Caribbean Sea . Any person (other than the consumer) who possesses any species of billfish by way of purchase, barter or trade must have documentation showing that the fish was not harvested from prohibited waters. However, because thousands of billfish are hooked incidentally in commercial fisheries for other species, there is a substantial black market for billfish in the U.S., a market which must be closed in order to conserve billfish populations. In addition to writing hundreds of letters to restaurants and stores reportedly selling marlin, we are notifying the NOAA Office of Enforcement in Washington of any alleged violations and asking them to investigate.

SUMMER FLOUNDER REGULATIONS, SOME AREN'T On Feb. 15th, NMFS only partially approved Amendment #1 to the Fishery Management Plan for Summer Flounder (Fluke), submitted by the Mid-Atlantic Council last November. The agency okayed the plan's definition of overfishing, but rejected a proposed measure to protect juvenile fish, saying it would be too difficult to enforce. Fluke are already overfished; both commercial and recreational catches are at historical lows, despite increased effort throughout the east coast fishery. The 1991 NMFS stock assessment showed fish age three and older are practically non-existent, that the stock consists almost entirely of juveniles from the 1989 and '90 year classes. The Council wants to increase the mesh size in trawls to allow fish to escape until they reach legal size, or 13 inches coastwide; otherwise, many of these fish are caught and discarded before they can join the spawning population. While it decides how to respond to the NMFS disapproval, the Council continues working on Amendment #2, which is being developed jointly with the Atlantic States Marine Fisheries Commission (ASMFC) and will contain measures to control recreational fishing, which takes place primarily in state waters.

HOW ABOUT A FEDERAL MIGRATORY FISH ACT? Summer flounder management raises another issue, the problem of managing species - bluefish, striped bass and weakfish are others - that migrate through the waters of several states and between state and federal jurisdictions. The ASMFC develops interstate regulations, but as was the case with striped bass in the early '80s and now again with bluefish, the states don't always cooperate. The Atlantic Striped Bass Conservation Act of 1984 solved the problem for striper by forcing states to enact a uniform program or face federal pre-emption. It's time to adopt a similar approach for all coastal migratory species. The NCMC has written William Fox , head of national fisheries, and asked him to convene a meeting to discuss the issue with members of Congress, the Councils, ASMFC and constituent groups.

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SWORDFISH SCENARIO The American Fisheries Society has invited NCMC director Ken Hinman to participate in a special symposium on "Management of the Highly Migratory Atlantic Swordfish -- Outlook for the 1990s" at the AFS Annual Meeting in September. He will review U.S. actions to manage Atlantic swordfish, construct a probable scenario for the future, and provide recommendations that, if implemented, would change that projected outcome towards a more desired one.

NCMC SUPPORTS FLOOD INSURANCE REFORM The NCMC and nine other national conservation groups sent a letter to members of Congress on March 13th asking them to support H.R. 1236, a bill to reform the National Flood Insurance Program by guiding new development away from flood- and erosion-prone areas. Undeveloped coastal floodplains minimize flood and erosion damages and provide critical wildlife habitat.

ICCAT CRITIQUED NCMC President Chris Weld and Vice President Jim McHugh presented a point-by-point analysis of the 1990 ICCAT recommendations for Atlantic swordfish to NOAA Administrator John Knauss, Asst. Administrator William Fox and the State Department's secretary for fisheries Edwin Bohlen. The report outlines concerns not reflected in the official U.S. report to the Administration, pointing out that the harvest reductions recommended by ICCAT are significantly less than needed to restore the adult spawning stock, according to both U.S. and ICCAT scientists, and that American fishermen are asked to bear the brunt of these reductions.

GILL NET CONTROLS SOUGHT The Pacific Salmon Sportfishing Council is working to pass legislation to control problems surrounding the use of gill nets in Puget Sound, Washington. The NCMC contributed recommendations on mandatory tending and marking of nets and requirements for reporting and recovering lost nets.

LONGLINERS UNWELCOME An influx of longliners into Hawaiian waters - a more than three-fold increase since 1987, to 150 vessels - has local fishermen and conservationists concerned about the impact on area fish stocks. The Western Pacific Council has proposed a moratorium on new entrants into the fishery. Many of the new boats came from the Gulf of Mexico and Atlantic, where uncontrolled longlining has already depleted populations of swordfish and tuna. The Council is also considering closing large portions of the sea around the Hawaiian Islands to longlining, with exceptions for traditional native fisheries. Warns James Witten of the Hawaiian International Billfish Association, "When longliners fish out (our) waters, they will just leave as they did in the Atlantic and Gulf, but the fishing people of Hawaii will have to live with the depleted resource." Mexico was thinking the same thing when, on March 21st, the Secretary of Fishing signed what is known as "The Marlin Treaty," outlawing all commercial longlining in Mexican waters. "It is crucial that we take a stand to protect our natural resource in a way that benefits our own population and the entire planet," the Secretary said.

1992 IS THE YEAR OF THE GULF Increasing evidence of ecological deterioration in the Gulf of Mexico has prompted Texas to launch a new program to develop a strategy for managing man's activities affecting the gulf ecosystem. Pollution by toxics, marine debris, coastal development and overexploitation threaten fisheries and wildlife, as well as the public well-being. Gary Matlock, former director of fisheries for the Texas Parks and Wildlife Department, will head up the initiative. The strategy for protecting the gulf is expected to be completed later this year and implementation will begin in 1992, which has been designated the Year of the Gulf.

NEW FINFISH EXCLUDER A new Norwegian fishing device, called a Trollex grid, is proving very effective in releasing juvenile and undersize finfish, up to 90%, from trawlers. It could have immediate application in the northeast U.S. groundfish fishery, where the catch and discard of undersize fish is holding back efforts to rebuild that troubled fishery.

A BAND-AID TO STOP A HEMORRHAGE NMFS announced new regulations for the U.S. bluefin tuna fishery, designed to keep the angling category from exceeding its annual quota of small-to-medium fish and prevent directed fishing in the Gulf of Mexico. The NCMC is preparing comments and plans to meet with NMFS officials to discuss our concerns, chiefly that the regs don't do nearly enough to fully address the substantial bycatch and discard of spawning giants in the gulf, the bluefin's primary spawning ground.

THE BIGGEST BANG FOR OUR BUCK The NCMC was asked by the NMFS Southeast Fisheries Center to review and comment on research and data needs for the large pelagic resources of the Atlantic Ocean. The following summarizes our March 27th statement: Given that funding for expanded research will be at a premium, the highest priority should be given to placing mandatory observers on board vessels in the tuna longline fisheries. It is a mixed fishery, which takes large numbers of tunas (yellowfin, bigeye, bluefin), as well as swordfish, sharks and billfish, plus the occasional dolphin and whale. A comprehensive observer program in the longline fisheries would provide desperately needed data on every fish in the large pelagics research program. The estimated cost is $3 million/year, and the NCMC will support efforts to obtain funding in the FY92 budget.

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EMERGENCY HELP FOR SWORDFISH. On June 12, the National Marine Fisheries Service took emergency action to manage the U.S. Atlantic swordfish fishery. The new regulations, the first to conserve long-overfished swordfish stocks, set a total allowable catch of 6.9 million pounds for 1991, a 35% cut from the 1988/89 landings, according to NMFS. Only 60,000 pounds is allotted to the controversial drift entanglement net fishery. Most drift netting takes place June through November. It is anticipated that the net quota will be met quickly and that drift netting for swordfish will be prohibited for the remainder of the year. There will also be a minimum size limit of 31 inches carcass length to protect juvenile swordfish, although commercial vessels have a 15% bycatch allowance for undersize fish.

The emergency rule will be in effect for six months, until a permanent plan being developed under the Magnuson Act takes effect. The interim regulations comply with the 1990 agreement on swordfish by the International Commission for the Conservation of Atlantic Tunas (ICCAT), which relies on a minimum size for a large portion of the reduction in landings. The NCMC believes relying on a size limit is inadequate as a conservation measure, since longlines used to catch swordfish are not size-selective. Though the number of fish landed is reduced, it may have only a marginal effect on reducing mortality, because of the uncertain number of small fish that will be hooked and discarded dead. We will continue to urge a further reduction of fishing effort through a lower annual quota, as well as a total ban on drift nets, as NMFS develops its plan. Requests for copies of the rule, and comments on the swordfish plan, should be sent to: Richard Stone, NMFS, 1335 East-West Highway, Silver Spring, MD 20910. ❐

HOUSE PASSES FLOOD INSURANCE REFORM. The House of Representatives on May 1 passed HR 1236, the National Flood Insurance, Mitigation and Erosion Management Act of 1991, one of the first significant coastal bills to be acted on by Congress this session. The NCMC was one of a dozen national environmental groups backing the legislation, which now awaits Senate approval. A key feature of the bill is no new development, or no flood insurance to encourage development, in specified coastal erosion zones. This will better protect coastal water quality, sensitive habitat such as wetlands, and fish and shellfish resources, which are degraded or destroyed by shoreline development. ❐

HIGH NOON ON THE HIGH SEAS. We are now just a year away from the deadline for a worldwide ban on large-scale drift netting (nets over 1.5 miles long). The Driftnet Moratorium Enforcement Act (S. 884), recently introduced in Congress, would help enforce the 1989 United Nation's resolution calling for a moratorium on high seas netting by June 30, 1992. Under the proposed bill, if a country does not comply with the resolution, the President would be authorized to impose sanctions on fish and fish products that country exports to the U.S. The NCMC supports this important legislation, which will help stop the waste of hundreds of thousands of marine animals and non-target fish entangled in these indisciminate nets. (Write your Congressman c/o U.S. Senate, Washington, DC 20510 and U.S. House of Representatives, Washington, DC 20515.) ❐

STRONGER MEASURES TO CONSERVE SHARKS. The NCMC submitted comments to NMFS on May 31, recommending ways to strengthen the draft Secretarial Shark Fishery Management Plan. The major flaw in the plan is that it substantially reduces landings but does not adequately address the total fishing-induced mortality, specifically sharks killed as bycatch in other fisheries. We suggested that the plan: 1) Require that fins and carcass remain attached until the first point of sale, to discourage fishermen landing sharks strictly for their fins and then discarding the carcass; 2) Place observers onboard longline vessels to accurately assess shark bycatch and discard rates, and develop gear modifications to reduce incidental hooking of shark and other non-target species on longlines; 3) Require all shrimp trawl vessels to employ fish excluder devices by the beginning of the July 1, 1994 shark fishing season, to substantially reduce the killing of sharks in shrimp trawls (5.6 million pounds in 1989); 4) Prohibit the use of drift nets in all pelagic fisheries; and 5) Give research priority to obtaining catch and effort statistics for each species of shark and assessing the status of each. The draft plan will be revised based on comments received and released once more for public review. Comments may be sent to: Paul Leach, NMFS, 9450 Koger Blvd., St. Petersburg, FL 33702. ❐

PROTECTING WETLANDS PROTECTION. The NCMC joined an unprecedented alliance of over 100 conservation and other groups in signing a June 4th statement urging members of Congress to oppose radical and ill-conceived changes being proposed for Section 404 of the Clean Water Act. Sec. 404 protects wetlands and other critical aquatic ecosystems. The alliance says claims of overzealous application of Sec. 404 are exaggerated, and points out that the nation continues to lose wetlands and other habitats at an alarming rate. "Those who oppose wetlands protection are misrepresenting the facts in a deliberate effort to create confusion and dismantle this critical program," the statement reads. Although they employ different approaches to "fix" Sec. 404, two proposed amendments to the Clean Water Act (HR 1330 and HR 404) would undermine the scientific basis for valuing wetlands, exempt millions of acres of wetlands from protection, cripple mitigation policy, and reduce or eliminate the Environmental Protection Agency's role in

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administering the wetlands program. These bills are currently in the House, but companion bills are expected in the Senate. ❐

FLORIDA UNVEILS A MORE PROGRESSIVE APPROACH TO GEAR MANAGEMENT. The Florida Marine Fisheries Commission has developed a set of comprehensive rules for regulating fishing gear. In an effort to get away from the reactive approach of regulating gear, fishery by fishery, and only after it causes problems, the new policy defines what gear is desirable for use in the state's fisheries. The rules require that all fishing gear must be tended at all times. Nets must be marked for identification and visibility. Gill, trammel and seine nets cannot be longer than 600 yards, with only one net fished at a time. Discard of monofilament line or net is prohibited. Longlines are outlawed in state waters. And beginning in 1995, passive fishing gear - e.g., drift nets, untended gill nets, set nets, lines soaking for more than one hour - will be disallowed in all Florida waters. ❐

THIS SUMMER'S BEACH CLASSIC BENEFITS NCMC. Gene Myers, director of the Orange Beach (Alabama) Blue Marlin Classic, is committed to using the tournament scene to raise "public awareness of the need to conserve our fishery resource and take steps to improve it." So all billfish caught in the Second Annual Media-Celebrity Shootout Tournament, June 7-10, were tagged and released. In addition, a substantial portion of the proceeds will be donated to support the NCMC's efforts to stop the killing of billfish in the Gulf of Mexico longline fishery. "Increased tuna longlining in the Gulf of Mexico is wreaking havoc on the billfish population," says Myers. "Steps must be taken to curtail this slaughter before billfish are just a memory." ❐

COUNCIL ENDORSES HABITAT SYMPOSIUM RECOMMENDATONS. The Mid-Atlantic Fishery Management Council, responsible for conserving ocean fisheries from New York to Virginia, recently passed a resolution endorsing the recommendations of the March 1991 National Symposium on Coastal Fish Habitat Conservation. (A copy of the recommendations is available from the NCMC). The Council also supported the NCMC's "Resolution to Protect America's Wetlands," released in conjunction with Wetlands Month (May 1991). Mid-Atlantic Council Chairman Axel B. Carlson has asked the other seven regional councils to do likewise, "to establish a strong national program to address critical issues related to habitat problems and the continuous negative impact on fishery stocks." ❐

YES, THAT'S 5.6 BILLION CROAKER. "Trawling Takes Its Toll," an article in the March/April issue of the MARINE BULLETIN, contained two different estimates of the number of Atlantic croaker caught each year in the Gulf of Mexico offshore shrimp trawl fishery. We regret to report that the higher of the two numbers, 5.6 billion fish, is the correct one. The 1.6 billion shown in the chart accompanying the article was a typo. However, either number is hard to fathom. We also neglected to point out that the fish bycatch total of 9.6 billion fish cited in the article was for the 13 species compiled by NMFS in its recent bycatch study. This total does not include incidentally-caught sharks, which were measured in pounds (5.6 million of them), or the other hundred or so species of fish and shellfish also caught and discarded in routine trawling for shrimp. Nor does it include catches by the Atlantic coast shrimp fleet. ❐

NEW JERSEY STOPS OCEAN DUMPING. Gov. Jim Florio announced that New Jersey was ban all dumping of sewage sludge in the Atlantic Ocean as of March 17. Credit goes to the NJ-based Clean Ocean Campaign, a coalition of civic, business and environmental organizations (the NCMC joined in 1984), for persistently and effectively pushing for an end to ocean dumping. All eyes now turn to New York, the lone offender. The Ocean Dumping Act of 1988 calls for a total end to depositing sludge at sea by December 31,1991. To continue dumping past that date, municipalities must get EPA to approve a phase-out plan and pay heavy fines. New York has indicated it will cease dumping by June of 1992. ❐

SAVE THE BLUEFIN. NMFS held hearings on proposed changes to rules governing the U.S. catch of Atlantic bluefin tuna. The U.S. has an ICCAT allocation of 1,387 metric tons, divided among fishermen using purse seines, longlines, rod and reel, harpoon and handlines. As the NCMC pointed out in its prepared comments to NMFS, the U.S. is currently exceeding its quota by at least 25% and probably much more, chiefly because of cheating and discards in the longline fisheries, but also because anglers are catching more than their allotment of small fish.

The international bluefin conservation program the U.S. is following seeks to protect breeding-size fish from exploitation. The spawning population, according to ICCAT, is only 6% of what it was in 1970. Yet thousands of giants are killed, in excess of the U.S. quota, because the U.S. allows unregulated, indiscriminate longlining on the bluefin's Gulf of Mexico spawning ground.

We supported the NMFS recommendation to lower the daily catch limit from four to one fish per angler per day. But the agency's proposed remedy for reducing the overkill in the Gulf of Mexico was strictly cosmetic. The NCMC urged NMFS to restrict longlining in the Gulf of Mexico, and to require that all bluefin caught in the gulf be released, in a way that enhances their chances of survival. We are also asking the U.S. delegation to ICCAT to seek a substantial reduction in the allowable catch of bluefin at the upcoming annual meeting in November 1991. The bluefin population has continued its sharp decline for 9 years under the present quota. Letters urging stronger measures to conserve the Atlantic bluefin tuna should be addressed to: Carmen Blondin, Deputy Asst. Secretary for International Interests, National Oceanic & Atmospheric Administration, Dept. of Commerce, Washington, DC 20230. ❐

RENEW THE STRIPED BASS ACT. The House Merchant Marine and Fisheries Committee held a hearing May 28 on extending the Atlantic Striped Bass Conservation Act of 1984. The bill would continue federal oversight of interstate conservation and funding for research, both considered instrumental in the striper's ongoing recovery. The NCMC supports renewing the Act, and is also asking Congress to look into extending its successful formula - a federal moratorium on fishing in any state that fails to participate in a coastwide management plan - to other migratory species, such as bluefish, weakfish and fluke (summer flounder). ❐

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SHARK CONSERVATION: ANOTHER DELAY. The National Marine Fisheries Service's Fishery Management Plan for Atlantic Sharks, slated to go into effect October 1st, won't. The new target date is March 1, 1992, according to an agency spokesman. The delay is due to the large amount of public comments received; some, such as the NCMC's, suggesting ways to toughen the plan up, but most aimed at weakening the regulations. Federal managers have been carefully reviewing the data and rationale for all proposed fishing restictions so they will stand up to anticipated challenges from industry. The NCMC was told there will be no significant changes in the plan, which features commercial quotas, recreational bag limits and a ban on finning to protect overfished coastal and large pelagic sharks. For a copy of the newest plan, which should be out for public review in late October, write: Paul Leach, NMFS, 9450 Koger Blvd., St. Petersburg, FL 33702. ❑

NY SLUDGE DUMP RECOVERING. The New York Bight's infamous 12 Mile Site, the "Dead Sea" to the region's fishermen, is showing signs of recovering from years of ocean dumping, according to studies by the National Oceanic and Atmospheric Administration. The site was the respository for 10 million pounds of sewage sludge every year until December 31, 1987, when it was closed and dumping moved offshore to the 106-Mile Site east of New Jersey, where it is confined until all ocean dumping is phased out in 1992. NOAA says the old dump site's environment is already improving, registering lower levels of heavy metals and contaminants, fewer incidences of disease in fish, and substantial increases in dissolved oxygen. As a result, the area's becoming more hospitable to sea life, with lobster and other species that had disappeared from the site beginning to return. ❑

GROUNDFISH AGREEMENT. The failure of federal fishery managers to do anything about the 80% decline in northeast stocks of cod, haddock and flounder has moved both the courts and the Congress to try and force action. Rep. Gerry Studds (MA) authored the "New England Groundfish Restoration Act of 1991" to require the New England Fishery Management Council to prepare a plan to rebuild the depressed fishery, or else turn over management to the Secretary of Commerce. But the Studds bill was beaten to the punch by settlement of a Conservation Law Foundation suit against the Commerce Department, charging the federal government with deriliction of duty in allowing overfishing to continue unabated. The court-sanctioned agreement directs the New England Council to develop a groundfish rebuilding program for public review by March 1, 1992 and to submit it to the Secretary no less than six months later. If the deadline passes without a plan, or the plan is inadequate, NMFS will develop a plan. ❑

HOUSE BREATHES NEW LIFE INTO JETTIES. An energy and water appropriations bill passed by the House of Representatives in July contains a half million dollars to support construction of jetties to stabilize Oregon Inlet. It's a modest sum, but it keeps the controversial plan for jetties on the North Carolina coast alive. The money will pay for the completion of engineering designs for the twin mile-long structures. The NCMC opposes building jetties on the grounds that the chances for long-term environmental damage outweigh the prospect of any economic benefits. The economic analysis performed by the Corps of Engineers unrealistically projects increased catches of already stressed stocks to support an expanded fishing fleet using the inlet. On the other hand, the environmental havoc the permanent structures would cause to the unstable Outer Banks is more easily predicted. In addition to increased erosion of adjacent shoreline (a national park and a wildlife refuge), there are concerns, shared by officials at NMFS, that the jetties would interfere with the movement of juvenile fish between Pamlico Sound and coastal waters. The Department of the Interior, which has blocked the project to protect park lands and wildlife habitat adjacent to the inlet, is under extreme pressure to change its position. Letters asking Interior to maintain its opposition to the jetties should be addressed to: Secretary Manual Lujan, Interior Dept., 18 & C Sts., NW, Washington, DC 20240. ❑

TAKE THE PROFIT OUT OF OVERFISHING BLUEFIN. The NCMC submitted information on August 21st to the U.S. Fish and Wildlife Service in support of a proposal to list the Atlantic bluefin tuna under Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). A CITES listing would bar international commerce in bluefin, for example, the sale of fish for export to Japan. (NMFS recommended an Appendix II listing, which would monitor, but not regulate, trade in bluefin.) The NCMC supported this extraordinary recourse to CITES because excessive fishing pressure to supply the international market for bluefin - where a single fish can be worth $20,000 and more - poses the most significant threat to the resource. Despite the best available science indicating the bluefin is in critical condition and still in decline, the International Commission for the Conservation of Atlantic Tunas, the body responsible for tuna management, has failed to take appropriate action. ICCAT will meet to discuss bluefin in Madrid this November, and it is our hope that the U.S. delegation will do all it can to persuade the other commission members to adopt more stringent controls on the catch of bluefin. ❑

ONE WETLANDS BILL HOLDS THE HIGH GROUND. "The Wetlands No Net Loss Act of 1991," introduced by Rep. Charles Bennett (FL), would establish a national policy to pro-

tect and enhance wetlands. H.R. 251 would expand Section 404, the wetlands protection provision of the Clean Water Act, to include activities that are currently unregulated but that may damage wetlands; give fisheries and environmental agencies more authority to oversee the federal wetlands permitting process; set up a fund for wetlands preservation using fines paid by violators; and create a new Office of Wetlands Identification and Preservation to coordinate national inventories of wetlands to assist state and federal efforts. Of all the bills proposed this year to re-vamp the federal wetlands regulatory system, the NCMC most enthusiastically supports H.R. 251, which contains several of the key recommendations made at our Coastal Fish Habitat Symposium earlier this year. We have recorded our strong opposition to bills that would weaken current regulations. Write your Congressmen in support of H.R. 251 or similar legislation that would strengthen wetlands protections. (The Honorable --, U.S. House of Representatives, Washington, DC 20515; U.S. Senate, Washington, DC 20510. ❑

NMFS OKAYS MORE FISH FOR MACKEREL FISHERMEN. NMFS announced it has approved increased quotas of king mackerel for the 1991-92 fishing season beginning September 4th. As a result of a successful conservation program engineered by the South Atlantic Fishery Management Council, the population of fish from Virginia to the Florida Keys has grown enough to sustain increased catches. The total allowable catch for commercial and recreational fishermen rises from 8.3 to 10.5 million pounds a year. For anglers, the bag limit goes from 3 to 5 king mackerel a day. ❑

COALITION OFFICERS TAKE PART IN "FISHERIES COLLOQUIUM." NCMC President Chris Weld and Executive Director Ken Hinman were invited to participate in a round-table discussion of marine fisheries issues in Washington, D.C. on September 16th, under the auspices of the National Fish and Wildlife Foundation. Since publishing its acclaimed critique of federal fisheries programs last year, the Foundation has been actively promoting ways for private and public fisheries groups to resolve the nation's fisheries problems. Also invited to participate were Dr. William Fox, director of the National Marine Fisheries Service; key Congressional staff people; and representatives of national conservation organizations newly active in fisheries issues. ❑

LICENSES AND USER FEES. The Sport Fishing Institute recently reviewed trends in state licensing of recreational fishermen. Alaska, California and Oregon were pioneers in licensing. Since 1986, five states - Florida, Louisiana, Maryland, Texas and South Carolina - have also begun licensing salt water anglers. New York and Massachusetts are thinking about coming aboard. SFI says each state has instituted a system to meet its particiular needs, but the over-riding reason for licensing is to obtain information on catch and effort and to underwrite fisheries programs. The NCMC joins SFI in advocating well-designed license programs; anglers must pay their way, especially in these times of critical shortfalls in funding. At the same time, we support proposals to charge user fees for commercial fishing. No other exploitative users of publicly-owned resources do so free of charge. Yet in most fisheries, commercial fishing permits are available for either nominal fees - not enough to cover the cost of administering the permits - or no fee at all. ❑

SWORDFISH REVIEW. Ken Hinman presented a "Review of United States Actions to Manage Atlantic Swordfish" to the American Fisheries Society on September 11th in San Antonio, Texas, as part of a Symposium on Management of the Highly Migratory Atlantic Swordfish -- Outlook for the 1990s. He attributed the difficulties in managing swordfish to jurisdictional problems, gear conflicts, bycatch, scientific disputes, industry resistance to regulation and political interference, and offered specific recommendations for improving management at both the national and international levels. The review and outlook will be published in the upcoming edition of "The NCMC Ocean View." ❑

GROWING SUPPORT FOR HABITAT RECOMMENDATIONS. The American Fisheries Society voted to endorse the NCMC-sponsored plan for improving fish habitat conservation. At its annual meeting September 8-12 in San Antonio, the AFS passed a resolution adopting the recommendations of our 1991 Symposium on Coastal Fish Habitat Conservation. In addition, the Pacific, South Atlantic and Caribbean Fishery Management Councils have answered the Mid-Atlantic Council's call for unified Council support of the recommendations "in order to establish a strong national program to address the continuing loss and degradation of fishery habitat." A copy of the habitat recommendations may be obtained from the NCMC. The complete proceedings of the Symposium is still on the editing table, scheduled to be published in early 1992. ❑

THE SELLER BEWARE. As part of a campaign to inform restaurants and seafood markets of new rules against the sale of Atlantic billfish, the NCMC has contacted 145 restaurants and markets reported to be selling marlin. The response has been gratifying. Aside from prompting businesses to investigate the origin of the marlin they sell, and thereby curtail the spread of a black market for fish caught illegally in the Atlantic, heightened awareness of billfish conservation prompted 33 establishments to remove marlin from their menus or shelves. ❑

RED SNAPPER. Amendments to the Gulf Council's Reef Fish Management Plan were approved by NMFS, setting new limits on the catch of red snapper. The new quota of 4 million pounds, a 20% reduction from 1990, is split evenly between sport and commercial fishermen, with the recreational allocation based on a daily limit of 7 fish per fisherman. Missing from the plan to rebuild the severely depleted red snapper resource are any restrictions on the biggest source of mortality, trawling for shrimp. Although 20 million juvenile snapper die as a bycatch of shrimping every year, Congress has forbidden any actions to reduce the bycatch until 1994. The NCMC will participate in a November workshop to explore options for implementing a bycatch reduction program. ❑

NEW ANTI-DRIFTNET AUTHORITY. Shortly before summer recess, Congress passed the Driftnet Moratorium Enforcement Act of 1991 (S.884), requiring President Bush to impose trade sanctions on any country not complying with the United Nations June 30, 1992 deadline for an end to large-scale drift netting. The new authority gives the United States "valuable new tools to implement a worldwide ban," declared Senator Ernest Hollings (SC), one of the bill's co-sponsors. ❑

CURRENTS

National Coalition For Marine Conservation, Inc.

A Bi-monthly Summary of Coalition News & Activities

November 1991

ADVISING ICCAT. President Chris Weld, executive director Ken Hinman and several members of the NCMC board attended the October 3-4 meeting of the Advisory Committee to the U.S. Section of the International Commission for the Conservation of Atlantic Tunas (ICCAT). The committee reviewed the latest stock assessments for tuna, swordfish and billfish, and discussed with the three U.S. commissioners positions on international measures to conserve these species. The NCMC strongly backed the National Marine Fisheries Service's recommendation of a 50% cut in the western Atlantic quota of bluefin tuna; expressed concern about discards of under-sized swordfish and urged the U.S. delegation to seek reductions in mortality through reduced effort; and called on NMFS to take over funding of the ICCAT Enhanced Billfish Research Program, currently paid for by private sportfishing groups in the U.S. ❑

CLEAN WATER NETWORK. The NCMC joined a network of over 85 national, regional and local environmental organizations to advocate a stronger federal Clean Water Act during its upcoming reauthorization in Congress. The network's Environmental Agenda for Clean Water seeks to amend the Act to: 1) prevent pollution by eliminating the release of toxics and control polluted runoff, a major uncurbed source; 2) protect wetlands and other aquatic ecosystems; and 3) enforce water quality standards by closing loopholes and adequately funding clean water programs. The goals of the network parallel the objectives set out at our National Symposium on Coastal Habitat Conservation earlier this year. ❑

INTERSTATE FISHERIES Ken Hinman was a featured speaker at the 50th Annual Meeting of the Atlantic States Marine Fisheries Commission October 9 in Baltimore. His presentation, "Putting Teeth in Interjurisdictional Fisheries Management," addressed the need for a federal role in the management of coastal migratory stocks of marine fish, e.g., weakfish and summer flounder, overfished to precariously low levels. A federal law modeled after the Striped Bass Act, giving force to interstate plans developed by the ASMFC, is needed, he told the gathering. He also recommended the Commission meet more than once a year in order to more promptly respond to changes in the condition of a resource. ❑

SAVE SOME WATER FOR THE FISH. Alarmed by the continuous loss of fish habitat and the damaging effects of fresh water diversions to the coastal environment, the NCMC is supporting a bill authored by Senator Bill Bradley, the Central Valley Project Improvement Act (S. 484). The Central Valley Project diverts 65% of freshwater that would otherwise flow into the San Francisco Bay estuary in order to supply water to the farms and suburbs of southern California. More diversions are planned. Short-sighted water policies have eliminated most of the historic migration and spawning runs of salmon, shad and striped bass from the San Francisco delta. Bradley's bill would set aside fair allocations of water for fish and wildlife. (U.S. Senate, Washington, DC 20510) ❑

KEEPING TABS ON THE SHRIMP FLEET. The Gulf of Mexico Fishery Management Council is proposing permit and observer requirements as part of its Shrimp Fishery Management Plan. The gulf shrimp fleet, roughly estimated to consist of 5,000 to 7,000 boats, is over-crowded in the extreme. Individual fishermen hang by a thread economically and are therefore strongly resistant to any regulation that might reduce their catch, even minimally, such as requiring fish excluders to lower bycatch. "A permit should be necessary to fish for shrimp, as is required in every other commercial fishery in the gulf," the NCMC wrote the Council October 23 in support of Amendment 6. Futhermore, "Observers are absolutely vital to collecting accurate information on the bycatch and discard of finfish and to monitoring the effectivness of future management meausres to reduce bycatch." But we disagree with the Council's proposal to reimburse designated vessels for observer expenses. The cost of observers and compensation to vessel owners for associated costs of carrying an observer should come from fees paid by all permit holders. The Council will make its decision on Amendment 6 in January. (GMFMC, Lincoln Center #881, 5401 W. Kennedy Blvd., Tampa, FL 33609) ❑

PACIFIC LIAISON. President Chris Weld represented the NCMC at the most recent meeting of United Sport Fishermen in Newport Beach, California November 8-9. USF identified the following fishery needs: better enforcement, expanded observer programs, improved stock assessments and recreational data collection, and balanced appointments to the Regional Fishery Management Councils. In addition, the NCMC urged USF support for coastal habitat programs and badly needed funding for the development of highly migratory species management plans. Weld usedhis visit to the west coast to meet with Dick Glenn, president of the NCMC-Pacific Region, representatives of United Anglers of California, the Hawaiian International Billfish Association, and other conservation leaders active in Pacific Ocean matters. ❑

JAPAN TO GIVE UP DRIFT NETTING. The government of Japan has agreed to mothball it's huge fleet of drift net vessels now sweeping the high seas of the Pacific. According to the agreement, Japanese drift netters will cease fishing as of December 31, 1992. Japan, along with South Korea and Taiwan, is the principal object of a United Nations resolution against the massive nets that kill thousands of marine animals, birds and non-target fish. Denmark, France and England also use drift nets, but the European Community recently announced it would

not respect the U.N. moratorium. Of course, there's also the United States. Our own pelagic drift net fleet is actually growing. On the west coast, the nets are reportedly decimating mako shark populations. On the east coast, up to 25 boats rigged to entangle swordfish are also catching tuna and sharks; not to mention an average of one marine mammal (dolphins or whales) per set. The U.S. position is that the nets used by American fishermen are less than 1.5 miles long and therefore are not subject to the U.N. ban on "large-scale" drift netting. ❑

EXCOMM MEETS IN THE BIG APPLE. A regional meeting of the NCMC Executive Committee was held in New York City on November 11. The committee planned the inaugural meeting of a National Ocean Policy Board to delineate a national fishery policy statement in 1992, and reviewed post-ICCAT strategy for conserving highly migratory species. Board members from the New York/New Jersey area led discussions of regional issues, from striped bass to tuna. Final plans were made for the 1992 Annual Meeting, to be held in Palm Beach, Florida January 12. ❑

THE SEA'S VANISHING BOUNTY. The Smithsonian Institution hosted a National Forum on Ocean Conservation November 19-21 in Washington, declaring: "The world's oceans shape our weather, recycle chemical elements, and provide resources that sustain human life and the amenities of civilization. Yet, our needs and our growing numbers are creating problems. Exploitation, pollution and changing climate pose serious threats to oceans and life on earth." By holding this forum, the Smithsonian (not just a museum but one of the country's strongest forces in public education about our natural heritage) raised interest and concern for ocean conservation to a new level. To this same end, the NCMC used the forum to unveil a new educational brochure, "The Sea's Vanishing Bounty," designed to introduce the general public to the crisis facing our fishery resources. The brochure was produced with a grant from the Curtis & Edith Munson Foundation. ❑

A WETLAND BY ANY OTHER NAME... Proposed changes to the Federal Manual for the Identification and Delineation of Jurisdictional Wetlands, which sets criteria to define wetlands for regulation under federal law, would deny protection to millions of acres critical to fish and wildlife. In a letter to the Chief of EPA's Wetlands and Aquatic Resources Regulatory Branch, the NCMC criticized the changes as politically-motivated and scientifically invalid. "In order to achieve the goal of no-net-loss of wetlands our laws must be tougher and they must be rigorously enforced," we said. "The Federal Manual is the guide for agencies concerned with wetlands and the basis for all our wetlands protection programs. The EPA must provide criteria for defining wetlands based in solid science." We recommended EPA use the existing 1989 manual until such time as satisfactory changes are made. In the meantime, we supported the call for an independent study by the National Academy of Sciences to arrive at acceptable and credible scientific criteria for defining wetlands. ❑

SHRIMP BYCATCH WORKSHOP. Ken Hinman participated in a Shrimp Trawl Bycatch Workshop sponsored by the Center for Marine Conservation and held in St. Petersburg Beach, Florida November 22-23. The workshop featured presentations on the effects of shrimp trawl bycatch on finfish populations and ecosytems, the social and economic effects of bycatch, fishery management efforts and ongoing research. There was a free exchange of ideas and perspectives among the participants, representatives of the shrimping industry, conservation groups, sport fishing interests, federal and state managers and scientists. Although significant differences remain about what needs to be done, the one thing all present agreed on was that no one wanted a repeat of the widespread enmity that infected the TED issue. ❑

HOUSE PANEL UPHOLDS OCEAN DUMPING BAN. The NCMC is asking members of Congress to re-authorize the Ocean Dumping Ban Act of 1988 and to actively oppose any amendments that would weaken it or extend the timetable for ending the disposal at sea of sewage sludge and industrial waste. An amendment that would allow the experimental deep ocean disposal of sewage sludge was rejected by the Merchant Marine and Fisheries Committee when it approved re-authorization in November. However, according to the New Jersey-based anti-dumping alliance Clean Ocean Action, the sponsors of such weakening amendments may try again on the House floor and in the Senate. (U.S. House of Representatives, Washington, DC 20515; U.S. Senate, Washington, DC 20510) ❑

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The NCMC MARINE INDEX

Compiled Quarterly by the National Coalition for Marine Conservation

Summer 1991

A decade and a half after the United States established a 200-mile conservation zone to protect ocean fish populations from over-exploitation, the list of troubled fisheries is long and getting longer. Conservation measures are usually too little, too late. A quicker, more aggressive response to overfishing and coastal habitat loss is needed if we are to break this endless pattern of squandered resources.

ATLANTIC SALMON

Efforts to return salmon to New England streams, where they once flourished, are thwarted when migrating salmon are intercepted by net fishermen off Canada and western Greenland. The only way to protect U.S.-origin fish is an international agreement to ban high seas netting and confine salmon harvests to in-river fisheries.

BLUEFIN TUNA

The 20th-century version of the buffalo hunt. This giant among ocean fish has been nearly wiped out by fishermen who catch and sell bluefins for thousands of dollars apiece. The breeding population is vanishing, and an international fishing agreement adopted in 1982 is doing nothing to save it.

BLUEFISH

The exception to the rule - an abundant species with a conservation program in place to keep it that way. Still, it will require a joint effort among east coast states, and so far New Jersey, a critical link in the chain, is balking. Watch this one closely.

RED DRUM

In the mid-80s, Cajun-style cooking made blackened redfish all the rage, until overfishing blackened its future. Fishing limits are in place, including a total ban on fishing in federal waters, but it could be many years before this fishery is healthy again.

SUMMER FLOUNDER (FLUKE)

When biologists talk about "spawning stock biomass," they mean the number of adult fish left relative to the number that support a natural (unfished) population. A minimum of 30% is believed needed to avert a stock collapse. When they talk about fluke, they're talking about a spawning biomass of only 2%, and that means big trouble.

NORTHEAST GROUNDFISH

The staple New England fisheries - cod, haddock, flounder and other flatfishes - have been in a steep decline since 1978 and catches are at an all-time low. The U.S. fleet doubled in size in the '80s and new technology gave each boat more fishing power, but there are still no limits on the number of boats or how many fish they can catch. Experts believe fishing effort must be cut by half, or we can say goodbye to the nation's oldest fishing fleet.

STRIPED BASS

A deadly combination of overfishing and pollution decimated the striper, once the bread and butter fish of the Atlantic seaboard. Strict limits on fishing and clean-up efforts in Chesapeake Bay have started the striped bass on the road to recovery. But it's going to be a long journey, and managers will have to resist pressure to move too fast, too soon.

BLUE AND WHITE MARLIN

Every year from 12,000 - 19,000 billfish are killed by indiscriminate commercial longlining, even though Atlantic billfish are protected from commercial exploitation by federal law. Black market sales proliferate, while catches by sportsmen plummet.

SHARKS

These feared denizens of the deep are themselves in deep trouble. Shark landings leapt from 135 to 7,122 tons within just 10 years. Many more are killed for their fins. Because sharks mature slowly and produce very few young, these apex predators could be wiped out without protection. The government has been talking about outlawing finning and setting quotas for the last two years, but has yet to do it.

ATLANTIC KING & SPANISH MACKEREL

The rare success story. State and federal management measures combined to halt overfishing in the south Atlantic, and the latest stock assessment shows numbers of fish are on the upswing. Their cousins in the Gulf of Mexico, however, are still severely depleted and fishing remains under tight controls.

RED SNAPPER

Managers are powerless to help this popular gulf reef fish. Shrimpers kill 20 million juvenile snappers in their nets annually, 80% of each new generation. But Congress bowed to pressure from the shrimping industry and passed a law in 1990 that postpones any regulations to reduce shrimp bycatch until 1994 at the earliest.

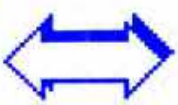
SOCKEYE SALMON

The government is proposing to list the Snake River sockeye as an endangered species. The sockeye was once so plentiful in the northwest that Indians and miners relied on them to survive. Last year, not a single fish returned to the river to spawn. Biologists hope there are still some fish at sea and that they'll return sometime during the next three years to keep the species going.

BROADBILL SWORDFISH

The size and number of swordfish in the Atlantic continue to shrink as managers and fishermen duel over what to do about it. Differences between the goals of international and U.S. managers complicate things further for the wide-ranging broadbill. Meanwhile, American fishermen are switching to drift nets to sift for what's left offshore.

YELLOWFIN TUNA



Coastal populations in the Atlantic are showing the first signs of stress. Rapidly rising catches have now dropped off sharply, and many fishermen are moving to Pacific waters. Information on the yellowfin is scant, due to a longstanding policy of excluding tunas from U.S. management programs.

WEAKFISH

Commercial landings on the east coast dropped by 60% between 1980 and 1989, despite increased effort. During the same period, anglers caught 95% fewer fish. The record low in weakfish numbers is attributed to years of poor spawning and over-exploitation. A coastwide conservation plan is on the drawing board.

For More Information on Efforts to Conserve These and Other Ocean Fish,
Contact the NATIONAL COALITION FOR MARINE CONSERVATION
P.O. Box 23298, Savannah, Georgia 31403 - (912) 234-8062

The NCMC MARINE INDEX

Compiled Quarterly by the National Coalition for Marine Conservation

Fall 1991

Fishery managers are finally starting to enact long-needed conservation measures, but in most cases the object is to rebuild already depleted fisheries. Virtually all fish populations found off U.S. shores are at historic lows; more than 100 species or groups of fish are labeled overexploited by federal officials. Rigorous regulations are required in many cases; in others there will have to be radical changes in the way fishing is conducted in order to sustain a productive resource. (Note: The arrows used in the Index do not necessarily indicate the direction a fish population is going, but rather the general trend in the status of the resource and/or efforts to conserve it.)

NORTH PACIFIC ALBACORE

Catches by traditional troll line (U.S.) and pole-and-line (Japan) fishermen have declined sharply since the 1960s. Catches using drift nets have risen sharply. Worldwide attention is focused on outlawing the massive nets for their bycatch of non-target animals. The nets waste albacore and other target fish, too; over a third of entangled fish fall from the nets before they reach deck. But ridding the seas of drift nets won't solve this long-finned tuna's problems - the decline began *before* the nets came on the scene in 1981.

COD, HADDOCK AND FLOUNDER

The devastating decline of northeast groundfish hasn't been turned around since the summer edition of the Index, but the managers have. Conservationists sued the federal government for failing to impose limits on either catch or effort and allowing New England's bread-and-butter fisheries to go down the tubes. An out-of-court settlement gives the New England Fishery Management Council until Sept. '92 to come up with a serious rebuilding program or relinquish management of the fishery.

CROAKER

Catches along the Atlantic and Gulf Coasts have always fluctuated widely, but in recent years they've stayed far below historic levels. One reason is more fishermen and modern fishing vessels with increased fishing power. But the chief suspect is the shrimp trawl fishery, which killed and discarded an estimated 5.6 billion juvenile croaker in 1989. State and federal officials are working with the shrimping industry on excluder devices to keep small fish out of trawl nets, but it'll be at least several years before we see shrimpers using them.

DOGFISH

This dog is having its day courtesy of a dramatic shift in the ecology of New England's Georges Bank. Depletion of groundfish has evidently allowed the spiny dogfish, a small, cold water shark, to flourish. In 1963 the bycatch of dogfish and other "undesirables" made up 24% of the take in bottom trawls. In 1986 dogfish, skates and rays were 74% of the catch, while the cod-like fishes the trawlers wanted accounted for only 11%. Biologists worry that the abundance of dogfish could prevent groundfish from reclaiming their niche in the ecosytem.

PACIFIC OCEAN PERCH

Intensive commercial exploitation of this west coast rockfish is a fairly recent phenomenon, but its numbers have already been so reduced that it would take from 5 to 20 years for the population to recover even if fishing were stopped completely.

RED DRUM IN THE SOUTH ATLANTIC

Primarily a nearshore recreational fishery, with commercial fishing forbidden in South Carolina and Florida. All fishing is prohibited in the federal zone (3-200 miles from land) to protect a shrinking spawning stock. But controls are needed to protect young fish, too. Only 2% of juvenile redfish live long enough to enter the offshore adult population at age 6. State-federal agencies have set a goal of lowering fishing mortality to allow at least 30% of each generation to survive until they mature.

SAILFISH

In contrast to the marlins, sailfish numbers are thought to be in good shape, although data is sketchy. This is probably true for several reasons: the prized gamester is not a target of commercial fishing, and marlin are; sails reside closer to shore and are therefore less prone to capture by pelagic longline and gill net fishing; and about 9 out of 10 sailfish caught by sportsmen are released alive. They are also the fastest growing of the billfishes.

SHRIMP

Despite fairly stable landings, the American shrimp industry is in dire straits. Problems include high fuel costs, competition from cheap imports and an over-crowded fishery - 5,000 to 7,000 vessels in the Gulf of Mexico alone. Shrimpers are also faced with resolving their monumental bycatch problem - over 10 billion finfish are trapped in their nets yearly - which could forever change the way shrimp are harvested.

SNAPPER-GROUPER

This complex of reef fish in the South Atlantic and Gulf of Mexico includes over 100 species, among them Nassau grouper, yellowtail snapper, black sea bass, tilefish and amberjack. The group as a whole is considered overfished. A complex set of size and bag limits, quotas and gear restrictions - including a total ban on fish traps from North Carolina to Florida - takes effect January 1, 1992 to increase the number of adult fish able to replenish the fishery.

CALIFORNIA STRIPED BASS

The plight of east coast stripers is well known. Its west coast cousin, introduced to Pacific waters in 1879, has serious troubles of its own. In the two primary spawning areas of San Francisco Bay, survival of young bass is near zero. The number of adults in the bay is down 60-80%. The problem is harebrained water policies that shut off most of the freshwater flowing into the west coast's largest estuary.

SURF CLAMS/OCEAN QUAHOGS

Here we have either the future of commercial fishing or the end of it, depending on who you ask. Because 140 boats were chasing the allowable harvest of clams, the entire fishing season had been limited to just 144 hours, or about 1 hour per boat. Clearly, a much smaller fleet could do the work more efficiently. So the Mid-Atlantic Council came up with a plan to limit access by granting rights - called individual transferable quotas - to vessels based on past catches. These quotas can be bought and sold. Critics say such privatization of a public resource is un-American because it deprives all others of the opportunity to make a living from the sea. Stay tuned.

For More Information on Efforts to Conserve Ocean Fish Contact the
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HABITAT LOSS AND FISH DECLINES

In the sea nothing lives to itself...each living thing is linked with all that surrounds it. - Rachel Carson

Fish gotta swim.....and if that were all, just water would be enough. But fish need habitat, too - to provide a steady source of food, spawning and nursery grounds, and a place to hide from predators. Unfortunately, there's no hiding from the fact that we're losing habitat at an alarming rate. And when we lose habitat, we're losing fish.

Key marine fish habitats include coastal rivers, bays, estuaries, salt marshes, mangrove forests, seagrass meadows and coral reefs. Different species require different habitats at different stages of their lives, but all fish depend on healthy, properly functioning ecosystems. They need a certain quantity and quality of habitat to grow and reproduce. Take it away and they can't survive.

A prime example is tidal wetlands, which provide critical spawning and rearing grounds for over 75% of the United States commercial and recreational fish catch. The value of fish dependent on wetlands, according to the National Marine Fisheries Service, is about $14 billion a year. NMFS estimates that ongoing wetland losses and associated fish declines are costing the fishing industry hundreds of millions of dollars annually. The most extensive losses have occurred in the southeastern U.S., where total fish and shellfish landings have dropped off a staggering 42% over the last ten years.

It's the same story on every area of the coast and with every type of habitat. Populations of virtually all marine species are now the lowest they've ever been. Although overfishing remains the most immediate cause of fish declines, the chronic loss of fish habitat - to pollution, unwise development and other human activities - is without any question the greatest long-term threat to our marine fisheries. Without good habitat management, our efforts to manage fish are ultimately doomed to fail.

COASTAL DISTURBANCES

Marine habitat is disappearing in direct proportion to human population density. Population growth in coastal areas averages four times the national rate. In the next several decades, over half of the U.S. citizenry will live within 50 miles of the seacoast. Moreover, the heaviest human development is occurring and will continue to occur in areas where the wetland and estuarine dependency of ocean fish is greatest.

¶ By the mid-1970s, over half our salt marshes, some of the most productive lands anywhere, had already been destroyed. California has lost over 90% of its coastal wetlands. Louisiana has the highest rate of wetland loss in the nation; over 25,000 acres, or 40 square miles, annually. Some areas of the Gulf of Mexico shoreline will retreat inland by as much as 33 miles in the next 50 years, experts say.

¶ Chemical pollutants are becoming so ubiquitous in coastal waters that they now must be considered along with other, natural factors controlling fish abundance, such as temperature, salinity and oxygen levels. Toxic substances affect spawning behavior, the survival of juvenile fish, and cause tumors and deformities. Albemarle Sound, Chesapeake Bay and Laguna Madre lead a long list of coastal waters at high risk from chemical pollution.

¶ Nutrient pollution affects virtually every estuary subject to moderate human activity. In the Chesapeake, for instance, nutrients from sewage treatment plants, farm runoff and atmospheric deposition have drastically altered the bay, causing massive increases in algae growth and water turbidty leading to the loss of 90% of the native bay grasses. An additional 3 million people projected for this area in the next 30 years promises to make the problem even worse.

¶ Since the late 1960s, more than 100 dams have eliminated 80-100% of the migration and spawning areas of salmon, shad, striped bass and other important species in the San Francisco Bay ecosystem. Human activities have eliminated Atlantic salmon from most of their New England spawning streams and continue to hinder restoration efforts.

¶ Estuarine nursery areas are dying of thirst due to the diversion of freshwater from incoming rivers. Diverting more than 30% of normal freshwater flows into estuaries results in higher salinity, less nutrients, increased pollutant exposure due to reduced flushing, destruction of fish migration routes and spawning areas, and contamination of water sources for human use. Water diversions and dams have devastated California's salmon-supporting habitats. Spawning has been completely eliminated from some Pacific rivers.

¶ The annual dumping of billions of pounds of trash into the oceans, until recently considered merely an aesthetic problem, is now recognized as a threat to the millions of marine animals, including endangered mammals and sea turtles, seabirds and fish, that become entangled and die in man-made items, including lost or discarded fishing gear.

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Most disturbing of all, this endless pattern of habitat destruction and environmental degradation is occuring despite existing regulatory, management and fiscal policies intended to conserve fish and their habitat. Clearly, we are not doing enough and what we are doing, we're not doing right. We, as a nation, need to make a new, more vigorous commitment to preserving fish habitat.

A NATIONAL AGENDA FOR HABITAT CONSERVATION

The National Coalition for Marine Conservation (NCMC) knows that managing fish populations to support productive commercial and recreational fisheries, without adequate protection of the habitat that supports them, is futile. So we brought experts together in March for a three-day National Symposium on Coastal Fish Habitat Conservation to recommend changes needed to turn back the rising tide of habitat loss in this country. The NCMC is committed to working with fishing organizations, environmental groups, government agencies and Congress to promote the following agenda for improved habitat conservation:

• ***Adopt an aggressive national habitat policy.*** The Administration and Congress must replace lip service with leadership and make protecting our remaining wetlands and other critical fishery habitat a national priority. That means policy changes to elevate habitat conservation to the highest levels within the Environmental Protection Agency, the Army Corps of Engineers, the U.S. Fish and Wildlife Service and particularly, the National Marine Fisheries Service. The President's avowed policy of no-net-loss of wetlands must be implemented from the top down, by incorporating it into the programs of these and other federal agencies. Federal responsibility and accountability for habitat protection should be clearly established. Congress, for its part, must provide resource agencies with both the political and budgetary support they need to do their jobs effectively.

• ***Strengthen the Clean Water Act and other environmental statutes.*** Congress should enact a stronger Clean Water Act this session. No-net-loss of wetlands should be an expressed short-term objective of the Act, with net restoration of lost habitats the long-term goal. Loopholes in the wetlands permitting system must be closed. Currently, only about 20% of the activities affecting wetlands are covered by the Section 404 dredge and fill permit provision of the Act. The 404 program should be extended to cover all activities that degrade wetlands, including farming and forestry.

Federal water project management and water allocation policy must be revised in a way that protects and improves freshwater supplies to fish-supporting habitats. Freshwater inflows should be secured at or restored to levels approximating their normal (natural) flows. Federal subsidies for water diversions which adversely affect fisheries productivity should be eliminated.

• ***Provide NMFS with increased regulatory authority over fish habitat.*** Whether by administrative or legislative action, the National Marine Fisheries Service should be given the authority to regulate projects that could cause significant damage to fish-supporting habitat. The agency should be authorized to require that all federal actions be consistent with the objectives of approved fishery management plans. NMFS should establish an executive-level Office of Habitat Conservation to oversee and coordinate habitat research and management throughout the agency's field structure.

• ***Increase funding for federal habitat programs.*** NMFS, under-funded and under-staffed, is unable to fulfill its essential habitat conservation duties. Roughly 10,000 development projects are proposed each year, potentially affecting well over 400,000 acres of valuable coastal habitat, and overworked NMFS biologists must review an average of 400 projects each. Research in the critical areas of wetland functions and contaminant effects is also poorly funded. Congress should give immediate consideration to appropriating the level of funds recommended by the National Fish and Wildlife Foundation in its "Needs Assessment of the National Marine Fisheries Service." It should also explore developing a self-perpetuating trust fund, outside of the annual appropriations process, for marine habitat programs.

• ***Add tougher habitat provisions to fishery laws.*** Federal and federally-approved projects should be required to be consistent with objectives of the Magnuson Fishery Conservation and Management Act. The Magnuson Act should be amended to include habitat conservation as one of the National Standards for guiding management of marine fisheries. The Secretary of Commerce should consider knowledge and experience in habitat issues when appointing individuals to serve on the Fishery Management Councils. A 1990 amendment to the Act expanding Council authority to preserve the habitat of anadromous species should be extended to all fisheries.

• ***Streamline bureaucracy and improve coordination.*** Thirty-seven federal agencies have some authority over activities affecting marine fisheries and habitat. Presently, habitat and environmental concerns are merely one component within many separate agencies with varying missions, and are often subordinated to other interests. Federal environmental protection responsibilities should be consolidated, not fragmented, in order to reduce duplicative and conflicting actions. Stronger coordination among states and the federal government is essential.

• ***Put more emphasis on public education.*** An informed public will back political efforts to strengthen habitat protection. Information on the vital contribution of fisheries and related habitat to the nation's economic health and quality of life must be a key element of all conservation programs and should be made available to the public. In addition, members of Congress need to be better educated to the fact that the contribution of fisheries to the national well-being is synonymous with coastal habitat and environmental protection.

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ATLANTIC SWORDFISH: A CRISIS WITHOUT FINALE

The following article is based on a "Review of United States Actions to Manage Atlantic Swordfish" by NCMC Executive Director Ken Hinman, presented at the Symposium on Management of Highly Migratory Atlantic Swordfish, 121st Annual Meeting of the American Fisheries Society, September 11, 1991, San Antonio, Texas.

No fish better illustrates what's wrong with United States management of ocean fisheries than the Atlantic swordfish. It has all the ingredients that make managing pelagic fisheries so difficult: jurisdictional problems, gear conflicts, bycatch, uncertainties about the science, industry resistance to regulation and political interference. Or put another way, it embodies everything we have to overcome in order to make fisheries conservation work.

Perhaps anticipating this, the National Coalition for Marine Conservation chose the swordfish for its logo in 1975. You might say we've had a proprietary interest in the fate of swordfish for the last 16 years.

The U.S. has been trying to manage Atlantic swordfish for almost as many years, but without success. On June 12th of this year the Secretary of Commerce implemented a six-month emergency management program to protect a resource the National Marine Fisheries Service (NMFS) says is "severely overfished" and in "critical condition." These emergency regulations were the first-ever limits on the Atlantic swordfish fishery - even though the purpose of fisheries management is to *prevent* overfishing; even though the first signs of overfishing were evident in the early 1980s; and even though measures to conserve swordfish were proposed numerous times since then.

So this is the vantage point from which we look back at the history of U.S. efforts to manage swordfish. It's a tale of opportunities lost. Because no matter how many good reasons there were to take action, there was always an excuse not to.

Ambiguous Authority

Like the protagonist in a Greek tragedy, swordfish management may have been doomed from the beginning because of flaws in its make-up. In 1976, the Magnuson Fishery Conservation and Management Act gave responsibility for managing fish out to 200 miles from shore to eight Regional Fishery Management Councils with oversight by NMFS on behalf of the Secretary of Commerce. The U.S. tuna industry, accustomed to fishing in the 200-mile zones of other countries, opposed extended jurisdiction and sought to exclude tuna and other highly migratory species - swordfish, billfish and shark - from the law. As a compromise, only tuna were excluded.

This special exemption for tuna fishing would return to haunt swordfish management repeatedly. In fact, shortly after passage of the Magnuson Act, NMFS tried to discourage the councils from preparing a management plan, saying that swordfish should be managed internationally, like tuna. They took this position even though Congress had declared, in passing the Act, that "International fishery agreements have not been effective in preventing or terminating... overfishing."

Work on a fishery management plan began as early as 1978, a joint project of the New England, Mid-Atlantic, South Atlantic, Caribbean and Gulf of Mexico Councils. As the five councils began drafting a plan, there was no immediate cause for concern about the status of swordfish (although catch data were extremely unreliable since the fishery had been underground during the FDA mercury ban in the 1970s). Still, because the fishing capacity of the domestic fleet was increasing rapidly - more efficient longline gear was replacing traditional harpoons which in turn enabled the fishery to spread from New England into new southern fishing grounds - the councils began developing a framework for swordfish management.

In the late 1970s/early '80s, Japanese fishermen using longlines to target tuna, but also catching swordfish and other pelagic species, were still very active in U.S. waters, and this complicated early efforts to devise a management strategy. Foreign fishermen weren't allowed to retain swordfish caught in the U.S. zone, under a 1978 preliminary management plan. Nevertheless, Japanese longliners hooked over 8,000 swordfish in 1980 and 5-6,000 of those fish were already dead when returned to the water, according to NMFS.

Government attorneys advised the councils that any measures to conserve swordfish must respect the right of foreign fishermen to fish for tuna in the U.S. zone. The legal term was providing fishermen with a "reasonable opportunity" to catch tuna, but in practice it meant U.S. managers could not implement regulations necessary to conserve swordfish if they restricted tuna fishing in any way. Thus, the management options available to the councils were circumscribed from the outset.

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The Trouble Begins

Attempts to implement a swordfish management plan under the Magnuson Act came in two distinct stages, the first from 1983-87 and the second in 1989-90.

As the councils wrestled with the problem of how to control the catch of swordfish without impacting tuna fishing, new information on swordfish landings showed trouble in the fishery. At the start of 1983, the councils had been planning to put a cap on a fishery thought to be fully-exploited. But within the year, they'd revised their plan to reduce landings. The fishery was exhibiting all the classic signs of overfishing: the average size of fish landed was steadily declining; catch rates were dropping off, even though the size of the fleet, its mobility and the efficiency of its gear had all greatly increased; the fleet had to keep moving to new fishing grounds to find large fish; and the least efficient fisheries, harpoon and rod and reel, were disappearing.

The councils' plan was to protect immature fish to increase recruitment. Both from the standpoint of the industry, which would ultimately profit from allowing more small fish to mature, and the resource, which faced spawning stock depletion if overfishing were allowed to continue, regulation of the fishery was crucial. During 1984, the councils completed the first draft swordfish plan. The three goals of the plan were: reduce the catch of small fish to the number caught in 1980; establish a data collection program to keep tabs on the stock and the effectiveness of management; and limit the tuna longline bycatch.

The centerpiece of the plan was a "variable season closure" system. Essentially, it tied region-by-region closures to local catches of immature fish. During a closure, no swordfish could be caught, possessed or imported. All tuna longlining would be restricted to daylight-only to minimize the incidental capture of night-feeding swordfish. Foreign fishing with a bycatch of swordfish would cease after reaching a pre-set limit.

The plan was formally submitted to the Secretary of Commerce for approval on April 29, 1985. Unfortunately, this initial effort at management would be dispatched with a series of crippling blows. What survived, though it would live with the name Fishery Management Plan for Atlantic Swordfish, was little more than a skeleton.

The first blow came in July, when NMFS informed the councils it had "partially disapproved" the plan, a polite way of saying they'd gutted it. Restrictions on foreign fishing were rejected because of interference with tuna fishing. Mandatory observers on certain domestic vessels, including newly introduced drift nets, were rejected, along with reporting requirements. NMFS did approve the closure system, but determined that the dates of the closures should be approved by no less a fisheries authority than the Office of Management and Budget. Already, economic concerns were taking precedence over the health of the resource.

One positive thing NMFS did was designate a single council, the South Atlantic, as the lead body responsible for swordfish management in an effort to streamline the decision-making process. Requiring all five councils to sign off on every measure to be included in the plan was cumbersome, slow and expensive. Still, the South Atlantic Council was directed to consult with the other four councils in all its decisions affecting swordfish.

1986 brought a flurry of activity, but again to no avail:

- On February 24th, the South Atlantic Council, on behalf of all five councils, resubmitted most of the measures previously rejected but with stronger rationale and documentation. In a new provision, the councils recommended outlawing drift nets altogether.
- Meanwhile, the latest stock assessment completed in April showed that fishing mortality was increasing and that the spawning population had declined 40% since 1978.
- On May 15th, NMFS approved the ban on night longlining and okayed mandatory record-keeping, but rejected limits on foreign catch. A month later, the councils filed a schedule of time/area closures for the fall 1986 fishing season.
- On July 2nd, the Japan Tuna Association sued the Commerce Department over the no-night-longlining provision on the grounds it violated the Magnuson Act's exemption for tuna fishing.
- On September 2nd, NMFS disapproved the closures. The reasons given were the Japanese lawsuit and the impact on American longliners in the Gulf of Mexico, where a mixed tuna/swordfish fishery was rapidly expanding. The plan was left with only the closure framework and a data collection program.

Subsequent attempts to implement the plan the following year would also be rebuffed, this time because of the "adverse impact upon U.S. fishermen fishing beyond our EEZ (200-mile zone)" and the "impact upon U.S. tuna fishing within the EEZ." The closure provision would eventually sunset at the end of 1987, having never been implemented. The swordfish fishery remained unregulated and overfishing continued. Any chance of heading off the disaster to come had been lost. "The saga of the swordfish plan plays on without finale," said NCMC President Chris Weld at the time, "moving from crisis to crisis."

A Turn for the Worse

In 1986, a rift had opened up between the councils and NMFS over the true status of swordfish, stalling any progress on management until it was resolved in 1989. The councils, on advice from staff biologists and their scientific advisory committees, saw the swordfish situation steadily deteriorating. NMFS scientists, on the other hand, were less gloomy, citing uncertainties in the assessment.

Not surprisingly, the position of the NMFS scientists influenced the Secretary's feeling that the councils' requests for strict regulation were an over-reaction. As they considered alternatives to the aborted closure system, the councils were told, in no uncertain terms, that the only conservation measure that would be accepted in Washington would be a minimum size limit; anything more restrictive would be dead on arrival. But the South Atlantic Council had already determined that, since 2 out of 3 fish don't survive the trauma of being caught on a longline, releasing small fish would reduce landings but not mortality and therefore offered little if any conservation benefit. Discussions at inter-council meetings in 1988 centered around whether to even continue to work on a swordfish plan or spend the time more productively.

But things changed drastically in April 1989. NMFS had completed a brand new swordfish study indicating extremely high fishing mortality rates and a more substantial decline in the spawning stock. The previous October, the councils, as a result of their disagreement with NMFS over the science, had agreed to appoint an independent scientific review panel to evaluate the next stock assessment and recommend management objectives. That panel, chaired by Dr. William Fox, later to become head of NMFS, concluded that the northwest Atlantic stock of swordfish was severely overfished: the spawning stock was about a third of what it was 10 years before and the average size of fish caught was down from 115 pounds to less than 60 pounds. The panel suggested sharply reducing fishing mortality to allow the spawning stock to rebuild to the 1978 level within 5 years. Describing an "emergency situation," the panel recommended a drastic 78% reduction in fishing, from over 10 million pounds to 2.4 million pounds a year.

The review panel's assessment of the severity of the situation was undisputed, but, as the councils began to incorporate the panel's recommendation into an amendment to the swordfish plan, the focus quickly shifted to the effect of such severe cutbacks. At a series of public hearings in January and February 1990, commercial fishermen turned out in force to vigorously object to the plan.

Feeling the heat from the fishing industry, and subjected to pressure from certain influential Congressmen on behalf of the industry, the council found it prudent to delay submission of the amended plan and convene yet another independent review panel, composed of scientists with no history in the swordfish controversy, to consider the options for saving the fishery. Meanwhile, the New England Council broke ranks with the other four and joined commercial fishermen in opposing the plan.

In August, the second panel of scientists echoed the conclusions of its predecessor and recommended immediate and substantial reductions in fishing mortality. In order to ease the impact on commercial fishermen, the council voted to phase-in the cutbacks over a three-year period. The plan was to be submitted to the Secretary on November 1, 1990.

But this was still unacceptable to representatives of the fishing industry, who now argued that only ICCAT, the International Commission for the Conservation of Atlantic Tunas, should set swordfish limits. It was unfair, they said, for U.S. fishermen to be regulated when other countries' fishermen were not. They persuaded the House Fisheries Subcommittee to hold a hearing in September on the issue, and action on the U.S. plan was postponed until after the November 1990 ICCAT meeting, where the swordfish decline was to be the principal topic of discussion.

ICCAT Takes Over

Two things happened in November to dramatically alter the course of U.S. management of swordfish. The contentious 1989-90 debate over swordfish coincided with, and shaped, Congressional reauthorization of the Magnuson Act and the Atlantic Tunas Convention Act, the law implementing the ICCAT treaty. Because the tuna exclusion had been an obstacle to swordfish management, and because of the mounting problem of billfish and shark bycatch in tuna fishing operations, conservationists sought to extend Magnuson Act authority to tuna. The resulting bill, signed by President Bush on November 28th, did include tuna. But under pressure from commercial fishing interests distrustful of the councils, Congress gave authority over tuna and other highly migratory species in the Atlantic to the Commerce Department, not the councils, and then forbid the Secretary from imposing lower quotas than recommended by ICCAT.

The Congressional sponsors of these amendments were, quite frankly, misinformed. First of all, to blame the councils for the swordfish fiasco is a non sequitur. The councils did their job. The tuna exclusion, substitution of judgment by officials in Washington, and steadfast industry resistance kept the U.S. from preventing the severe decline.

Denying the U.S. the ability to take independent action to conserve swordfish, or any other U.S. fishery, makes no sense either. The second panel of scientists to review the status of swordfish was pointedly asked if the U.S. acting alone would help conserve highly migratory swordfish and they agreed that "the stock would generally benefit from rational, unilateral management" such as that contained in the 1990 plan. Moreover, there is no reason to believe that the U.S. taking the initiative with a strong stand on conservation would in any way hurt the chances of getting international cooperation through ICCAT.

At the November 1990 ICCAT meeting, a U.S.-sponsored swordfish agreement was adopted, which turns out to be, pardon the expression, a double-edged sword. While it ensures that swordfish fishing will finally be regulated - although, ironically, it is American fishermen who bear the brunt of the regulation - it now precludes any U.S. efforts to take the stronger action fishery scientists say is needed.

In June 1991, the Secretary enacted emergency measures implementing the ICCAT recommendations, setting a total allowable catch of 6.9 million pounds a year. There is no provision for phasing in further reductions. And because the plan relies heavily on a minimum size limit to reduce catch, mortality will probably be substantially higher, a likelihood NMFS acknowledges. Fish below the minimum size, 1 and 2 year olds, will continue to be hooked on longlines and most of those that are will die. That's why a size limit was repeatedly rejected by the councils and their scientific advisors. NMFS has issued a final rule to replace the emergency regulations with a permanent Secretarial Fishery Management Plan on December 10th. Public hearings will be held this fall.

The Outlook for the Future

There are two scenarios for future U.S. management of swordfish: 1) the U.S. will be a follower, limited to implementing international agreements; or 2) the U.S. will become a leader, seeking ocean-wide cooperation to complement its own initiatives.

Unless there is a change in U.S. policy, the first scenario will prevail and that's not very comforting. Under current law, as it is now interpreted, any domestic action to manage swordfish must carry out recommendations made by ICCAT and no more. Accordingly, the Secretarial Plan implements the 1990 ICCAT recommendations. This plan, unfortunately, does not do nearly enough to halt the decline in the swordfish fishery, and it will likely continue unless more is done.

The prospect of ICCAT taking stronger action is not good, judging by the Commission's record on the only other species it has actively managed during its 25-year history, the bluefin tuna. The bluefin spawning population has declined over 90% since 1970 and it's still shrinking, putting the future of the fishery at risk. ICCAT's own assessments predict the number of medium-age fish will also continue to decrease under present management, meaning that recovery is not in sight.

And yet the ICCAT membership has shown no inclination at all to replace the existing management regime with one that would halt overfishing and hasten a recovery. Even moreso than U.S. fisheries management, ICCAT is driven by the economic interests of its participating members. Management programs must be watered down in order to get a consensus among 22 nations. Furthermore, ICCAT has no regulatory authority to enforce its agreements. Several key fishing nations, such as Taiwan and Italy, do not belong. For the swordfish to languish in this environment could condemn it to the same fate that has befallen the bluefin.

If that were to happen, the fishery for swordfish, which doesn't have near the value per pound of bluefin and therefore can't be sustained in such a depressed condition, would collapse. We've already seen fishermen switch to drift nets and pair trawls to squeeze what's left out of the north Atlantic, or abandon the Atlantic fishery for the Pacific. There are almost no other healthy fisheries to enter or under-utilized species to exploit, so the Atlantic longline fleet, some 500 vessels, will likely direct its effort at tuna and shark, fisheries already overcrowded and stressed to the limit.

Reform U.S. Participation in ICCAT. If ICCAT is going to be persuaded to take a harder line on swordfish, the initiative will have to come from the U.S., and we'll have to push, prod and cajole. But as things stand now, our delegation is not prone to do that. Our effort at ICCAT is handicapped by a lack of leadership, no clear objectives, and inordinate influence from the offshore fishing industry.

If we are to be stuck with ICCAT calling the shots, the best we can do is make an all-out effort to improve the effectiveness of our participation in that body. The situation has begun to improve somewhat under the new leadership in NMFS, but fundamental changes are needed:

- NMFS, and not the U.S. Commissioners, should develop the position to be presented at the annual ICCAT meeting. NMFS is the agency legally responsible for domestic fisheries science and management and should be responsible for ensuring that the national interest in fisheries is represented in international negotiations. Under the present system, three appointed Commissioners make U.S. policy, with guidance from an advisory committee two-thirds of whose members are affiliated with the commercial fishing industry.
- Congress should increase funding to improve the research and data collection programs necessary to formulate and assert U.S. fishery goals. A strong science foundation is a pre-requisite for successfully making a case at ICCAT for the conservation of highly migratory species.
- The U.S. delegation should petition ICCAT to convene its Standing Committee on Research and Statistics (SCRS) at least two months in advance of the annual meeting, instead of the week before. The SCRS makes annual stock assessments and recommendations to the Commission. More lead time is required to give each member nation a sufficient opportunity to carefully review the latest results with their own scientific and other domestic advisors before discussing and deciding on a position.
- The Administration should use economic leverage as appropriate to achieve U.S. conservation goals at ICCAT. The positions of the major fishing nations are based almost solely on economic factors. In order to get concessions at ICCAT, it may be necessary for U.S. negotiators to employ linkage of non-fishery considerations.

Reclaim Our Sovereign Rights. It's important to point out that, even if U.S. actions to conserve swordfish and other highly migratory species weren't bound by ICCAT decisions, these changes would still be needed. The Commission serves a vital function by pooling data on a wide range of Atlantic fisheries, and it's a valuable forum to the extent that it can foster cooperation among nations fishing the Atlantic. Having said that, international agreement should not be the only game in town. The U.S. must be allowed to be more (but not less) restrictive than ICCAT recommendations if and when it's necessary to achieve our conservation goals.

Indeed, if ICCAT doesn't do something soon to save the bluefin tuna, the public may lose all confidence in ICCAT as a management mechanism. There could very well be a backlash that will result in the U.S. reclaiming sovereign authority over its pelagic fisheries.

Regardless, an international body not politically accountable to the American people should not have sole authority to manage resources off our shores. Congress should repeal the 1990 provisions of the Magnuson and Atlantic Tuna Convention Acts that tie the hands of U.S. managers. As a nation, we must take the strongest possible measures to protect the dwindling swordfish population.

A more substantial reduction in fishing mortality is supported by the assessments of both U.S. and ICCAT scientists, who have recommended 78% and 50% cuts respectively. The present ICCAT plan asks for only a 15% reduction. Moreover, the regulations should be written so that the reduction is in fish killed, not fish landed. The minimum size limit should be repealed, or observers put aboard swordfish vessels to count discarded swordfish toward the annual quota.

In conclusion, it should be clear from this review of past U.S. actions that, if swordfish conservation is to succeed under either scenario, we will have to exhibit a stronger political will than we've yet demonstrated. Congress and the Administration must stand behind those they've made responsible for managing marine fisheries and not interfere when those being regulated complain, as they always will. For its part, the fishing industry must support fisheries management, instead of fighting it every step of the way. There is a simple but elusive truth: healthy stocks, producing up to their potential, yield more fish and bring more economic benefit to commercial fishermen, the fishing public and the consumer than depleted stocks.

Finally, we must stop thinking of conservation as just an abstraction. Only when the threat to our fisheries is palpable do we begin to prepare for it. Only when stock depletion is actually upon us do we see it coming. If we persist in thinking like that, things will get worse before they get better, for the swordfish and every other fish in the sea.