



The NCMC

MARINE BULLETIN

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THOUGHTS ON BIG, OLD MARLINS

FOCUSING REGULATIONS ON MINIMUM SIZE LIMITS MAY LIMIT CHANCES FOR SPECIES' SURVIVAL

By John W. Jolley and Steven A. Berkeley

There is a current debate in the angling community about whether targeting older and larger individual fish should be discouraged because these fish may be reproductively more valuable than younger fish. Recently the recreational press (Salt Water Sportsman and Sport Fishing magazines) began addressing this "big fish" issue especially as it pertains to marlins. As fishery biologists who have done extensive research on billfish during our careers, we believe it is important to ensure that the debate is grounded in fact. It is the intent of this article to describe the current state of scientific knowledge on this issue.

It has long been known that for most marine fish species, fecundity (the number of eggs and/or larvae produced annually) increases dramatically - often exponentially - with size, and since most fish continue to grow throughout their lives, with age as well. Scientific studies have recently revealed that for some unrelated marine species such as striped bass, Pacific black rockfish and Atlantic cod, there is a significant increase in the quality of larvae produced by older and/or larger mothers. That is, unlike humans, fish continue to reproduce throughout their entire lives.

THE OLDER THE BETTER

In fact, not only do fish produce more eggs as they get older, but in many of the species that have been studied, they also produce eggs of higher quality, which presumably hatch into larvae that are more likely to survive. In Pacific black rockfish, for example, a recent study showed that larvae produced by older mothers grew more than twice as fast and resisted starvation more than three times longer than larvae of younger females. Senescence (a reduction in spawning capacity or egg viability as fish get older) is virtually unknown in marine fishes. Additionally, older individuals likely become more successful during the spawning act through repeated experiences. The old adage that we should allow fish to spawn at least once may, in fact, not be sufficiently precautionary if most successful spawning comes from older fish. These recent findings may have important and broad implications for fisheries management.

In a recent article by scientists at the University of Hawaii (C. Birkeland) and Scripps Institute of Oceanography (P. Dayton), entitled "*The Importance in Fishery Management of Leaving the Big Ones*," the authors summarized recent works by other researchers and concluded that there was a "need to focus on protecting larger/older individuals of long-lived fish species rather than concentrating on regulating the total numbers harvested from a population."

(Continued on page 3)

PLAYING CHICKEN WITH MENHADEN

As of this writing, the Virginia-based menhaden fishing industry is urging the state's legislators to defy the interstate management plan that caps catches in Chesapeake Bay at recent levels through 2010. [See story on page 8]

The Virginia General Assembly has rarely, if ever, defied Omega Protein, the corporation that mines menhaden in the bay, taking the small prey fish out of the food web by the millions of pounds to "reduce" to oil and meal for chicken feed and fish farms. We won't be surprised if they capitulate this time, too. After all, there's a reason menhaden is the only fishery still under the control of Virginia politicians, rather than the state's professional management body, the Marine Resources Commission. What is surprising, however, is that Virginia would let itself be used as an industry tool in what could well end up as a costly showdown with the federal government.

First, the industry lost its case on the merits. The 15-state Atlantic States Marine Fisheries Commission soundly rejected Omega's alternate proposal to allow up to a 25 percent increase in catch. That would mean an additional 300 million pounds of menhaden removed from the Chesapeake over the next 5 years, clearly at odds with the ASMFC's goal of preventing expansion of

the fishery while scientists study possible overfishing of the bay's forage base.

Now, Omega is claiming the cap is illegal and therefore Virginia is not bound by it. At a recent subcommittee hearing in Richmond, lawyers for the corporation told legislators not to worry about compliance. They did so despite a letter from the ASMFC executive director to the state's natural resources secretary explaining that failure to implement the cap would trigger a finding of non-compliance and, if the Secretary of Commerce agrees, lead to a moratorium on all fishing for menhaden in Virginia waters.

Omega can take that risk if it wants. But what they're really asking is for Virginia to take the gamble for them and put the resource and more jobs on the line. If they follow the industry on this, Virginia will lose either way: if a federally-imposed moratorium closes down the state's fishery, including for bait; or, if menhaden harvests are allowed to increase, threatening the bay and other fisheries that depend on menhaden for food.

According to a new economic study prepared for the NCMC and our allies, the value of the reduction fishery is eclipsed by the recreational fishery for species that rely on menhaden as a food source. Sport fisheries dependent on menhaden contribute over \$235 million in economic activity to Virginia, compared to \$45 million from the reduction fishery.

By thumbing its nose at the interstate commission, and the federal law that enforces its decisions, Virginia, a longstanding partner in multi-state cooperation, would turn a win-win situation into lose-lose.

Ken Hinman, *President*

NATIONAL COALITION FOR MARINE CONSERVATION

Founded in 1973

The NCMC is a 501(c)(3) non-profit organization dedicated to the following goals:

- ◆ preventing overfishing and restoring depleted fish populations to healthy levels
- ◆ promoting sustainable use policies that balance commercial, recreational and ecological values
- ◆ modifying or eliminating wasteful fishing practices
- ◆ improving our understanding of fish and their role in the marine environment
- ◆ preserving coastal habitat and water quality.

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Rip Cunningham, in an editorial in *Salt Water Sportsman* (2005), summarized past concerns of Dr. Phil Goodyear over management of striped bass. Goodyear was concerned that, over time, mandating a minimum size of 28" for striped bass would lead to more rapid harvesting of the faster growing and potentially bigger fish, leaving slower growing and smaller individuals dominating the stock.

This is not a new concept; livestock breeders have been selecting for fast growth for centuries by selectively breeding the biggest, fastest growing individuals. In the case of fishing, though, we are doing just the opposite; we are selectively removing the largest and fastest growing fish from the breeding stock, leaving the slowest growing, smallest individuals to breed. If fishing is responsible for a high proportion of the total mortality of a fish population, as it is in Atlantic billfish, then fishing can act like a selective breeding experiment on a grand scale, but one in which we are inadvertently selecting for the wrong traits. One alternative to reverse this unintended consequence of fishing is with a slot limit. Slot limits permit harvest of fish that fall between a minimum size and a maximum size limit, protecting smaller, immature fish and larger, broodstock individuals. Stocks of other species (e.g., redfish, snook, white sturgeon) have been successfully assisted by protecting the big fish with slot-size restrictions.

SELECTIVELY REMOVING THE MOST PRODUCTIVE BREEDERS

The West Palm Beach Fishing Club (WPBFC), one of the largest and oldest institutions of its kind, put similar ideas to its 1,400 members in a November 2004 editorial. In this article, it was noted that over 55 large blue marlin (>500 lb) were killed during the 2004 Bahamas billfishing season. It is scientifically well established that all blue marlin of this size are mature females. While 55 blue marlin seems like a "drop in the bucket" compared to reported Atlantic longline catches, these recreationally-killed specimens represent some of the most reproductively prolific individuals remaining in an already depressed stock. Removal of these 55 fish from the breeding population represents a loss of 1.5 to 1.7 billion eggs annually. The question asked by the WPBFC's article, and repeated here, is: Does such a practice contradict good fishery management policy when a population is biologically stressed?

Doug Olander continued the big fish dialogue in an editorial in *Sport Fishing* (February 2005), in which he questioned the biological significance of big fish, especially as it might relate to billfish. According to the world's leading experts on marlin, Olander concluded, "no one knows". Well, that is not quite correct. We certainly do know that bigger marlin, like virtually all

other marine fish, spawn many more eggs than smaller individuals. We also know that marlin, like virtually all other marine fishes, continue to reproduce throughout their lives. We do not know whether older, larger fish spawn better quality eggs, but it would not be unreasonable to assume so until shown otherwise. Olander also raised another troubling issue - our lack of basic biological and fisheries data on billfish, and called for increased funding for billfish research. But, while scientists always contend that more research is needed, we have to ask, if we can't answer these basic biological questions, what have we been doing in billfish research for the past 35 years?

NOAA fisheries has been conducting research on marlins since 1970 in areas throughout the western North Atlantic, including the Gulf of Mexico, eastern United States seaboard, Bahamas and the Caribbean. Millions of dollars have been spent and millions more are being requested (\$6.4 million for FY 2006-2008; Draft Atlantic Billfish Research Plan, 2004). Isn't this an adequate amount of time and money given white and blue marlin's current urgent biological predicament? According to NOAA Fisheries, population sizes (biomass) for both species have been reduced by at least 80 to 90 percent, and are still declining! If the millions of dollars that have already been spent on billfish research have not stemmed the decline, perhaps it is time to re-think our approach, rather than simply requesting more money to continue doing more of the same.

"Slot size limits in conjunction with the use of ...circle hooks...would reduce mortality on the largest, most fecund individuals."

A MORE CAUTIOUS APPROACH

While it is certainly true that the U.S. cannot unilaterally reverse the billfish declines, this should not preclude our taking a more cautious management approach regarding killing big fish while we improve our ability to fully monitor and understand the consequences. While the jury may still be out on how the cited reproductive research on other species relates to marlins, it is certain that big females produce more eggs, and likely that these eggs are of higher quality. Until evidence is presented to the contrary, protecting these larger animals makes great sense, especially for stocks that are as reportedly overexploited as Atlantic blue and white marlin.

Importantly, there is significant mortality even in an all-release recreational fishery, so that a slot limit by itself will still not eliminate mortality on these big fish. A recent paper by scientists at the Virginia Institute of Marine Science estimated the post-release mortality of


(Continued on page 4)

white marlin caught on standard J-hooks to be 35%. Although a similar study has not been published on blue marlin, post-release mortality of this species has been estimated to be in the 10-30% range. The above cited study also indicated that the post release mortality of white marlin caught on circle hooks was 0%. Although the sample size was too small to be definitive, the use of circle hooks to reduce post-release mortality does seem promising. And as Doug Olander pointed out in his editorial, although recreational landings may be small, there is "the perception thing". As we have demonstrated many times at ICCAT, international conservation requires someone to lead by example, and that someone is usually the U.S.

The first International Billfish Symposium was held in Kailua-Kona, Hawaii in 1972. Since then, many concerns and recommendations have been proposed on the future of billfish. Proceedings from each of the past three symposia included valuable guidance about what has been done, what needs to be done, and how to proceed. However, because good billfish management still eludes us, we believe more substantial changes are necessary in both research and international negotiations if we are to make better progress than in the past. In the meantime a more precautionary approach seems prudent, especially with blue and white marlins, whose condition appears most precarious. Slot size limits in conjunction with the use of non-offset circle hooks are reasonable first steps that would reduce mortality on the largest, most fecund individuals.

Since the U.S. has largely been responsible for efforts in billfish conservation, a more thorough and critical review of NOAA Fisheries funding and research should be undertaken to ensure that goals are being met in a timely manner. To that end, we recommend that NOAA Fisheries (NMFS) provide a report to the Billfish Advisory Panel and its scientific advisors at their next meeting that details data gaps and provides a prioritized research plan and timetable to fill these gaps. This plan should lay out a detailed research agenda with deliverables and personnel associated with each task and provide a budget and budget justification. Updates on progress should be presented to the Billfish Advisory Panel and scientific advisors annually.

One thing is now certain; we have not yet developed an adequate management system to protect these magnificent animals. Their continued decline means that the clock is ticking, and we cannot afford to wait much longer. □



John Jolley is president of the West Palm Beach Fishing Club and a former senior fishery scientist with the State of Florida. **Steve Berkeley** is a research biologist at the University of California, Santa Cruz, with over 30 years experience in research and management.

LONGLINE BYCATCH REDUCTION AFTER FIRST THREE YEARS OF CLOSED AREAS (2001 - 2003)

NOAA Fisheries, in settling NCMC's lawsuit over swordfish, billfish and shark bycatch in the U.S. longline fisheries, closed 133,000 square miles of coastal waters off the southeast U.S. coast in August 2000. The closures went into effect in March 2001.

Longlining is a type of commercial fishing used to target swordfish and tuna, but which also has a large unwanted take of undersized fish and non-target species that are discarded dead at sea. Species discarded by longline gear include blue and white marlin, sailfish, endangered sea turtles, birds, and undersize swordfish. While progress is being made in modifying longline gear to minimize interactions with seabirds and turtles, the only known method of dealing with the bycatch of protected or prohibited fish is to get the gear out of the water, where and when it is doing the most damage.

The agency's estimates of bycatch reduction after the 2003 fishing season (combined results for 2001-2003), as compared to the average bycatch during 1997-1999 (pre-closures), are:

SPECIES	Reduction in Bycatch Mortality (percent)
Sailfish	-74.6
Pelagic sharks	-55.9
Blue marlin	-50.3
White marlin	-47.5
Dolphin	-47.2
Juvenile swordfish	-39.5
Large coastal sharks	-27.9
Sea turtles	-27.9

Please note that these figures are based on mandatory reporting in vessel logbooks, with limited observer coverage. Other factors may also contribute to the decline in bycatch, including reduced fishing effort due to higher fuel costs and lower prices paid for target species (e.g., swordfish). □

2005 OCEAN HONOR ROLL



We like to take time at the beginning of each new year to extend our gratitude to all our supporters and recognize those individuals, clubs, companies and foundations who contributed significantly to our success. Our achievements in 2005 would not have been possible without the generosity of those who share our vision for the sustainable management of fishery resources.

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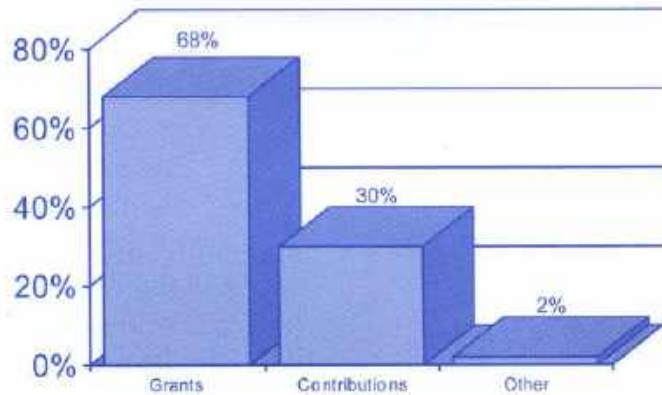
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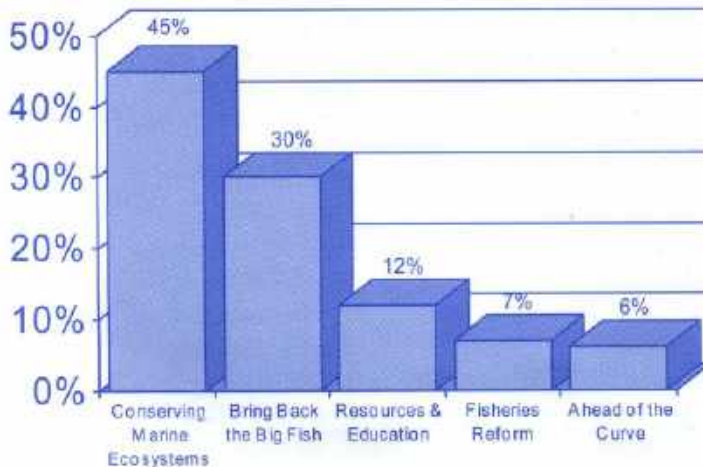


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ICCAT MOVES TO PROTECT BIG FISH HABITAT

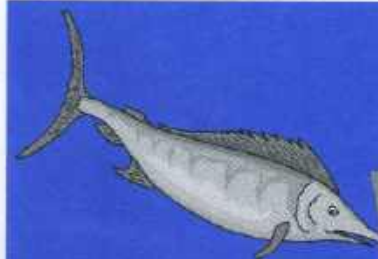
The International Commission for the Conservation of Atlantic Tunas (ICCAT) has taken an important first step toward an ecosystem-based approach to managing the Atlantic's high seas fisheries. On November 19th, the 41-nation body passed a resolution to gather information on pelagic sargassum, essential open ocean habitat for a large number of species of fish and other sea life. The resolution, introduced by the United States, recognizes the value of sargassum to pelagic fisheries, directs ICCAT's scientific committee to assess its current ecological status, and calls on member countries to report any activities that impact concentrations of the floating weed, with particular emphasis on the Sargasso Sea.

"The Sargasso Sea is like an offshore estuary, a nursery packed with juveniles, including the young of many highly migratory species," NCMC president Ken Hinman says. Hinman drafted the sargassum resolution and helped shepherd it through ICCAT as a member of the U.S. delegation in Seville, Spain. "Getting ICCAT to understand and appreciate its vital role as 'the cradle of life' in the Atlantic is big, because it will help guard against future activities that would adversely affect it."

Sargassum, a yellow-brown seaweed adrift in the North Atlantic Current, provides a highly dynamic and significant structure in the otherwise barren open sea. Small, young fish seek it out for protection from predators and as a ready source of nutrients because of all the other marine life attracted there. The large presence of small fish, including juvenile tunas, in turn attracts predators. Swordfish, billfish, dolphin, wahoo and other pelagic species feed on the many organisms found living in fields of sargassum. Studies have found that fish availability in offshore waters can be correlated

NCMC SADDENED BY THE LOSS OF EBBIE LEMASTER

Edward B. "Ebbie" LeMaster, a member of NCMC's Board of Directors, passed away in his sleep November 10th in Ponte Vedra, Florida. "Ebbie was a dedicated conservationist and a great guy," said board chairman Chris Weld. "NCMC was lucky to have him aboard to share his fishing experience, his environmental expertise, and especially his gentlemanly charm. We're going to miss him very much." Ebbie also served on the board of the Coastal Conservation Association of Florida, and had been a member of the Florida Marine Fisheries Commission and the South Atlantic Fishery Management Council.



RESOLUTION FOR BILLFISH PASSED BY INTERNATIONAL COMMISSION

At the November 2005 meeting, ICCAT also adopted a resolution on circle hooks, intended to reduce the bycatch of sea turtles and increase the survival of released billfish. The resolution encourages ICCAT

countries fishing for tuna and swordfish in the Atlantic to test circle hooks in their commercial longline fisheries, as well as their recreational and artisanal fisheries. In addition, ICCAT's scientific body will assess the impact of circle hooks on the total number of dead discards in the pelagic longline fisheries. In the U.S., studies indicate the use of circle hooks limits the number of endangered turtles taken as longline bycatch, and significantly lowers post-release mortality of overfished blue and white marlin. Although this is a small step in the gargantuan task of protecting billfish internationally, much more will happen at ICCAT's meeting in 2006 when an assessment to determine the status of marlins will be conducted, followed by consideration of new conservation measures. □

to the amount of sargassum present. Scientists surmise that the sargassum focuses the distribution of certain life stages.

"Although we are not aware of any significant commercial harvesting of sargassum in the Atlantic, it is harvested elsewhere in the world for food, fertilizer and other commercial uses, including aquaculture," says Hinman. "Studies of potential commercial interest, in the Bahamas for instance, are looking to new processing techniques and applications to enhance the prospects for harvesting natural seaweed populations. The action that ICCAT took at this year's meeting will ensure that the Atlantic fishing community is prepared, if necessary in the future, to protect sargassum for the benefit of sustainable fisheries, just as the U.S. has done in our own waters."

In 2003, the U.S. enacted a law protecting sargassum from commercial harvest, an action the NCMC strongly backed. The South Atlantic Fishery Management Council, which wrote the law, identified international protection as the next step, and supported NCMC in its efforts to follow-through at ICCAT in 2005. □

MENHADEN LIMITS NOW UP TO VIRGINIA



In the battle to protect Atlantic menhaden as critical prey for striped bass and other wildlife, the stage has shifted to the Commonwealth of Virginia. It is now up to the Virginia General Assembly to pass regulations capping the industrial harvest of menhaden in its portion of Chesapeake Bay. Failing that, the Governor must use his executive authority.

In August of last year, after thorough review of the data from leading scientists, months of deliberation and record public support, the Atlantic States Marine Fisheries Commission (ASMFC) overwhelmingly voted to limit the bay catch of menhaden (for reduction into fish meal and oil) to 105,800 tons for the next five years (2006-10). The purpose of the cap is to prevent the reduction harvest from increasing while the ASMFC and NOAA Chesapeake Bay program study links between possible overfishing of the bay menhaden population and malnutrition and disease in striped bass, which use the bay as their primary breeding ground. This precautionary "timeout" will allow scientists and managers to determine an ecologically-safe level of harvest for the long-term, while protecting the interests of the many fisheries that depend on menhaden as a principal source of prey.

The ASMFC plan limits the reduction catch to the average of the last 5 years, which means there will be no loss of jobs or income to Virginia menhaden fishermen as a result. It is a compromise that is potentially a win-win proposition for fishermen, the resource and Chesapeake Bay. Nevertheless, Virginia-based Omega Protein, which operates the reduction fishery in the bay, is asking the Commonwealth of Virginia to defy the ASMFC mandate, despite the consequences. (see Ocean View, p. 2)

YES, VIRGINIA, THERE IS A COMPLIANCE CLAUSE

In order for Virginia to comply with federal law, the legislature must adopt regulations implementing the ASMFC mandated harvest cap in Chesapeake Bay. Two bills were introduced in January to do just that: HB 749, sponsored by Delegate John Cosgrove in the House; and SB 84, sponsored by Delegate John Watkins in the Senate. But on behalf of Omega Protein, a third bill, HB 1045, was introduced to raise the cap to 131,000 tons a year, 25 percent higher than the ASMFC cap.

The stakes are high, for the health of the Chesapeake Bay ecosystem, sustainable fisheries all along the Atlantic Coast, and for Virginia. If Virginia fails to pass legislation implementing the cap this year, it is likely to be found out-of-compliance with the interstate menhaden plan. If so, the Secretary of Commerce, under the

SENATE PANEL PASSES FISHERIES BILL

The Senate Commerce Committee in December approved the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2005. S. 2012 represents the first serious movement toward reform of the federal fisheries act during the 5-year (so far) reauthorization process. Initial reaction to the bill has been generally favorable, more because of what it doesn't do than for what it does. First and foremost, the bill doesn't relax the strict rules against overfishing set in 1996 by the Sustainable Fisheries Act. A bill submitted earlier by the Bush Administration was widely viewed as doing just that.

The bill, sponsored by Sen. Ted Stevens (AK), takes some tentative steps toward improving the science and adopting an ecosystem-based approach to management. It encourages fishery management councils to follow the advice of their scientific committees when setting catch limits, although it does not require that they adhere to the advice of the scientists, as many conservationists want and the U.S. Commission on Ocean Policy recommends.

It creates a Regional Ecosystem Research Program, focusing on science needs and methods for integrating ecological information; accounting for environmental variation on fish stocks and fisheries; and describing existing and developing council efforts to implement ecosystem approaches. It also supports regional pilot programs that would lead to development of Fishery Ecosystem Plans. There's also a study of the ecological status of herring.

A new provision was added to make consideration of ecological factors, such as predator-prey interactions, part of all fishery management plans, but the wording is vague and, for some reason, it slipped from a required provision to a discretionary one.

Although the Stevens bill is definitely a step in the right direction, it seems designed to avoid controversy. As a result, the science and ecosystem reforms come across more as suggestions by Congress rather than new mandates. The U.S. Ocean Commission and the NMFS Ecosystem Principles Advisory Panel, both established by Congress, asked Congress to do more. There is still an opportunity for more meaningful reform as the bill awaits floor action in the Senate and the House works on its own version. □

authority of the federal Atlantic Coastal Fisheries Conservation and Management Act, could prohibit all fishing for menhaden in Virginia waters. In this case, that would have devastating economic consequences, shutting down not just the menhaden reduction fishery, but the bay's bait fishery as well. □

NCMC URGES REGIONAL COUNCILS TO CONSIDER PREDATORS IN FORAGE FISH MANAGEMENT

The last quarter of 2005 was filled with activity for NCMC's Conserving Marine Ecosystems Program, as staff attended the year-end meetings of the Pacific, New England and Mid-Atlantic Fishery Management Councils. Each of these councils currently manages species that occupy critical ecological niches as forage for many ocean predators. NCMC has been encouraging the councils to protect relationships between predators and their prey as a first step towards a management approach that considers ecosystem health prior to deciding fishery allocations. This recommendation was initially made by the NOAA-appointed Ecosystems Principles Advisory Panel (EPAP) in 1999, yet little progress had been made in the past six years to adopt this methodology. Following is a brief synopsis of our recent activity with each council.

Pacific Fishery Management Council Meeting San Diego, CA- October 30-November 4

A subcommittee of the Pacific Council voted to add krill to its Coastal Pelagic Species Fishery Management Plan and support, as a preferred option, a prohibition on krill fishing in U.S. waters. Final krill management recommendations will be approved by the full Council at its March 2006 meeting.

The Coastal Pelagic Species (CPS) plan covers other important forage fish, such as squid, anchovy, sardine and mackerel. Commercial fisheries for these prey species are permitted under regulations. No fishery for krill exists in the U.S., although there are growing fisheries around the world and international markets for krill and krill products, so there is a potential for development of a fishery off the West Coast.

NCMC president Ken Hinman commended the council for being pro-active on this issue and strongly supported making krill a prohibited species under the CPS plan. He further urged the Council to use the opportunity of amending the plan for krill to begin making the transition to ecosystem-based fishery management, by fashioning the CPS FMP into a true Pacific Forage Fish Plan, with appropriate standards for ensuring an ecologically-balanced allocation of fish among natural predators and fisheries.

New England Fishery Management Council Meeting Hyannis, MA- November 15-17

After three years of research, public comment, drafts and revisions, the New England Council approved final measures for inclusion in Amendment 1 to the Atlantic

Herring Fishery Management Plan. NCMC fisheries project director Pam Gromen attended the November meeting. The NCMC has been involved in the formulation of Amendment 1 since the original scoping meetings in 2003, when it asked the Council to protect herring as forage.

In recent years, fishermen, environmentalists and scientists have been united by their concern for herring predators in the Northwest Atlantic. Decreased whale sightings, malnourished seabirds, slow recovery of groundfish stocks and poor body condition of tuna have raised alarms that the herring fishery is likely having a devastating impact on the ecosystem. These reports closely correlate with the growth of the inshore, mid-water trawl herring fishery over the last decade.

Notable measures that NCMC supported in Amendment 1 include the creation of a limited access herring fishery that seasonally prohibits mid-water trawling in an ecologically important near-shore area. Also included was a definition of mid-water trawl gear that bans the use of equipment destructive to seafloor habitat. Hard bycatch caps and more conservative allocations to the fishery were other integral components. The amendment now must be reviewed by NOAA.

Mid-Atlantic Fishery Management Council Meeting Atlantic City, NJ- December 6-8

In September and October of last year, the Mid-Atlantic Council's Ecosystems Committee hosted scoping hearings in 13 locations from North Carolina to New York. The meetings were held to facilitate discussion with the general public and interested parties about ecosystem considerations in fisheries management.

NCMC provided written comments and attended one of the hearings in Alexandria, Virginia to engage in the discussion and present our views. Ken Hinman testified that "ecosystem-based management is a natural outflow of our increasing knowledge of the ocean...It is not a departure from past practices, but a natural progression in the evolution of fishery management." Ken spoke on behalf of the recommendations of the EPAP, of which he was a member, and urged the Committee to adopt an incremental approach to incorporate practices that consider ecosystem health, starting with the protection of predator-prey relationships.

At the full council meeting, the Ecosystems Committee met to summarize their findings. Overall, the committee was disappointed with the attendance at the hearings and as a result, felt they could not draw any strong conclusions. Despite poor turnout, the Committee is drafting a summary report to NOAA and will include a list of recommendations regarding ecosystem-based management. A preliminary outline of the report echoes suggestions made by the NCMC. □

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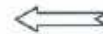


When we launched our new on-line shopping cart back in June, we added features to improve membership purchases as well as donations. The membership page can be used to purchase a new membership or renew an existing one. The donations page can be used by members wishing to make an extra gift during the year, or for non-members wishing to make a one-time donation. All online gifts can now be made in any dollar amount.

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The NCMC

MARINE BULLETIN

No. 113

Spring 2006

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- Find out how to leave a legacy to the NCMC
- Help support one of our year's biggest fundraisers with a raffle prize donation

(P)LAYING DOWN THE LAW?

MAGNUSON AMENDMENTS ARE A CURIOUS MIX OF GOOD, BAD AND INDIFFERENT

A disposition to preserve, and an ability to improve, taken together, would be my standard of a statesman. – Edmund Burke

Entering the long drawn-out Congressional process of renewing the Magnuson-Stevens Fishery Conservation and Management Act, which began sometime in the late 90s, the National Coalition for Marine Conservation (NCMC) set out three major goals for reauthorizing the nation's fisheries law. These haven't changed:

- Oppose any weakening of the 1996 Sustainable Fisheries Act's (SFA) strict standards to end overfishing and rebuild overfished stocks
- Mandate movement toward an ecosystem-based approach to managing fisheries, beginning with predator-prey dependencies
- Insulate science-based conservation decisions (setting of allowable catch) from allocation-based management decisions

There are, we've found, advocates in Congress for each of these positions. The problem is finding one to stand for them all; to preserve the conservative standards at the heart of the SFA while improving the law in new areas. With Congress determined to settle the issue this year, an assortment of proposals are

being distilled, and in some cases diluted, to create a single bill to amend the Magnuson Act.

SETTING THE STAGE

A year ago Rep. Nick Rahall (D-WV) introduced the Fisheries Science and Management Enhancement Act of 2005. The bill narrowly focuses on reducing conflict of interest on the regional councils, chiefly by not allowing council members to set catch allowances above the level recommended by their scientific committees. Although HR 1431 has collected more than 70 co-sponsors, it's mainly served as a stalking horse for the movement to separate conservation from allocation.

Late last fall, Senator Ted Stevens (R-AK) received kudos for his Magnuson-Stevens Reauthorization Act of 2005, which he shepherded through the Commerce Committee (which he chairs) without any amendments to rollback the SFA's overfishing provisions. Unfortunately, while S 2012 doesn't retreat, it takes only tentative steps forward; e.g., it encourages but doesn't require fishery managers to base catch limits on science and move toward an ecosystem-based approach to fisheries.

The most far-reaching ecosystems provisions turn up in Rep. Wayne Gilchrest's (R-MD) Magnuson-Stevens Amendments Act of 2006, but they don't go far enough either. HR 5051 calls on the Secretary of Commerce to draft

(Continued on page 3)



Ocean View

Commentary

WHY MENHADEN, WHY NOW

Since an interstate commission (ASMFC) capped the industrial harvest of menhaden in Chesapeake Bay last year, we've focused on getting Virginia to comply. Gov. Tim Kaine, picking up the ball his General Assembly dropped, has until July 1st to bring the state into compliance. In May, his representative told the ASMFC that, once the legislators go home, Kaine intends to do the right thing. Meanwhile, he's being flooded with messages of support from a concerned and anxious public.

While dealing with the political mechanics of implementing the 5-year cap, we've nearly stopped telling the public about why it's needed, except in the broadest terms; "while research is carried out to determine the ecological status of menhaden."

But in fact, the rationale for limiting the catch has only gotten stronger. Two recent scientific gatherings remind us of what's at stake if menhaden fishing remains unlimited. Recent actions by Omega Protein, the company that does all the industrial fishing in the bay, only underscore the urgent need for a cap, right now.

NEW EVIDENCE

At an April Chesapeake Bay Integrated Science Symposium, we heard a University of Maryland ecologist say the striped bass recovery did not initiate the sharp decline in the population of young

menhaden; that their main prey was disappearing years before the stripers returned. He speculated that environmental conditions may be a cause, but didn't discount the possibility of overfishing.

Another UM scientist said the wasting disease *mycobacteriosis*, found in up to 73% of the Chesapeake's stripers, is now considered a bay problem; it's showing up in multiple species. Fish are the "environmental sentinel," but the bay seems to be a reservoir for the disease. He said possible environmental stressors are poor water quality, contaminants, and a lack of prey. A Virginia Institute of Marine Science (VIMS) scientist wondered whether a recent increase in natural mortality for stripers is due to *myco*. Looking at the loss of the forage base was on his short list of research priorities.

Whether a lack of food and pollution play a role in making the fish sick was discussed at length at a May workshop devoted to stripers and the disease. A NOAA biologist thinks the poor nutrition theory is "worth looking at." Another biologist, this one from the US Geological Survey, said research suggests an inadequate diet aggravates the spread of the disease.

TRUST ME, I'M FROM OMEGA

When Virginia newspapers reported in April that Omega Protein's menhaden fleet had added another boat, a company spokesman dismissed any criticism as "out-of-bounds." He assured critics it does not mean Omega will catch more fish in Chesapeake Bay this year. He also says their brand-new Virginia refinery allows them to squeeze extra value from each fish, but will not fuel the need for more fish.

(Continued top of next page)

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THE NCMC
Marine Bulletin

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And yet Omega, while claiming no plans to increase its catch, is fighting tooth-and-nail against any and all efforts to hold their catch to recent levels. At one point, they proposed an alternative "cap" that would allow them to take an extra 300 million pounds over the next 5 years.

The company spokesman calls concerns about the bay catch of menhaden "lies, lies and lies." Instead, he asks the public to believe the company is telling the truth when it says it has no plans to take more menhaden from the bay - even if they don't see any reason why they shouldn't. We don't need a harvest cap, in other words, we need only put our trust in Omega Protein. Sure. And there's a bridge-tunnel at the mouth of the bay they'd like to sell you, too.

Ken Hinman, President

MAGNUSON ACT (Continued from page 1)

guidelines for applying ecosystem considerations to fishery management plans (FMPs) and gives councils the discretion to prepare Fishery Ecosystem Plans (FEPs) based on these guidelines. The National Ecosystem Principles Advisory Panel, convened by Congress in 1996, said lawmakers should *require* the development of FEPs; to assemble needed information on the environment the fisheries are part of, direct how that information should be considered within FMPs, and set policies to guide future management decisions. It is disheartening to think that 10 years later, the panel's "primary recommendation" remains only a recommendation.

Although Gilchrest is chair of the House Resources Committee's fisheries subpanel, his bill was shunted aside by Resources Committee chair Richard Pombo (R-CA). Pombo's bill - the American Fisheries Management and Marine Life Enhancement Act - will be the vehicle for reauthorization in the House. Not surprisingly, his committee approved HR 5018 on May 17th. Much more surprising is that his bill is not nearly as bad as one might expect.

TRES AMIGOS DE PESCADOS

For conservationists, reading the list of original sponsors of HR 5018 - Pombo, Don Young (R-AK) and Barney Frank (D-MA) - is like seeing Stephen King's name on a new paperback. Guaranteed horror. These three amigos are not known as friends of the fish. When NCMC did its "Congressional Marine Fisheries Report Card" (published 5 times from 1995-2002), they were the only legislators to consistently get Ds and Fs.

So no one expected this bill to pick up the US Committee on Ocean Policy's recommendation for setting science-based catch limits. HR 5018's new required provision is more stringent than similar ones in S 2012 and HR 5051, because it specifically forbids catch limits from exceeding the acceptable biological catch

recommended by a council's scientific and statistical committee.

Like the Stevens and Gilchrest bills, Pombo's only encourages a move into ecosystem-based fishery management. Most of its initiative in this area goes into research aimed at understanding the interactions of species. It does declare that councils have the authority to include research, conservation and management measures in FMPs in order to manage the fisheries under an ecosystem-based approach. Now if only that last were a required provision, rather than a discretionary one.

THE POISON PILL

Unfortunately, by the time we get to the end of the bill, we come upon provisions that confirm our initial skepticism; that make us wonder if all of the above is merely a lure to get us to swallow the hook. HR 5018 may deliver as good as any bill on two of NCMC's priorities, but it falls woefully short on the third - retaining existing anti-overfishing rules - and in this case, two out of three is bad.



The poison pill is the Diminished Fisheries section. The term "overfished" would be replaced with "diminished" throughout the Act. It's a change in terminology that fits the we're-all-victims-no-one's-to-blame temper of our times, but is in itself innocuous. The original version of the bill contained a new definition which was so mushy that it would have created a giant loophole for councils to do nothing about overfishing. The howls of protest were so loud that even Pombo/Young/Frank heard them and changed the wording to reflect the law's current definition of "overfished."

Complaints about provisions that would allow councils to extend rebuilding time periods indefinitely under a number of scenarios fell on deaf ears, however. The most egregious of these is one that would allow so-called minor stocks in multi-species fisheries to be sacrificed in favor of more commercially-valuable stocks. In other words, Gulf of Maine cod and yellowtail flounder, still at very low levels, might never be permitted to recover so that trawlers could take higher quotas of other New England groundfish. Or, overfished marlins could stay that way if that's what it takes for the Atlantic longline fleet to fill its quota of swordfish.

HR 5018 could come to a vote by the full House this summer. Reps. Gilchrest, Rahall and Jim Saxton (R-NJ) say they will try again to amend the bill's weak rebuilding provisions on the floor. The Senate also is moving quickly, as Stevens negotiates with New England senators who want more flexibility in rebuilding, too. It remains to be seen whether we will get the changes we need to improve the health of our fisheries without having to take a poison pill along with them. □

CONSUMING BIG OCEAN FISH- WHAT'S IN IT FOR YOU?

By Pam Lyons Gromen, Fisheries Project Director

Americans today are eating more seafood than ever before, reaching a record 16.6 pounds of fish and shellfish per person in 2004 (NOAA, Fisheries of the United States, 2004). The upward trend in seafood consumption is attributed to the movement to eat healthier. And to do this, of course, you need to "eat more fish."

At the conclusion of the Seafood & Health Conference held in Washington, D.C. in December, NOAA announced new recommendations for consuming seafood that are included in the USDA's Dietary Guidelines for Americans 2005. In summary, the conference attendees concluded that each person should incorporate at least two meals of fish into his/her diet per week in order to benefit from the unique nutrients found in seafood that are associated with the prevention of degenerative diseases.

The guidelines do caution women who are nursing, pregnant or might become pregnant against eating fish that are potentially high in mercury. Specifically, they single out shark, swordfish, tilefish and king mackerel, tuna steaks and whale meat. Why these animals? Because they are large predators, and they are long-lived, meaning that they accumulate more mercury from their surrounding environment than do smaller, short-lived creatures.

Mercury occurs naturally in the environment in rocks and soil, but air pollution from burning fossil fuel, mining and incinerating waste has significantly increased the concentration of mercury in the ocean. Small ocean creatures absorb or filter the toxin from the water. These creatures are fed upon by larger creatures and so on until the toxin accumulates up the food chain, concentrating in big ocean predators.

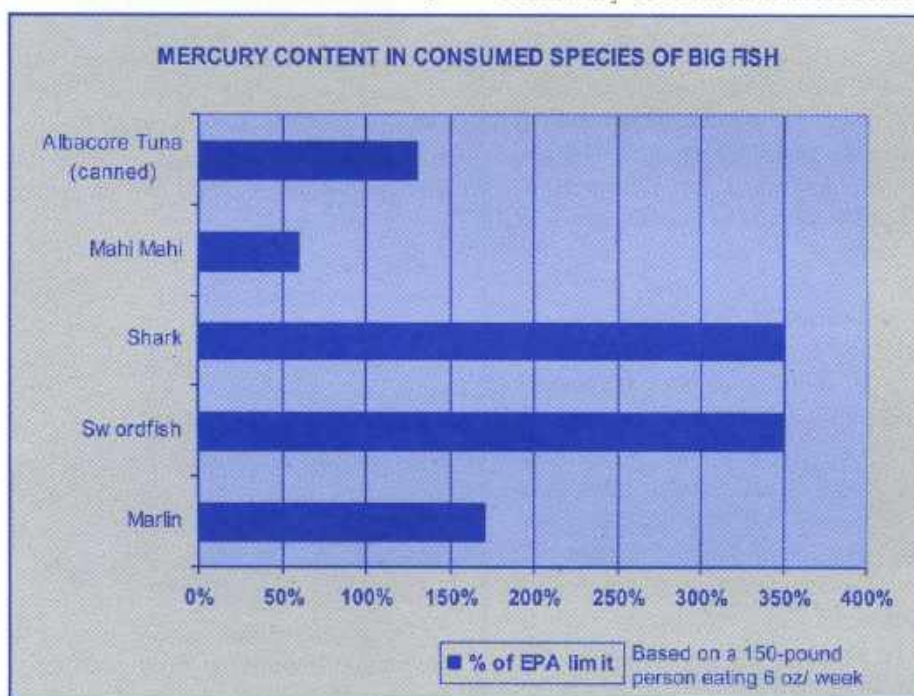
When ingested, mercury, like other heavy metals such as lead and arsenic, can cause damage to vital organs and to the nervous system resulting in memory loss, language impairment and damage to motor skills. A developing child exposed to high levels of mercury may suffer irreparable neurological damage.

A HOLE IN THE U.S. SEAFOOD SAFETY NET

But is the federal government really looking after our health in regards to seafood? The advice of our government regulatory bodies conflicts with the results of an investigative report entitled, "The Mercury Menace," by Chicago Tribune reporters Michael Hawthorne and Sam Roe. The investigation's findings, which were made public on the heels of the new dietary guidelines, revealed elevated levels of mercury toxicity in commonly consumed fish not featured on NOAA's avoid

list for at-risk individuals, including grouper, walleye, orange roughy, and the American favorite, canned tuna.

The advice from NOAA does seem overly simplistic for a problem that exists in bodies of water around the world. Out of the 1,000 commercial fish species eaten by consumers, couldn't there be other candidates for the high mercury list?



Perhaps these crude guidelines are a reflection of the lack of testing done on America's supply of seafood. Currently, there is no federal program in place to test for mercury, keep dangerously high mercury level seafood out of the market, or to label seafood accordingly in order for consumers to make wise choices. In fact, government advice for consumers regarding mercury in commercial seafood is limited to postings on the FDA's and EPA's web sites or a poster in your doctor's office. Not places you think of when making your grocery list. The FDA, which is responsible for overseeing commercial seafood safety, points to the lack of time and money to create such a program, yet private companies have demonstrated that large-scale testing can be done using relatively quick and simple methods.¹

The best scientists can do at the moment is to estimate mercury content in fish based on limited samples. These

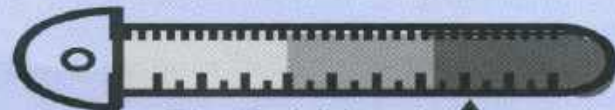
estimates have been used to create mercury calculators that are available to the public on the web sites of several consumer advocacy groups. One of the most user-friendly is provided by the Turtle Island Restoration Network and accessible at www.gotmercury.org ²

Meaningful labeling of seafood and advisory postings where seafood is sold would give consumers the information they need when and where they need it. With the federal government lagging behind, some states have created their own initiatives to do just that. California law requires mercury-in-seafood warning signs to be posted in supermarkets and restaurants. But these regulations might soon become void. Bill HR 4167, the National Uniformity for Food Act, seeks to standardize food labels to comply with federal guidelines. The Act would preempt more stringent state laws, thus reducing safety precautions to the lowest common denominator. In March, the bill passed overwhelmingly in the House and now awaits committee review in the Senate.

Perhaps this is another case of government favoring industry over individuals. The seafood industry, which is a strong proponent of the bill, believes Americans will be scared off by mercury labeling. **On the contrary, seafood labeling will empower consumers to choose from an abundance of seafood selections that fit their nutritional needs, many of which are at the low end of the mercury scale.** (See *NCMC Suggestion of How a Mercury Label Might Look*).

With big fish stocks falling 90 percent since the 1950s, a program that encourages seafood consumption that includes more species at the lower end of the food chain makes sense. But instead, our government is looking to aquaculture to fill the demand for these tasty carnivores. "Seafood is a safe and healthy food choice for all Americans and, as this trend [the upward trend in seafood consumption] shows, the demand keeps rising."

SEAFOOD SAFETY THERMOMETER



This seafood choice ranks ▲

- Incorporate regularly for a healthy diet: 2 servings per week
- Eat in moderation: 2-4 servings per month
- Children under 12 and women who are pregnant, may become pregnant or are nursing should avoid; others should limit to 1 serving per month

* Based on a seafood serving of 1 oz. per 25 pounds of human body weight. (150 pound person = 6 oz. serving)

NCMC SUGGESTION OF HOW A SEAFOOD MERCURY LABEL MIGHT LOOK

said Bill Hogarth, director of NOAA Fisheries. "The administration's National Offshore Aquaculture bill is one way to meet this demand with seafood that is either harvested or grown right here in the United States."

NOAA seems to have missed the 2005 report on aquacultured seafood by the Center for Food Safety. "The Catch with Seafood: Human Health Impacts of Drugs & Chemicals Used by the Aquaculture Industry" discusses serious health risks associated with eating farmed seafood as a result of routinely used feed and treatments which include antibiotics, dyes, fungicides, hormones and anti-parasitic drugs. As is the case with mercury, the report identifies large gaps in the FDA safety net to adequately regulate and test for these substances in both domestic and imported farmed seafood. □

¹ Micro Analytical Systems, Inc. (MASI) developed a process for large-scale testing for mercury in seafood. The new technology will be used to market certified lower mercury-certified seafood under the Safe Harbor™ seal.

² The mercury calculator at GotMercury.Org is based on the EPA Reference Dose of 0.1 µg mercury per kg body weight per day. The reference dose is the amount of mercury a person can be exposed to on a daily basis over a lifetime without an appreciable risk of effects.

FISHING COLLECTIBLES AND OTHER MERCHANDISE NEEDED FOR TOURNAMENT



NCMC is asking our members to donate a prize to our fundraising raffle in August! We're again participating in the Mid Atlantic \$500,000 Tournament (marlin and tuna) in Cape May, NJ to be held this year August 20-25. NCMC partners with IGFA and the Recreational Fishing Alliance to run the tournament's prize raffle. Tickets are sold during the event for a chance to win prizes including over \$65,000 worth of trips, artwork, fishing tackle, gift certificates, books, and clothing, all of which is donated to support conservation.

If you'd like to send something new or have a unique fishing collectible, we'd like to hear from you! We also appreciate items that are not fishing-related, i.e., a gift certificate to a store or restaurant. Donor benefits include promotion of your company at the event (1,000+ participants) and on our web site, and a tax-deduction letter. To donate or for more info, contact Christine at NCMC; christine@savethefish.org, or 703-777-0037.

NEW HIGHLY MIGRATORY SPECIES PLAN COMING SOON

Draft Amendment 2 to the Atlantic Highly Migratory Species (HMS) Fishery Management Plan, which effects tuna, billfish, swordfish and sharks, proposes changes in several areas, most notably to further reduce fishing mortality for blue and white marlin. The NCMC participated as a member of the Highly Migratory Species/Billfish Advisory Panel in meetings February 21-23, 2006, and submitted extensive written comments on March 1st. Our key positions are listed below. We support:

- Maintaining current longline closed areas and developing criteria for changes in the future.
- Prohibiting longlining in the northern Gulf of Mexico from April - August to protect spawning bluefin tuna and billfish.
- Identifying all sources of mortality for overfished finetooth sharks.
- Limiting billfish tournaments to circle hooks when using natural bait or natural/artificial bait combinations.
- Implementing ICCAT quotas for blue and white marlin, in lieu of making white marlin fishing catch-and-release only.
- Returning unharvested bluefin to the resource, instead

of adding it to next year's quota.

- Making drift gill nets a prohibited gear.
- Re-defining essential fish habitat to include availability of forage fish and extending it to the geographic range of the species.
- Expanding the swordfish hand-gear fisheries (harpoon and rod-and-reel).

We expect NOAA Fisheries to release the final rule sometime this fall. Check the NCMC web site - www.savethefish.org - for the latest news on this and other issues. □

Leave a Legacy to the NCMC

We are very grateful to our members who have arranged for a gift to NCMC in their will or trust. We'd like to invite all members with an interest in doing so to contact us for more information on NCMC's planned giving program. We have a basic fact sheet prepared which outlines several options for leaving a gift which may be discussed with your estate planning attorney. The sheet also briefly outlines the benefits you enjoy by leaving a gift to NCMC, a 501(c)3 non-profit organization. The fact sheet may be viewed on our web site - www.savethefish.org/legacy_gift.htm, - or mailed to you by contacting Christine at NCMC; christine@savethefish.org, or 703-777-0037.



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The NCMC

MARINE BULLETIN

No. 114

Summer 2006

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Plus:

* Buy your holiday cards from Sport Fishing Magazine and support NCMC

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FORAGE FIRST

NCMC RELEASES NEW REPORT PROVIDING BLUEPRINT FOR FISHERY COUNCILS TO PROTECT THE OCEAN FORAGE BASE

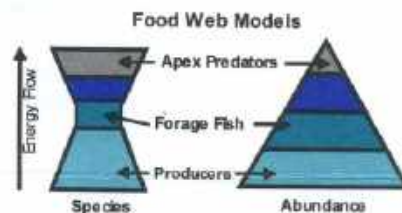
By Pam Lyons Gromen,
Fisheries Project Director

Fewer and thinner bluefin tuna arriving in New England... Stress-related disease affecting the majority of striped bass in the Chesapeake Bay... Emaciated seabirds washing ashore in record numbers on the West Coast... These are just a handful of stories that have recently appeared in scientific journals and news articles. Though seemingly unrelated, the theme of each incident is eerily similar - ocean predators are not finding enough to eat.

From a young age, we are taught that predator-prey relationships are the links that build a food chain, and these chains interlock to form an ecosystem's food web. When a link in a chain is missing, the impacts reverberate throughout the ecosystem. Within the ocean, the most familiar players are the big carnivores that comprise the top or apex of the food web, but seldom recognized are the crucial mid-level species that feed on plankton and plant material and transfer this energy to the large ocean predators by becoming food themselves. The animals that fill this crucial ecological role are collectively called forage fish.

The most important forage species in U.S. waters are krill, squid, and a variety of small, silvery schooling fish that include herring, sardines, anchovies, menhaden, butterfish and alewives. Though the

populations of these species are generally large, there are actually more species of apex predators than there are of forage fish, making the abundance of each forage species that much more critical.



With large-scale fisheries in place for many of the major prey species in American waters, it is imperative that we investigate how fishery management bodies take into account predator-prey relationships when determining the allowable harvest for the fishery. In a newly released report entitled *Taking the Bait: Are America's Fisheries Out-Competing Predators for their Prey?*, NCMC examines current federal Fishery Management Plans (FMPs) for forage species, administered by three separate regional councils, and compares them to a set of components needed to safeguard each species' ecological role as prey.

REGION	FMP
New England	Atlantic Herring
Mid-Atlantic	Squid, Mackerel, Butterfish
Pacific	Coastal Pelagic Species (includes Pacific mackerel, krill, market squid, anchovies and sardines)

(Continued on page 3)

FULL CIRCLE

For two decades now, anglers have been steadily turning more of the billfish they catch loose. Today, their fishery is almost purely catch-and-release. While this self-imposed conservation ethic was spreading along the docks, angler-supported conservation groups sought regulations to minimize the damage done by commercial longlines, which hook large numbers of marlin and sailfish while fishing for tuna and swordfish. First came a U.S. ban on the importation and sale of Atlantic billfish in 1989, followed in 2000 with large sections of U.S. coastal waters closed to longlining, and then an international rebuilding program that drastically cut down on the number of billfish allowed to foreign fleets.

New studies indicate all these efforts are paying off. (see *Marlin Stocks Show Improvement*, p. 6) Not that there isn't more to be done, especially internationally. After all, populations of blue and white marlin are still severely depleted. But here at home, the onus is shifting back to the recreational fishery. Conservation has come full circle. The biggest issue facing us now is making sure the thousands of marlin and sailfish released alive — survive.

AN INCONVENIENT TRUTH?

A brand new rule announced by NOAA Fisheries requires billfish tournament anglers to use non-offset circle hooks. (see *NMFS Releases New Measures for Big Fish Conservation*, p. 6) The agency says "recent data on post-release mortality rates of recreationally caught billfish indicate that the adverse ecological impacts of recreational activities on billfish resources may be greater than previously recognized." The new data (Horodysky and Graves 2005) suggest up to 35% of white marlin caught with traditional J-hooks die after being released. Applying this mortality rate to the total white marlin let go each year — estimates based on three different angler surveys from 2001-2004 — NOAA Fisheries projects that from 504 to 2,038 white marlin a year may die as a result of sport fishing. Compare this with a yearly average of 712 whites discarded dead by U.S. longliners since 2001.

Now, we wouldn't bet on the accuracy of these numbers. The high end of the range comes from MRFSS, a recreational phone survey widely thought to inflate reported catches. The post-release mortality rate of 35% is based on a small sample and, applying it to the whole fishery doesn't account for the growing use of circle hooks. Even so, the most conservative estimate above still puts recreational mortality on a par with that of longlining, and that makes us uneasy.

Because of the uncertainties involved, all this can be taken with a grain of salt. Or, it can be taken seriously, as we believe billfish anglers would prefer to do — err on the side

(Continued on page 6)

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Marine Bulletin

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We found that while each regional fishery management council in some way recognizes the importance of prey species within their respective management plans, none of the three council's plans includes all the elements needed to preserve an adequate forage base for predators.

NOT SEEING THE ECOSYSTEM FOR THE FISH

The movement to manage fisheries in an ecosystem context, by regarding the integrity of the ecosystem as the top priority, is not new. In 1996, Congress issued a mandate to NMFS to convene a panel of experts to investigate the use of ecosystem principles in fishery management and to recommend how such principles could be implemented to manage fisheries in a more sustainable manner. NCMC President Ken Hinman was one of the experts asked to join the Ecosystem Principles Advisory Panel, whose final report to Congress, entitled *Ecosystem-Based Fishery Management*, was published in 1999.

Recognizing that time, resources and legislative changes would be required to fully adopt a comprehensive ecosystems approach to fisheries management, the EPAP advised that "an initial step may require only that managers consider how the harvesting of one species might impact other species in the ecosystem. Fishery management decisions made at this level of understanding can prevent significant and potentially irreversible changes in marine ecosystems caused by fishing." The panel flagged three actions as particularly important, the first of which was to consider predator-prey interactions affected by fishing. (The other two were to consider the effects of bycatch and to minimize fishery impacts on habitat.)

In the seven years since the release of *Ecosystem-Based Fishery Management*, little has been done to explicitly account for predator-prey relationships in management decisions. With few exceptions, fishery councils are still using a single-species approach, managing each species in its own separate box without looking outside at the bigger picture, the ecosystem of which each is an inextricable part. The hesitancy to move forward on these issues is variously explained as the result of waiting for additional science, or funding, or new legal mandates. Unfortunately, the current state of our oceans demands that we take precautionary action now.

A BLUEPRINT FOR CHANGE

In writing *Taking the Bait*, NCMC hopes to create a catalyst for change so that the EPAP's recommendations can finally begin to be implemented. NCMC's report builds on the premise that change to ecosystem-based management need not be endlessly complicated but can evolve incrementally from current practices.

Within the report, a simplified blueprint of four recommendations for amending FMPs for key forage species is provided:

Blueprint for Amending Forage Species FMPs

1. Explicitly feature protecting and maintaining the species' ecological role, including preservation of an adequate supply as forage for predators as the principle plan objective.
2. Expand the FMP's information base to fully describe and comprehend the links among associated species, incorporating available information on ecosystem health and integrity.
3. Add a definition of "ecosystem overfishing" as a complement to traditional overfishing criteria, including ecologically-relevant reference points.
4. Establish a precautionary total allowable catch (TAC) that explicitly provides a suitable buffer against ecosystem overfishing.

The blueprint provides guidance that can be applied across the board for all three plans. In addition, NCMC conducted a detailed analysis and critique of each regional forage FMP and makes a number of plan-specific recommendations. If implemented, these changes would be a giant step forward for ecosystem-based fishery management, as they would better safeguard the forage base for predators, many of which, such as cod, sharks, rockfish and tuna, are suffering from depleted populations after years of overfishing. The success in rebuilding these stocks will certainly rely on the availability of adequate prey as their numbers increase.

Taking the Bait will be distributed to the New England, Mid-Atlantic and Pacific Regional Fishery Management Councils, as well as organizations and individuals who are concerned about the ocean forage base or are working to promote a paradigm shift to ecosystem-based fishery management. We anticipate that this report will be a starting point from which we can engage the scientific, environmental and fishery management communities on how we as a nation can better understand and appreciate the ecological role that each species plays in the ocean ecosystem and guard these roles accordingly, before we unravel the food web that supports a vital living resource for the American people. We can begin by putting *Forage First*. □

GETTING CIRCLE HOOKED ON BILLFISH CONSERVATION

By Tim Choate

In most billfishing circles, no pun intended, it is a wonderful thing when a new fishing practice serves both an increased rate of effectiveness as well as the conservation of the quarry. The use of the circle hook to catch billfish is perhaps the greatest "wonderful thing" to happen to *istiophorid* fishing in a long time.

The crews of the Artmarina fishing fleet have extensive experience with the use of circle hooks. In an experiment conducted by Artmarina vessels operating off of Guatemala's southern Pacific coast in the late 1990s, total catches of sailfish via use of the circle hook numbered 848 from the 1,370 bites recorded. This translates to a 62% success rate. With marlin, the success rate on circle hooks comes in at 29 for 43 or 67%. These numbers reflect a lot of experimentation and attempts at refinement that have obviously lessened these averages.

Using bait with the traditional "J" style hooks throughout 1997, the Artmarina boats recorded 5,111 sailfish catches out of 9,297 bites and 52 out of 96 marlin bites, a 55% and 54% rate respectively. In comparing these averages, there is no doubt that the hook up ratio has been improved by the use of the circle hook.

CONSERVATION SERVED AS WELL

The concomitant benefit from the use of this hook is the vastly improved condition of the fish so caught. Borrowing by analogy from a study conducted on bluefin tuna by Greg Skomal, Eric Prince and Brad Chase (*see table below*), the conclusion is that the survival rate is greatly increased by hooking a fish in the corner of the mouth rather than in its stomach, gills or other internal areas, including eye sockets or throat latches.

The observations of all Artmarina crews conclusively

support the view that the health of the average circle hook caught billfish is far better than the average one taken by a J-hook. Bleeding is almost non-existent. Fish jump more often and more actively. Sounders, or fish swimming for the depths and sulking there, are far fewer.

Billfish photographers are well served by the lack of red water seen passing through the gill plates of a jumping fish and although not as completely reduced as the bleeding, the sight of an expelled stomach is much, much rarer. Yet another advantage of using the circle hook is the ability to use a much lighter leader, as the leader is not subject to being chewed through or "pinched off." Lighter leaders generally attract more bites.

HOW IT HAPPENS

The first glance at a circle hook is likely to dissuade many billfishing enthusiasts. They look like they couldn't find a hole on the inside of a five-star restaurant's biggest sieve. So far, so good. Now try pulling it over the side!

The mechanics of how and why circle hooks actually work in a billfish's mouth is similar. The shape essentially does what it looks like it should do - prevents an exposed point from encountering or engaging any internal soft tissue or organs.

However, when the hook's shaft begins its departure from the side or corner of a billfish's mouth, it is induced to rotate. The eye of the hook slides off more easily horizontally than vertically from the lateral opening of the billfish's mouth. As the shank no longer shields it, the point is exposed to one of the strongest yet least potentially harmful points of a fish's body - the corner of its mouth.

Because its point is angled in toward the shank at a 90° angle, it's difficult for a circle hook to catch soft flesh. This means a fish can swallow the hook, but when the pressure is put on the line, the hook slides cleanly out of the stomach, throat or gill areas, thus avoiding mortally wounding the

SELECT CIRCLE HOOK STUDIES ON RECREATIONAL FISH *

Species	Researcher/Year	Conclusion
Striped Bass	Lukacovic and Uphoff 2002	Fewer striped bass were deeply hooked on circle hooks (10.6%) than on J-hooks (45.6%).
Bluefin Tuna	Skomal et al 2002	94% were jaw-hooked when circle hooks were used compared with 52% with J-hooks; but circle hooks larger than 10/0 can cause external tissue and eye damage.
Yellowfin Tuna	Falterman & Graves 2002	All tuna caught on circle hooks were hooked in the corner of the mouth compared to 61% caught on J-hooks.
Sailfish	Prince et al 2002	J-hooks are 20x more likely than circle hooks to cause bleeding.
Sailfish & Blue Marlin	Prince et al 2002	Comparing circle hooks and J-hooks, catch per unit effort was equal for blue marlin and higher on circle hooks used for sailfish.
White Marlin	Horodysky & Graves 2005	Circle hooks reduced post-release mortality by 2/3 or more.

* Research on many other species, both fresh and salt water have been conducted. A thorough summary of these studies is presented in:

ASMFC. 2003. Circle Hook Definition and Research Issues. Special Report No. 77 of the Atlantic States Marine Fisheries Commission, Atlantic States Marine Fisheries Commission, Washington, D.C.

Cooke, S.J. and C.D. Suski. 2004. Are circle hooks an effective tool for conserving marine and freshwater recreational catch-and-release fisheries? *Aquatic Conservation: Mar. Freshw. Ecosyst.* 14: 299-326.

quarry. For this reason, it is important to avoid circle hooks offset $>5^\circ$. **Severely offsetting or bending the point to one side of the shank will reduce the conservation benefit of using a circle hook.**

If you tie a line on a circle hook, put the point against your thumb and pull gently. You'll see the shank of the hook immediately tip downward so the point of the hook will be positioned to penetrate at an angle parallel to that at which you are pulling the line. This gives the hook amazingly efficient penetration. The points of ordinary hooks tilt as much as 45° to the line vector, greatly increasing the amount of force it takes to make them sink in.

In circle hook fishing, the fish inhales the bait into his mouth or stomach and shuts his lips. He chomps down, shakes his head, turns, and starts swimming away. When the line gets tight, the hook slides cleanly out of the gut or throat, past the gills, and sticks inside the fish's jawbone.

It's important that 1) you have the right size circle hook. Circle hooks are most effective when the entire hook can fit into the fish's mouth and the gape is large enough to permit jaw hooking. And 2) **DON'T JERK.** Let the fish take the bait with slack, then gradually tighten the line and start reeling.

Fully 95% of the billfish caught by the Artmarina fleet with circles are hooked in the upper or lower corner of the mouth.

ANGLING SUGGESTIONS

Logic correctly suggests that the angle of the hook-up pull is critical. The more a fish is swimming away from the pull point, the more likely the hook will lodge in the rear corner of its mouth. It is critical that the fish be given the chance to change his angle from that of facing the boat. Billfish will usually do this as a matter of course.

One reason the success rate of circle hook pitch baiting is so high is that the fish is usually close enough to be seen, and thus the appropriate time for tension can be more accurately determined. Without being able to watch a fish feeding on the far baits, it is generally suggested that "more is better than less" when it comes to the drop back. With this hook, gone are the worries of "gut hooking" by dropping a bait back too much. Artmarina crews commonly witness successful hook ups with fish that have started to jump prior to tension being applied. Even when jumping toward the boat, the drag of the belly in the line will often be sufficient to get the point to set.

There are a few changes that the angler should make in the hook-up routine. The first is to omit the "wind fast" and "pull back hard" after the drop back. Suggested is a relatively slower increase in drag without the sudden striking motion. Billfish will tend to bite down harder on a bait trying to escape from their mouths, thus narrowing the lateral opening between their jaws. It is believed that striking the fish prior to the point engaging will startle the fish and cause it to try to expel the bait. Slow and steady are the guides for getting circle hooks to find home in billfish mouths.

GOING FULL CIRCLE FOR BILLFISH

Captain Ron Hamlin has fished around the world for 40 years. He had tagged well in excess of 1,000 billfish before 1997. In the fall of that year, when recognizing that he had received not a single return, he reasoned that his catch mortality may have been a more than incidental factor.


At this time, he rode with Capts. Bud Gramer and Peter B. Wright, Skip Walton and this author on a sailfishing trip. While these anglers experimented with the use of circle hooks, Ron quickly recognized the increased likelihood of the survival of the fish that were released using circle hooks. He took up their use and convinced a lot of his clients of the efficacy of this new billfishing hook.

After tagging 546 sailfish in 1997, the most ever tagged by any captain, Hamlin announced his decision to use nothing but circle hooks with bait in his pursuits of billfish. His policy of booking only those parties wishing to use circle hooks was considered radically and economically unwise, but it has proved just the opposite for him as evidenced by his full reservation calendar.

Capt. Hamlin has continued to refine the rigging styles and to explore even better ways to employ this style of hook. There is little wonder why he has posted the best circle hook-up ratio of any captain fishing from Guatemala's billfish hot spot in Iztapa. The entire Artmarina fleet is now committed to the exclusive use of circle hooks with bait.

Thanks to the pioneering efforts of Capt. Hamlin and other anglers willing to experiment with circle hooks for the sake of conservation, the scientific community has followed suit with a wealth of research on the use of circle hooks in recreational fisheries for a wide range of both fresh and salt water fish. (see table entitled "Select Circle Hook Studies on Recreational Fish," p. 4) The results of billfish studies have been especially compelling. Dr. Eric Prince of NMFS is just one of the scientists that has totally endorsed the use of circle hooks for billfish from a conservationist point of view. But in other groups of fish, circle hooks may in fact cause more damage and be less effective. Therefore, the decision to use circle hooks must be made on a case-by-case basis depending on the species targeted.

Still, the list of believers in using circle hooks for billfish is growing fast. Certainly, circle hook users have suffered, and will continue to suffer their share of "sancochos" - a Spanish description of a bait whose body has been lost to the bite of a billfish without a hook-up. Artmarina's clients' shares are happily diminishing! What fishermen have done, however, and will continue to do for the survival of an awful lot of sailfish and marlin, is reason enough to go full circle for billfish. □



Tim Choate is the president and owner of the US-based charter operator **Artmarina**, which currently runs billfish expeditions out of Brazil and the Galapagos. Tim also serves on the National Coalition for Marine Conservation's Board of Directors.

NMFS RELEASES NEW MEASURES FOR BIG FISH CONSERVATION

On July 7, the National Marine Fisheries Service published the Final Environmental Impact Statement (EIS) for the Consolidated Highly Migratory Species Fishery Management Plan. The EIS is a precursor to the final plan, due in August or September, and includes analyses of a range of management measures, including those preferred by the agency. In that sense, it is a preview of the final regulations.

Listed among the preferred alternatives are:

- **Circle Hooks:** Effective January 1, 2007, all HMS-permitted vessels participating in Atlantic billfish tournaments are limited to using non-offset circle hooks when using natural bait or natural bait/artificial lure combinations
- **Catch Limits:** The ICCAT recommendation to limit total marlin landings (tournament and non-tournament combined) to 250 fish per year will become a U.S. quota for the recreational fishery next year

NCMC supported both these measures. We view the circle hook requirement as especially important. (see [Ocean View](#), p. 2)

- **New Area Closures:** No new time/area closures are recommended at this time. NMFS will develop criteria to consider when implementing new time/area closures or making modifications to existing closures in place to minimize bycatch in the longline fisheries

NCMC supported development of criteria for new or modified closures. On the other hand, we believe a closure in the Gulf of Mexico to protect breeding bluefin tuna is badly needed, now not later. NMFS considered our recommendation (in a petition from Oceana, NCMC, and 3 other groups), but it was rejected "at this time." We are discussing next steps with our allies. Stay tuned.

- **White Marlin:** The proposal to limit white marlin to catch-and-release only was dropped as a preferred alternative.

Although the conservation benefit would be insignificant (31 fish in 2004), some anglers supported this provision thinking it might avert even harsher measures should an attempt to list white marlin under the Endangered Species Act be successful. A brand new stock assessment showing improvement in marlin stocks (see adjacent box) virtually assures there will be no ESA listing. □

OCEAN VIEW *(Continued from page 2)*

of caution and the resource they care so much about.

The use of circle hooks outside tournament fishing is still voluntary. It should be universal. Experienced billfish anglers and captains know that with circle hooks, used properly, they can keep catch rates high while saving more fish for the future. (see [Getting Circle Hooked on Billfish Conservation](#), p. 4) The 2005 study cited above showed that, with circle hooks, the post-release mortality for white marlin was zero. Think about that and, if you haven't already, make the change.

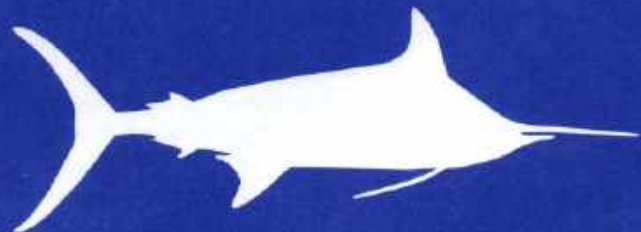
Ken Hinman, *President*

MARLIN STOCKS SHOW IMPROVEMENT

According to a preliminary stock assessment conducted by the International Commission for the Conservation of Atlantic Tunas (ICCAT) in May, populations of Atlantic blue and white marlin may be benefiting from international conservation measures enacted in 2001. The study, prepared by a team of scientists from ICCAT member countries, shows the decline of blue marlin may have been arrested, and that white marlin numbers actually increased slightly. Both stocks remain severely depleted, however. In the last assessment in 2000, blue marlin were at 40 percent of a healthy population while white marlin were at only 12 percent. The assessment is considered preliminary, and the scientists note that it is based on limited data. You can read the full report on the ICCAT web site:

<http://www.iccat.es/Documents/SCRS/DetRep/Drafts/SCRS-2006-012-draft.pdf>

The international commission will consider future Atlantic-wide management measures for blue and white marlin at its November 2006 meeting. NCMC President Ken Hinman has once again been appointed to the U.S. ICCAT delegation and will be attending the November meeting to push for stronger conservation efforts for marlin and other depleted HMS species. □



VIRGINIA CAPS BAY MENHADEN CATCH

INTERSTATE COMMISSION MUST APPROVE THE PLAN

Governor Tim Kaine announced on July 31 that Virginia is imposing a limit on the amount of menhaden the state's reduction fishery can take out of Chesapeake Bay. The action is designed to comply with the Atlantic States Marine Fisheries Commission's 2005 decision to cap the bay catch at recent levels to prevent any growth in the commercial fishery while studies look into its impact on striped bass and other species that prey on menhaden.

The Virginia General Assembly, bowing to industry pressure, refused to pass three separate bills to cap the reduction fishery. The ASMFC deadline for compliance was July 1. Since that date, Gov. Kaine and his staff worked overtime to find a way to bring the state into compliance and preserve the spirit of interstate cooperation in fisheries conservation.

The governor's proposal will be reviewed at the August 16 meeting of the ASMFC Menhaden Management Board. What Virginia proposes is consistent with the goal of the ASMFC plan, in that it sets an annual catch limit at the average of the last 5 years (2001-5), or about 109,000 tons, which would remain in effect through the 2010 fishing season.

NCMC OPPOSES FISHING IN PACIFIC LEATHERBACK CONSERVATION AREA

NCMC recently sent a letter to the National Marine Fisheries Service (aka NOAA Fisheries) requesting that they deny the issuance of an Exempted Fishing Permit (EFP) that would allow drift-gillnet (DGN) vessels fishing for swordfish and thresher sharks into the Pacific Leatherback Conservation Area off California and Oregon.

Since 2001, portions of the California and Oregon coastline have been closed to drift-gillnet fishing from August 15th through November 15th to protect endangered leatherback sea turtles which seasonally inhabit these waters. Scientists warn that unless fishing pressure is significantly reduced, leatherback turtles, whose nesting population has plummeted from 91,000 in 1980 to fewer than 5,000 in 2002, will likely become extinct. Since the conservation area (or "time-area closure") was instituted, there have been no observed takes of leatherbacks in the drift-gillnet fishery. The conservation area not only serves to protect the population of leatherback turtles, but also blue sharks, shortfin mako sharks, striped marlin and albacore tuna.

To view a copy of NCMC's letter, visit the **Conservation News** section of our web site. □

The only difference is a provision allowing for a limited carryover of under-harvest, something the ASMFC plan does not permit. If the industry does not reach its quota in a given year, according to Virginia's proposal, the following year's quota could be adjusted upward, but only up to a point. To prevent an excessive catch in any one year, the carryover could not exceed 13,000 tons. And it is only good for one year, in other words, uncaught quota cannot be stockpiled.

The ASMFC plan requires that any catch over the quota be deducted from the next year's catch allowance. Virginia says the reduction fleet will have to cease fishing in the bay if it reaches the cap.

It is not uncommon for states implementing interstate regulations to offer a slight variation on the rules. The important thing is whether or not it achieves the goal of the ASMFC action in actual conservation of the resource.

"We believe what Virginia has offered does achieve the goal of capping the bay harvest of menhaden at recent levels for 5 years," says NCMC president Ken Hirman, who worked long and hard to break the impasse with Virginia. "We hope the commission agrees, so that we can move forward. We've said all along that freezing the bay catch is only the first step in taking an ecosystems approach to the menhaden fishery. Now we've got important research to do to determine a safe and sustainable level of harvest for the long run, a conservative catch level that will protect menhaden and the fish and wildlife that prey on menhaden, not just in the bay but all along the coast." □

Belong to a fishing club, conservation group or organization interested in NCMC's programs?

If so, we would welcome the opportunity to visit with you and tell you about our current projects. NCMC Fisheries Project Director Pam Lyons Gromen has been visiting groups across the country to discuss NCMC's Bring Back the Big Fish and Conserving Marine Ecosystems programs. While she is winding up her 2006 "tour," we are already booking club visits for 2007. If you are interested in having Pam as a guest speaker, please contact Christine Snovell, Director of Communications and Development at (703) 777-0037 or via email at Christine@savethefish.org.

With her 2006 club visits coming to a close, Pam would like to extend a special thank you to the groups she visited that have decided to support or continue their support of NCMC's programs:

- Jersey Coast Shark Anglers
- South Florida Fishing Club
- Mobile Big Game Fishing Club
- South Shore Marlin & Tuna Club





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We are pleased to announce that Sport Fishing Magazine will be giving NCMC part of the proceeds of their 2006 holiday card sales. There are 11 different sport fishing images to choose from. Cards come 25 to a box, with matching envelopes and 2 free gifts -- a sheet of holiday seals and a set of return-address labels! All cards are backed by an unconditional 100% satisfaction guarantee. This offer is open to everyone, and we encourage you to place an order and help the NCMC!



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The NCMC

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THE SWORDFISH "RECOVERY"

ARE WE THERE YET?

Over thirty years ago, the National Coalition for Marine Conservation (NCMC) chose to feature the swordfish in our logo because it symbolized so many of the challenges we knew we'd face in conserving fish in the sea. The elusive broadbill was widely regarded as the ultimate challenge in the sport of offshore fishing, while at the same time its food value was enormous. The new gear of choice in the emerging U.S. commercial fishery, the pelagic longline, also caught lots of other important big fish - namely tunas and billfish - intentionally or not. Over-exploitation was a growing threat as the longline fleet expanded in size and range, following the lifting in 1978 of the FDA's ban on swordfish with high levels of mercury. Finally, the highly nomadic nature of the broadbill meant that global cooperation would be needed to conserve swordfish throughout their range.

The swordfish still challenges us today, even in the midst of an historic rebound from decades of overfishing. Another reminder that managing "recovered" fisheries can be just as daunting as rebuilding depleted ones.

The good news is that recreational fishing for swordfish is coming back, most notably in south Florida, but also up the east coast and in the Gulf of Mexico. The bad news is our commercial fishery is struggling, still unable to fill an international quota that's increasing as the population of swordfish, according to recent stock assessments, is rapidly rebuilding.

The U.S. commercial swordfish industry is asking the National Marine Fisheries Service (NMFS) for help, in the form of immediate steps to revitalize their fishery, including renewed access to areas closed to longlining to protect young swordfish and other, overfished species taken as bycatch. NMFS wants to help, agreeing with the industry that, if we can't fill the quota given us by the International Commission for the Conservation of Atlantic Tunas (ICCAT), we'll lose it to other nations.

But let's go slow. There may be a number of reasons for the commercial fishery's shortfall, the longline closures being only one of them. Complicating matters is the fact that the under-harvest, although real and significant, is not as serious as it's being portrayed. It's critical that we first put the problem in proper perspective, to understand its true extent, the real cause(s), and most importantly, exactly what should be done about it.

COMMERCIAL CATCH LOW, BUT STABLE

At hearings held this fall to get public input on how to revitalize the swordfish fishery, NMFS presented charts contrasting recent swordfish landings with the quota given the U.S. by ICCAT. The way they presented the numbers gives the impression that the percentage of the U.S. quota landed has declined steadily since 2000, to less than a third of the quota in the most recent years. But in fact, the U.S. catch (landings plus dead discards) has averaged about 2,600 tons a year from 2000-2005. (See chart on page 3. Data are from the U.S.

(Continued on page 3)



EXIT STRATEGY

"Every time history repeats itself, the price goes up."

We remember back to the late 1980s, when the National Marine Fisheries Service first began work on a federal management plan for sharks in the Atlantic. NMFS, in fact, was actually promoting commercial shark fishing at the time. But the history of such fisheries elsewhere - boom then bust - warned against it. Any sizable commercial harvest of these slow-growing, slow-reproducing fish is not sustainable. We've spent the last two decades determined to prove history right. And we have. Now we should seriously consider calling the whole thing off.

The latest stock assessments for two species of shark - sandbar, among the targets of commercial fishing in the U.S., and dusky, a prohibited species that is still killed incidental to the capture of other sharks - seem to mock our futile attempts to manage the unmanageable.

The projected rebuilding time for sandbars is 70 years. For dusky, it's 100-400 years! The notion of doing stock assessments, holding meetings, and forever adjusting fishing regulations - all to keep a relative few fishermen in business - for the next 100 years or so, as we have for the past 20, is, quite frankly, insane. So is asking the public to pay for it.

DIMINISHING RETURNS

No one likes to admit failure, but we're up against nature here. We wrote in 1988 (*Marine Bulletin* No. 36), while predicting that the national boom in shark fishing was headed for a crash, that we have to recognize and respect the biological limitations of sharks. They're different than other fish. As biologist Steve Berkeley pointed out at the time, because sharks produce only a few pups a year (or even less often), a substantial reduction in the number of adults - whether through direct harvest or cropping off the younger ones before they mature - has a much more drastic effect on the ability of the stock to reproduce than a similar reduction would for other fish. They can sustain only the most limited fishing.

As it is, the cost of managing a limited commercial shark fishery is much more than it's worth to the economy. The populations of most species continue to decline while more and more are added to the prohibited list. Shark fishermen continue to fight to keep the allowable catch of what's left high enough - a couple of hundred tons - to make a profit, with absolutely no incentive to participate in a rebuilding program the fruits of which they will never see. Nor will their children or grandchildren.

With each passing year, shark fishermen feel the noose tighten. They've been left, as one recently put it, "twisting slowly in the wind." Some of the hold-outs have asked for a buy-out. It's time to give it to them. Metaphorically speaking, we've been giving it to them, and to the sharks, and to the taxpayers, long enough.

Ken Hinman, *President*

NATIONAL COALITION FOR MARINE CONSERVATION

Founded in 1973

The NCMC is a 501(c)(3) non-profit organization dedicated to the following goals:

- ♦ preventing overfishing and restoring depleted fish populations to healthy levels
- ♦ promoting sustainable use policies that balance commercial, recreational and ecological values
- ♦ modifying or eliminating wasteful fishing practices
- ♦ improving our understanding of fish and their role in the marine environment
- ♦ preserving coastal habitat and water quality.

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THE SWORDFISH "RECOVERY" (Continued from page 1)

National Report to ICCAT 2006). That's an average of about 88 percent of the baseline ICCAT quota of 2,951 tons the U.S. fished under until 2003, when ICCAT raised the total allowable catch. Our share went up nearly 1,000 tons that year, over U.S. objections, as we argued in 2002 that it was too early in the "recovery" to start killing more fish.

What NMFS did in its presentation at the hearings was add the unharvested quota to the following year's allowance (which ICCAT permits). The carryover accumulates with each passing year, stockpiling allowable catch to the point where our "quota," adjusted for underages, has reached 7,000 tons! Doing the math in this manner shows progressively lower amounts of our quota taken and portrays the fishery as declining, when in truth our catch has remained fairly stable, albeit less than our annual allotment.

In other words, the U.S. swordfish industry is having a difficult time filling its quota, falling substantially below in recent years – primarily due to the large increase in quota beginning in 2003 – but the catch is not nearly so far below as NMFS would suggest, and it has not been declining.

PROBLEM IS COMPLEX, SOLUTION NOT SIMPLE

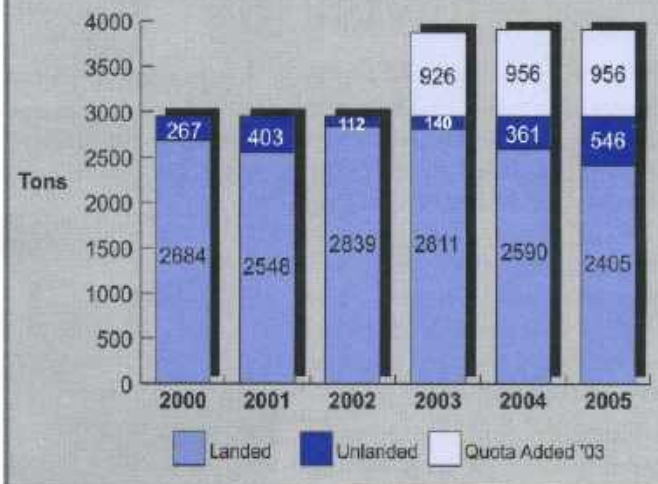
What are the reasons for the low swordfish catch in the U.S. fishery, despite ICCAT assessments indicating that the stock has recovered to the target level (maximum sustainable yield)? The longline area closures the U.S. implemented in 2001 are only one of a number of possible causes. In fact, effort in the longline fishery began declining long before the closures went into effect. NMFS states in our National Report that "(t)he number of longline vessels in the U.S. fishery targeting swordfish has declined steadily since the mid 1990s." Even so, "reported effort (hooks) declined initially but has remained fairly stable since 1998."

A lot of the longline effort has been redirected from swordfish to higher-priced yellowfin tuna. Trips are shorter, because fuel costs have steadily increased and vessels need to return to port sooner to get a higher price for fresher fish. The longliners themselves say the use of circle hooks, now required fleet-wide to minimize sea turtle mortality, has substantially reduced the swordfish catch.

Then there are questions about the number of swordfish actually out there. Could it be that a lack of prey – squid and herring in particular – is limiting the number of swordfish available in coastal waters? Bluefin tuna have not been showing up in New England like they used to, causing the U.S. to miss its quota by a long shot the last two years, and many of our tuna fishermen believe it's the lack of food in our waters.

The swordfish stock may in fact still be years from recovery, at least in the western Atlantic. Failure to catch our quota in the midst of a so-called "fully recovered stock" suggests that it isn't really recovered more than that closed areas are suppressing the overall catch. The best way to increase our catch is to strengthen the recovery, and that means allowing the stock to grow more large fish, not find

U.S. SWORDFISH CATCH vs. ICCAT QUOTA



ways to kill more fish by re-opening the nursery areas.

REVITALIZE THE FISHERY, BUT DON'T ABANDON CONSERVATION

The U.S. longline industry warns that if we lose part of our swordfish quota, it would likely go to countries that don't take measures to avoid bycatch. So, to keep that from happening, we should abandon our own efforts at clean fishing? That makes no sense.

It does make sense to revitalize the U.S. swordfish fishery as we approach a long-awaited recovery. The question is how.

The wisest course would be for the U.S. to go to ICCAT and remind everyone of our stellar record of swordfish conservation – we've done far more than other nations, some of which did not fully comply with ICCAT regulations – and our exceptional contribution to the rebuilding effort. We should make it clear the U.S. is in transition while we reconfigure our fishery to utilize our historical share of the swordfish resource in the most sustainable manner possible.

At the same time, the U.S. should begin crafting a sustainable swordfishing strategy that features a vision of what the fishery of the future should look like and a plan to make it a reality. With changes in the longline fishery that are unavoidable and irreversible because of multiple bycatch problems, the U.S. should actively promote the growth of traditional hand-gear fisheries, including the rod-and-reel fishery – which is already experiencing a comeback – but most of all the commercial harpoon fishery of the northeast.

Based on documented catch history, we know that a truly recovered population of Atlantic swordfish, as existed in the 1950s and '60s, will be capable of producing yields equal to or greater than our current ICCAT quota and, with a mix of commercial and recreational fisheries – rather than a predominately longline-based fishery – we can sustain it for the long run while continuing to keep by-kill of other highly migratory species to a minimum. □

OFFSHORE AQUACULTURE BILL SENT BACK FOR REVISIONS

S 1195, The National Offshore Aquaculture Act, will not see any Congressional action this year. The bill, which was introduced by the Bush Administration in June 2005, was highly criticized by environmentalists and fishermen for blatantly omitting standards that would protect fishing communities, wild fish stocks and ocean habitat. Now the bill is being sent back to the drawing board and will likely be reintroduced next year.

Crafted to expedite development of aquaculture operations in federal waters, the legislation catered to the industry by leaving permit requirements to be worked out later by the Secretary of Commerce. Distinctions were not made between accountabilities for promoting offshore aquaculture and those for regulating the industry, allowing the Secretary to manage the program at his discretion, without safeguards in place to minimize negative impacts on other user groups and the environment.

In creating the bill, the Administration seemed to have little regard for the numerous hardships endured by Alaska's salmon fishermen as a result of the boom in open water salmon farming over the last two decades. Disease, pollution and escapements from salmon farms were and still are detrimental to native salmon stocks in the Pacific. To

compound the misery, farmed salmon have flooded seafood markets, driving down the price of the fishermen's catch.

While fish farming is promoted as a way to reduce pressure on wild fish stocks, in actuality, raising carnivorous fish such as salmon has the opposite effect. Farmed fish are fed on a diet comprised largely of wild-caught forage fish such as menhaden and sardines. In the case of salmon farming, three tons of forage fish are required to rear one ton of salmon, resulting in a net loss to the ocean food web.



"Fish Farming"

NCMC opposed S. 1195 and instead supported The National Stock Conservation Act, introduced by Senator Murkowski of Alaska. Her bill called for the withholding of offshore aquaculture permits until studies of social, economic and environmental impacts are conducted and guidelines set accordingly.

NOAA and the Bush Administration have professed their commitment to pass an offshore aquaculture bill through Congress, but there is hope that standards will be incorporated

into the revised bill. NOAA officials are looking closely at a recent California aquaculture bill as a potential model for the national legislation. The California bill, SB 201, was drafted with extensive stakeholder input from fishing and aquaculture industries, conservationists and state agencies. SB 201 includes standards to prevent the spread of disease; protect the genetics of wild stocks; minimize the use of drugs and chemicals; prevent fish waste pollution; ensure that fish feeds do not deplete marine ecosystems; and monitor and assess environmental impacts. □

DICK STROUD, 1918-2006

Generations, even the "Greatest," pass quietly, one at a time. The passing of one member of that generation, Richard H. Stroud, 89, on September 4th, did not go unnoticed here. Not just for his service to his country - he served in the Army during World War II - but as one of a select group of people who can truly be counted as pioneers of marine fish conservation in the United States. When I joined the National Coalition for Marine Conservation in 1978, Dick was Executive Vice President of the Sport Fishing Institute (SFI, the precursor to today's American Sportfishing Association), a position he'd held since 1955. He was a charter member of NCMC's Board of Directors, and stayed with us long after his retirement in 1981, notably as editor of nine volumes of our Marine Recreational Fisheries book series (1982-94).

It's impossible to do justice to the man's accomplishments in this space. Dick was a principal architect of numerous pieces of federal legislation, including what became the Magnuson Fishery Conservation and Management Act of 1976. Prior to that Act's establishment of a 200-mile fisheries zone around the U.S., he helped negotiate an agreement with the Japanese to keep their tuna longliners offshore and away from popular billfishing waters. He organized and chaired dozens of major fisheries symposia, including groundbreaking conferences on The Biological Significance of Estuaries (1971) and Predator-Prey Systems in Fisheries Management (1979). He authored more than 130 scientific papers and articles, and wrote and edited the monthly "SFI Bulletin" for an incredible 26 years.

But it's the man I remember most. He inspired and encouraged me professionally, and was one of the most gracious people I've met in this business. And now, as we watch the generation that laid the groundwork for everything we do today in marine conservation slowly and quietly disappear, please join me in saying: "Thanks, Dick. We owe you, and we'll miss you."

- K.H.



FORAGE FIRST!

Our **Forage First!** campaign was launched with the publication of our recent report, *Taking the Bait: Are America's Fisheries Out-competing Predators for their Prey?* Our campaign focuses on protecting the ecological role of forage species targeted by fisheries. In short, we are asking fishery managers to put forage first, by prioritizing the preservation of a forage base for predators and by identifying and safeguarding predator/prey relationships as a first step to manage fisheries in an ecosystem context.

Look for project updates on the new **Forage First!** page of our web site and in upcoming issues of our newsletter.

BAY MENHADEN REDUCTION FISHERY CAPPED - FOCUS MUST NOW BE ON RESEARCH

With the Commonwealth of Virginia on board, on October 25th, the Atlantic States Marine Fisheries Commission (ASMFC) adopted Addendum III to the Atlantic Menhaden Fishery Management Plan, effectively preventing the growth of the reduction industry by capping the catch of menhaden in the Chesapeake Bay at the most recent 5-year average.

Many people believe even recent catch levels are too high - NCMC is among them. Unfortunately, we do not have the science to tell us what the catch levels should be. The research identified in the Addendum is needed to determine a safe and sustainable level of harvest for the long-term, not just in the bay, but coastwide.

From the beginning of the addendum process, we've been emphasizing that the cap is not an end in itself - it is only the beginning. The next step - the research - is absolutely critical.

NCMC will be following the progress of the research initiatives identified in the Addendum. The priorities are:

1. Determine menhaden abundance in the Chesapeake Bay;
2. Estimate removal of menhaden by predators;
3. Evaluate the exchange of menhaden between bay and coastal systems; and
4. Determine recruitment to the bay through larval studies.

While we agree with the above objectives, there must be vigorous oversight by the ASMFC to ensure that the resulting information can be incorporated into management decisions. We are also advocating at-sea monitoring of the reduction fleet and the release to the public of catch data. These measures will help ensure compliance with the cap, which is imperative to preventing harm from excessive catches during these interim years of research. □

CONTROVERSY OVER INSHORE AREA CLOSURE CAUSE FOR HERRING AMENDMENT DELAY?

On September 27, the National Marine Fisheries Service (NMFS) announced the proposed rule to implement Amendment 1 to the Atlantic Herring Fishery Management Plan, nearly five months after the New England Fishery Management Council (NEFMC) submitted the document for review. But five months was still not enough time for NMFS to decide whether or not to endorse the Council's amendment. The announcement stated that "NMFS has not made a final determination that the FMP/amendment that this proposed rule would implement is consistent with the National Standards of the Magnuson-Stevens Act," the legislation that sets criteria for governing our nation's fisheries.

Why the hold-up? More than likely, the agency is caught in the controversy over the Purse Seine/Fixed Gear Only measure (known as Alternative 7) in the amendment that closes an ecologically sensitive inshore area in the Gulf of Maine to mid-water trawlers each year from June-September. Though the measure places a short-term economic burden on the herring industry, the NEFMC determined that "the long-term benefits of this measure (Alternative 7) to the herring resource and the Gulf of Maine ecosystem far outweigh the short-term costs to the industry, particularly midwater trawl vessels, the vast majority of which are able to fish farther offshore and travel to other fishing grounds in a safe manner."

This determination was made after the council received overwhelming support for the closure. Most compelling was that testimony in favor of Alternative 7 was heard from diverse interest groups rarely unified to this magnitude on a single issue. Recreational and commercial fishermen, conservationists, scientists and wildlife enthusiasts relayed personal accounts of their concern for herring and its predators. Reports of decreased whale sightings, malnourished seabirds, slow recovery of groundfish stocks, and the absence of tuna from traditional feeding grounds correlated with the growth of the herring trawl fishery in the Gulf of Maine.

Despite the volume of comments received by the NEFMC during council meetings and hearings on Amendment 1, NMFS wanted to weigh comments on the proposed rule before making their determination as to whether Amendment 1 will move forward to a final rule, the last step before implementation.

NCMC has followed Amendment 1 since its beginnings in 2000, attending hearings and submitting recommendations for the inclusion of measures that explicitly define and protect the ecological role of herring as forage. The Purse Seine/Fixed Gear Only Area is a crucial step in this direction. The comment period for the proposed rule has ended, so we will be following NMFS' actions closely to encourage expedient posting of the final rule and enactment of the closure by the 2007 season. □



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