The NCMC
MARINE BULLETIN
No. 120 Winter 2008

Inside this issue:

Plus:

AVERTING A KRILL CRISIS

Driven by soaring demand from the aquaculture and health industries, krill fisheries are on the rise…even as climate change melts away the crustacean's habitat and threatens to dissolve its very makeup.

An oil rush has begun in the Antarctic. This time it isn't reserves of untapped petroleum driving industry, but large swarms of tiny, pink crustaceans called krill.

Antarctic krill, *Euphausia superba*, is the linchpin holding together the Southern Ocean food web. It feeds on tiny plant-like organisms called phytoplankton that capture energy from the sun. In turn, krill serves as the main forage source for a wide variety of marine animals, transferring the sun's energy to the upper tiers of the food chain.

Krill oil is increasingly sought as an alternative to conventional fish oil, which is used in aquaculture feeds, as nutritional additives in pet and human food, and as omega-3 health supplements. With many reduction fisheries fully exploited, fish oil supplies have remained relatively stagnant while the aquaculture and the health food markets have grown exponentially. Krill populations are seen as the "untapped" resource that will help satisfy mounting market demand.

In October 2007, at the 26th annual meeting of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) - a 25-nation body including the United States that governs fisheries in the Southern Ocean - eight countries submitted plans to increase their take of krill. All together, the proposals call for a seven-fold increase in the annual krill catch from 100,000 to over 700,000 tons.

Why the sudden increase? In the past, fishing vessels would have to race to processing facilities before the krill spoiled, which limited the amount of the catch as well as the time the vessel could spend fishing. Now technological advances are enabling trawlers to simultaneously capture and process massive amounts of krill. Trawling involves towing a net up to a hundred feet wide or more through the water column or across the sea floor. The net rakes up everything it its path – including unwary krill predators. One super-trawler can capture 100,000 tons of krill in a single year.

THE KRILL CATCH - HOW MUCH IS TOO MUCH?

Though facing intense pressure from member countries to increase the krill catch, CCAMLR is founded on a treaty with an objective to "(maintain) ecological relationships between harvested, dependent and related populations of Antarctic marine living resources and to restore depleted populations." The objective is carried out by applying precautionary and ecosystem-based management strategies.

In the case of krill, CCAMLR recognizes that traditional fisheries management, based on a concept of Maximum Sustainable Yield (MSY), is not appropriate for determining

(Continued on page 3)

Ocean View
Commentary

LESSONS UNLEARNED

Summer: The warmest season of the year. *Flounder*: To proceed in a stumbling, awkward or confused manner. *Fluke*: The result of mere chance.

As we write this in mid-winter, the controversy over summer flounder, also known as fluke, couldn't get much hotter. The way this fishery has been managed, both sides would agree (on this if nothing else), is a mess. And because of the highly polarized environment fishermen, environmentalists and public officials are now working in, any good that comes out of it is likely to be an accidental stroke of luck.

Summer flounder fishing, according to many anglers, has never been better. Except that, nearly 10 years into the federal rebuilding plan for this overfished species, they face severe quota cuts. Cuts that managers and their scientific advisors say are necessary to meet the recovery goal by 2013, the deadline established by federal law.

Both the goal and timeline are under fire from some (but by no means all) fishing groups. They say the plan's target rebuilding population is unrealistic, unattainable and causing senseless pain. Some in Congress, at the urging of these groups, want to rescind the Magnuson Act's requirement that overfished fisheries be restored within a prescribed amount of time.

But understanding how we got into this bind, and that neither the science nor the law are to blame, is critical to finding a way out that doesn't make things worse.

PREDICTABLE AND AVOIDABLE

While fisheries science is always uncertain, summer flounder managers are unusually confident in what they're working with. The quality of the data is among the best for mid-Atlantic species, they say, and the assessment has been reviewed by independent fisheries scientists more than any other.

But it doesn't address whether or not, as some claim, habitat loss and pollution have degraded the environment's capacity to support fluke in historic numbers. The important point here, though, is that current law allows for extending rebuilding periods for such reasons; *if* the science supporting it is brought to the table. That's never been done. It's encouraging, then, that angling groups recently raised the money and hired the scientists to make their case in the 2008 assessment.

Which is where that case needs to be made. *Not* in Congress. Those supporting "The Flexibility in Rebuilding American Fisheries Act" are making a mistake. A similar bill was rejected by lawmakers during the recent Magnuson Act reauthorization and for good reason. It would eliminate accountability for rebuilding *all* overfished stocks by leaving timetables open-ended.

Years ago we urged fishery managers to enact tough summer flounder rebuilding measures up front. We warned that by bending to fishing industry pressures for the highest possible quotas—ignoring scientists' pleas for caution — they guaranteed they would be punishing fishermen with lower quotas later on, when they should be rewarding them for their sacrifices.

The current situation is the result of short-sighted management. It was both predictable and avoidable. Let's help fishermen through it—but not by weakening incentives for rebuilding.

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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AVERTING A KRILL CRISIS *(Continued from page 1)*
krill catch levels. Using an MSY - also deemed single-species - strategy, a stock is typically reduced to less than half of its pristine, unfished size. The focus is solely on maximizing long-term catch, and interactions between species, such as those between predators and their prey, are not considered. CCAMLR's approach is to maintain krill populations at 75% of environmental capacity (halfway between an unfished condition and an MSY approach.)

While maintaining a higher abundance of krill is a logical starting point for a key forage species, CCAMLR acknowledges that this alone cannot ensure that the food web remains intact. Fishermen out-compete predators for krill by concentrating fishing effort in a few areas close to shore. Land-based predators such as seabirds, penguins and seals have a limited foraging range. This range is further restricted during breeding season, when parents must hunt close to nesting and pupping grounds in order to return frequently to protect and feed their young.

Encouragingly, the CCAMLR meeting also led to improved regulations for the krill fishery including a process for subdividing the krill catch into small-scale management units. To prevent area catch limits from being exceeded, reporting requirements and observer coverage for krill vessels were strengthened.

OCEAN ACIDIFICATION - THE LITMUS TEST FOR FISHERY MANAGEMENT

But will new regulations and catch strategies be enough to protect a changing ecosystem? As climate change takes its toll on the Antarctic, CCAMLR scientists are challenged with distinguishing between and accounting for impacts caused by fishing and those caused by environmental factors.

Scientists estimate that in some areas of the Antarctic, krill populations have declined by 80% since the 1970s. Krill predators are also in trouble. Scarcity of food has been blamed for the dramatic decrease in Gentoo, Adélie and Chinstrap penguins, which have declined by as much as 65% over the last 25 years. Sea ice - an important krill breeding and nursery habitat - is melting away at a pace of 36 cubic miles a year. But melting sea ice may not be CCAMLR's main concern when it comes to climate change. According to a report issued by the Intergovernmental Panel on Climate Change (IPCC), the most immediate threat to our blue planet is the acidification of the ocean.

The ability of the oceans to absorb carbon emissions is remarkable. Antarctic krill do their part by carrying carbon from the surface to the ocean floor as they parachute to deep water seeking refuge from predators. Scientists calculate that half of the carbon dioxide generated since the industrial revolution has been absorbed within the ocean realm. While this has slowed the pace of atmospheric warming, it has come at a dear price.

Carbon dissolves in saltwater resulting in carbonic acid. As carbonic acid levels build, the ocean becomes increasingly acidic and calcium carbonate, the building block for shell-forming creatures, dissolves. Krill, shrimp, corals, snails, crabs, mussels – any invertebrate that uses calcium in its body structure - will be affected and so too will the predators and fisheries that depend on them. Though cuts in carbon dioxide and other greenhouse gas emissions might slow or reverse global warming, scientists say it could take thousands of years or longer to reverse the increased acidity of the oceans.

Acidification is projected to begin taking its toll on Antarctic krill in just a few short decades, and its effects will extend throughout the Southern Ocean into the Pacific by 2100.

U.S. FISHERY COUNCILS BAN KRILL FISHING, PRIORITIZE ECOSYSTEM

Several hundred miles off the coast of Washington State, a specially-designed buoy monitors the carbon in the North Pacific. The region is considered particularly vulnerable to acidification because it is the point on the globe where deep water rises to the surface after traveling throughout the world's oceans. The water, which has been accumulating carbon throughout its thousand-year journey, absorbs additional carbon dioxide from the atmosphere as it rises.

Already, acidic water has been detected nearing the continental shelf of Washington, Oregon and Alaska. – an area that contains fishing grounds for pollock, salmon, rockfish, and hake, species of great economic importance to the United States. The effect acidification will have on these fisheries is not clear; however, many commercially and recreationally important fish in the North Pacific depend heavily on krill as their major food source.

Given the importance of krill as forage and the catastrophic effects of climate change so near on the horizon, it may be that the best decision for fishery managers is to leave all krill in the water. That was the conclusion reached by two federal fishery management councils – the North Pacific Fishery Management Council (NPFMC), which manages fisheries in Alaska, and the Pacific Fishery Management Council (PFMC), which manages fisheries off the U.S. West Coast.

In 1998, the NPFMC successfully passed a ban on directed fishing for krill in Alaskan waters, but a similar ban, proposed in 2006 by the PFMC for west coast waters, was rejected late last year by the White House Office of Information and Regulatory Affairs (OIRA). Saying a ban was unnecessary since no U.S. fishery yet exists, OIRA returned the proposal to the National Marine Fisheries Service (NMFS). NMFS told the PFMC in November that it will re-submit the proposal with strengthened rationale. The goal of the plan, the agency points out, is to maintain an unfished population of krill for predators in the ecosystem; the prohibition is a means to that end.

With the Department of Commerce pushing for the development of industrial-scale aquaculture off our shores, through national legislation and the regional fishery councils, the timing for a U.S. krill ban couldn't be better.

THE VERDICT ON STRIPED MARLIN: OVERFISHED!

"As Bad Off as White Marlin," Says One Official

The Pacific's striped marlin (*Kajikia audax)* and the Atlantic's white marlin (*Tetrapturus albidus)* have a lot in common. Too much, in fact. The two species are virtually identical genetically, according to DNA evidence, giving rise to the theory that they were once a single species, separated eons ago when primordial upheavals on earth divided the global sea into Atlantic and Pacific Oceans. But today, they've been reunited - on the distressingly long list of species endangered by global overfishing.

The plight of white marlin is familiar to all readers of the Marine Bulletin, especially since 2002 as this magnificent but disappearing billfish has flirted with listing under the Endangered Species Act. (See page 7.) The numbers of all large ocean predators have declined by 90 percent in the last 50 years, claims a widely cited 2005 study (Ransom and Myers). The white marlin could stand as exhibit A, right alongside the even more famous but equally depleted Atlantic bluefin tuna. The numbers of white marlin, according to the International Commission for the Conservation of Atlantic Tunas, have been reduced to about 12 percent of what they were in the 1960s.

As recently as a year ago, the status of striped marlin was discomfortingly classified as "unknown." Because marlin and sailfish are a ubiquitous bycatch in Pacific longline fisheries, and longline effort has been increasing in recent years, it was widely suspected that Pacific billfish, too, might be overfished. But no formal stock assessment had ever been done. Until now. A 2007 assessment of striped marlin by the International Scientific Committee for Tuna and Tuna-Like Species of the North Pacific Ocean (ISC) confirms our worst fears; that, as one ISC official told NCMC, "the striped marlin is as bad off as the white."

A DEADLY RECIPE

The striped marlin is not as big as blue or black marlin, but it can grow up to 12 feet in length and weigh 450 pounds. Although it has the greatest distribution of any Pacific marlin, inhabiting temperate and tropical waters from the Indian Ocean to the edge of the North American continent, striped marlin are more abundant in the eastern and central parts of the Pacific. Striped marlin, like all billfish, are caught as bycatch in pelagic longline fisheries targeting swordfish and tunas. Foreign fishermen often land and sell them for local and global markets. In fact, the striped marlin is sometimes targeted by longliners because of its relatively high market value.

A deadly recipe of rapidly expanding longline fleets and a general lack of regulation in all but a few Pacific fisheries has taken its toll. An ISC Marlin Working Group studied the most up-to-date data on the striped marlin fisheries last year and concluded:

- Spawning biomass (the population of mature adults) has declined from around 40,000 metric tons in the early 1970s to about 5,000 tons in the early 2000s. Spawning biomass in 2003 was estimated to be 14-15 percent of the 1970 level.
- Recruitment (the strength of each new generation) has been in decline since the 1970s. Recently it's been about half the long-term average.
- Both spawning biomass and landings will continue to decline if the current fishing mortality rate is maintained.
- A 30-40 percent reduction in fishing effort is needed to bring fishing mortality down to a sustainable level.

The bottom line, then, is that striped marlin are severely over-exploited, with the number of spawning age fish reduced by 85 percent over the last several decades resulting in way below average reproduction. This decline will continue unless fishing mortality is significantly decreased; it must be cut by about a third just to halt the decline, by more if the population is to rebuild.

CLOSE U.S. MARKETS TO ALL BILLFISH

Billfish are magnificent creatures, large ocean predators at the top of the food chain. Wiping out the sea's keystone predators can weaken the entire food web and create cascading effects in pelagic communities, with dire consequences for the ecosystems as well as fisheries. Billfish support highly valuable and conservation-oriented recreational fisheries that release nearly every fish they catch to re-populate and keep the fishery healthy.

White marlin and the other Atlantic billfish have been banned from the U.S. seafood trade since 1989. California prohibited the sale of striped marlin decades ago. In 2004, the Pacific Fishery Management Council outlawed trade in Pacific striped marlin taken within its jurisdiction.

But outside the U.S., billfish are caught as bycatch in swordfish and tuna longline fisheries. These fisheries also have substantial interactions with sea turtles, seabirds and marine mammals, as well as sharks and other vulnerable species. Because of the commercial value of marlin (and to a lesser extent sailfish), foreign fishermen often land and sell billfish for commercial markets.

It will surprise many readers to learn that the U.S., despite its home-grown conservation ethic, is a major importer of billfish caught by foreign fishermen, fish that come mainly from the Pacific (legal) but also from the Atlantic (illegal). An open and flourishing U.S. market for foreign-caught billfish places additional pressure on unregulated Pacific stocks, while creating a black market for Atlantic-origin fish.

"The biggest contribution the U.S. can make to conserving Pacific billfish at this time," says NCMC president Ken Hinman, "is to close our markets to all marlin and sailfish, regardless of origin, while making it a priority to seek stronger international conservation agreements in the Pacific. This new information on the plight of striped marlin means we can no longer pretend we don't know what's happening." □

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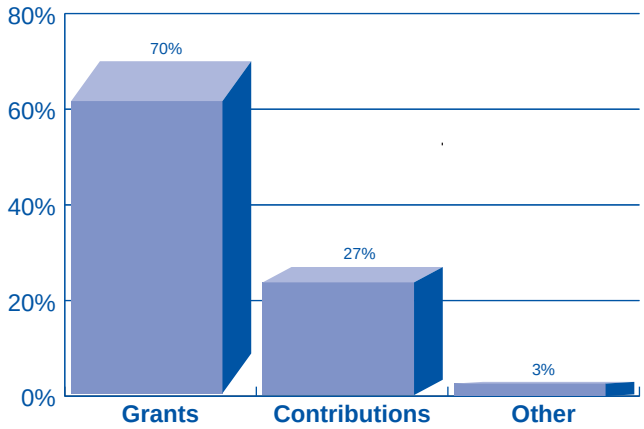
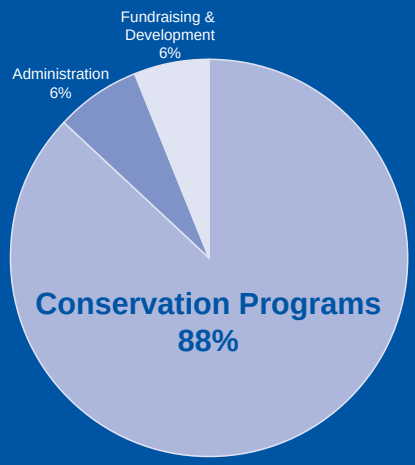
2007 FINANCIAL SUMMARY

SOURCES OF REVENUE BY PERCENTAGE



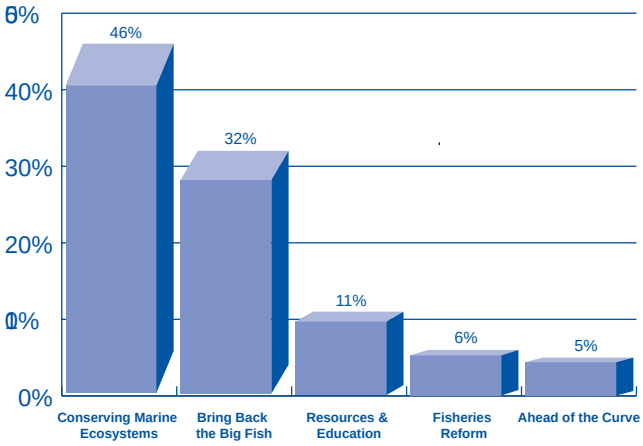
Most of our financial support comes from private foundation grants and individual contributions such as those generated through our membership program.

Once again this year, we are proud to report that 88% of our operating budget was put directly into our Conservation Programs!



PROGRAM EXPENDITURES BY PERCENTAGE

Allocation of expenditures among our five marine conservation programs varies year-to-year, depending on changing needs and events. Members can choose to support a specific program with their annual gift.



WHITE MARLIN "NOT IN DANGER OF EXTINCTION"

NOAA Fisheries Service announced January 9th that white marlin does not warrant listing as either threatened or endangered under the Endangered Species Act. The agency made the same decision in 2002, but designated the severely overfished Atlantic billfish a Species of Concern under the ESA and pledged to review its status again in 2007, following a scheduled 2006 assessment by the International Commission for the Conservation of Atlantic Tunas (ICCAT). That review is now complete and, citing a slight improvement in the population over the last 5 years, credited Atlantic-wide conservation efforts with cutting white marlin landings by half since 2000.

"Recent signs that conservation is paying off and that white marlin has pulled out of the freefall it'd been in since the 1960s is definitely good news," says NCMC president Ken Hinman, a member of NOAA's advisory body on Atlantic Highly Migratory Species and an advisor to the U.S. delegation to ICCAT. "But escaping ESA designation is little cause for celebration for a species that still has a long road to recovery. The U.S. must keep the pressure on at ICCAT while sticking with what works at home, namely the longline area closures and the use of circle hooks by billfish anglers." □

WEAK GULF AQUACULTURE AMENDMENT BLOCKED

At the January meeting of the Gulf of Mexico Fishery Management Council (the Council) in St. Petersburg, Florida, NOAA attorneys advised the Council not to proceed with the scheduled approval of its offshore aquaculture plan, saying the amendment was not in compliance with several federal laws. The decision comes on the heels of a letter submitted by an attorney for Food and Water Watch that outlined legal holes in the amendment - most notably, the Council's flawed assumption that it has the authority to regulate offshore aquaculture under the Magnuson-Stevens Fishery Conservation and Management Act.

Food and Water Watch is part of an alliance of commercial and recreational fishermen, consumer groups, and conservation organizations that includes the NCMC. Since the aquaculture plan debuted last January, alliance members have identified numerous gaps in provisions to safeguard wild fish stocks and the environment. NCMC pointed out several glaring omissions including the absence of a requirement to reduce the use of wild-caught fish in feed. Gulf menhaden would be left particularly vulnerable to increased demand for local aquafeed since the menhaden fishery is not regulated by a total allowable catch (TAC).

The Council plans to work with the National Marine Fisheries Service to correct deficiencies in the amendment, and a new draft may be completed later this year. □

LONGLINE RESEARCH MOVES FORWARD IN ATLANTIC, STALLS IN PACIFIC

Southeast Closed Areas Open for Longline Experiment

The National Marine Fisheries Service (NMFS) announced on January 3rd its approval of a scaled-down proposal to allow swordfish longliners to conduct a bycatch reduction experiment inside areas off the U.S. southern coast closed to longlining since 2000. The new proposal contains a number of positive changes in response to protests from NCMC and others. Only three vessels, instead of the originally proposed 13, will be permitted, and only two can fish at any one time. NMFS-certified observers must be aboard. The boats will be testing the use of non-offset circle hooks, rather than offset circle hooks as the industry had intended. Finally, half the longline sets will be made outside the closed areas.

Unfortunately, NMFS failed to develop criteria for assessing the results of the experiment. "Our focus now will be on the data collected over the next year and what it means, if anything, in terms of the future of the closed areas," says NCMC president Ken Hinman. "We will not allow poorly-designed 'research' to be used as an excuse to re-open areas to longlining if it undermines conservation of the vulnerable species these closures are now protecting."

Pacific Longline EFP Withdrawn

In December, the owner of a drift-gillnet vessel, who wanted to use his boat to conduct a longline experiment off the U.S. West Coast, withdrew his permit application for consideration by the California Coastal Commission (Commission). Finding the permit to be inconsistent with California's Coastal Zone Plan because of the danger it posed to sea turtles, the Commission voted unanimously against it at its August meeting but had agreed to reconsider the proposal at a later date. After receiving a number of comments from concerned groups including the NCMC, Commission staff was prepared to recommend against the proposal again in December. The Secretary of Commerce could override the Commission's decision and issue the permit, but this action would open the department up to a law suit under the Coastal Zone Management Act. □

WELCOME ABOARD!

NCMC is pleased to announce that Sarah Horton has joined our team as Research Intern. As part of our Forage First! program, Sarah will be investigating the impacts of climate change on forage fish populations.

Forage fish are highly susceptable to changes in the environment. Water level, temperature, currents, and ocean chemistry are changing as a result of excessive carbon in the air and in the oceans. It's important that we understand how forage fish will be affected by these changes and factor this information into fishery management decisions.

We have asked Sarah to introduce herself to our members...

Ever since I was a young girl growing up in the small town of Purcellville, Virginia, I have been interested in marine ecology. I attended Shepherd University, where I received my Bachelor's Degree in Environmental Science with a concentration in Aquatic Science. My experience in the field ranges from my studies of the effects of sewage treatment effluent on local streams in West Virginia to the study of horseshoe crab eggs in the Delaware Bay. Overall, I have been able to gain insight into different ways of preserving the environment's aquatic systems. Currently, I am attending graduate school at Hood College in Frederick, Maryland in pursuit of my Masters degree and working on a thesis proposal involving forage fish.

FISH-FRIENDLY OMEGA-3s

Omega-3 fatty acids - found naturally in the marine environment in algae, krill, and fish - are good for your heart. Studies document benefits ranging from reduced arterial plaque to lower blood pressure to decreased risk of arrhythmias, which can lead to heart attacks.

Regrettably, these findings are powering marketing campaigns designed to convince consumers that omega-3 supplements, made from the same forage fish used in aquaculture feed, are integral to good health. Reduction industries such as those for menhaden and krill bank, quite literally, on the big bucks generated by packaging their products for the high-end health food market.

The truth is that for most people, omega-3 supplements are not necessary to be heart-healthy. Except in the case of patients with a diagnosed heart condition, the American Heart Association (AHA) recommends a healthy, well-rounded diet rather than fish oil capsules for optimizing the benefits from omega-3 fatty acids. In fact, the AHA cautions that fish oil capsules should only be taken in consultation with a physician as high intakes of the supplements - greater than 3 grams per day - can cause excessive bleeding.

Safety concerns have also been raised by consumer watchdog groups. Because fish oil supplements are produced by concentrating the oil of many fish, environmental toxins absorbed by the fish are concentrated as well. In a test conducted last year by Greenpeace Research Laboratories, a single capsule of OmegaPure, the nutritional supplement produced by menhaden reduction giant Omega Protein, contained levels of polychlorinated biphenyls (PCBs) that exceeded the Environmental Protection Agency (EPA) daily intake safety limit. Frequent exposure to high levels of PCBs can impair brain development, affect liver and thyroid function and cause cancer. Omega recommends up to six capsules as a daily dose.

According to the AHA, a healthy diet rich in omega-3s should include eating a variety of fish at least twice a week, especially fatty fish like mackerel, trout, herring, sardines, albacore tuna and salmon. Incorporate foods and oils made with soybeans, canola, walnut and flaxseed that contain alpha-linolenic acid (LNA), which the body can convert to omega-3.

You can get fish-friendly omega-3s by:

1. **Eating seafood recommended by reputable consumer advisory programs** such as Monterey Bay Aquarium's Seafood Watch, the Blue Ocean Institute, or Oceans Alive. Each program offers a downloadable seafood pocket guide on its web site.
2. **Avoiding ocean-farmed fish such as tuna and salmon,** which are fed diets comprised largely of fishmeal and oil produced from reduction fisheries. "Naturally" colored farmed salmon gets its pink hue from krill oil. By law, farm-raised seafood sold in supermarkets must be clearly labeled.
3. **Purchasing algae-derived omega-3 supplements if you do not eat seafood or prefer the convenience of a capsule.** These capsules are often marketed on vegan and vegetarian web sites. As with fish oil capsules, consult with a health care specialist who can help you determine the correct dosage. □

RIVER HERRING DISAPPEARING

Herring Alliance/NCMC Urge Commission to Investigate At-Sea Bycatch as Likely Culprit

Last fall, a startling report by the Herring Alliance, of which NCMC is a partner, revealed that river herring are rapidly disappearing up and down the Atlantic Coast. Commercial landings are down to just 1 percent of what they were 50 years ago. Entitled ***Empty Rivers: The Decline of River Herring and the Need to Reduce Mid-water Trawl Bycatch***, the report warns that unless immediate action is taken, two river herring species, alewife and blueback herring, could soon become extinct.

River herring are managed by the Atlantic States Marine Fisheries Commission (ASMFC), which has jurisdiction in state waters. Though they return to their natal rivers to spawn, alewives and blueback herring actually spend most of their lives at sea, and it is here where they fall victim to mid-water trawlers when they are caught as bycatch in federal fisheries for Atlantic mackerel, sea herring and other mid-water pelagic species. This bycatch is for the most part undocumented, unreported and unregulated.

To reduce mortality and rebuild river herring stocks, the ASMFC has begun amending its Interstate Fishery Management Plan for Shad and River Herring, and has solicited public input on the measures to be included. NCMC provided the following recommendations.

1. Include a principal objective of maintaining a maximum abundance of river herring as forage for predators.
2. Close directed fisheries for river herring and regulate bycatch. To effectively regulate bycatch, the ASMFC must request that the Secretary of Commerce (SOC) take complementary action in Federal waters to:

   1) improve data collection and monitoring of river herring bycatch in at-sea trawl fisheries, including increased observer coverage and mandatory reporting by all states to the ASMFC of landings from both state and federal waters; and,

   2) establish hard caps on bycatch.
3. The ASMFC and SOC should use the best available data on river herring bycatch to identify times and areas of high bycatch and then establish times and areas where the use of mid-water and pair trawls would be restricted.
4. Close or reduce effort in the recreational fishery. By all accounts, the recreational catch of river herring is insignificant. However, to the extent that river herring are caught as bait, for the striped bass fishery for instance, we believe the minimal numbers of river herring remaining in our rivers and coastal waters would be better left in the water to feed striped bass and other predator fish that are of much greater value to the recreational fishery than river herring. □

GULF OF CALIFORNIA SARDINE FISHERY CONSIDERED FOR SUSTAINABILITY LABEL

In October 2006, the Marine Stewardship Council (MSC) announced that the first feed-grade (reduction) fishery to be considered for sustainability certification was under assessment. MSC is a nonprofit organization that works globally to recognize well-managed fisheries and promote responsible seafood choices through a certification and labeling program.

The move to certify the sardine fishery has drawn criticism from fishermen, scientists and conservation groups in both the United States and Mexico, who view the certification as condoning the use of wild fish as feed for the growing aquaculture industry - a practice that experts, including the Woods Hole Oceanographic Institute's Marine Aquaculture Task Force, regard as a major threat to ocean ecosystems.

The Gulf of California sardine fishery, which deploys a fleet of purse-seine vessels out of Guaymas and Yavaros, Mexico, targets Pacific sardine and Pacific thread herring - two critically important forage fish for many of the Gulf's inhabitants, including seabirds, sharks, marlin and dolphin. More than 85% of the fishery's catch is reduced to fishmeal and oil for use in aquaculture and livestock feed.

NCMC is closely following the certification, and has submitted a number of recommendations to strengthen the criteria for evaluating this and other forage fisheries, arguing that the bar needs to be raised to protect their unique and critical ecological role in the ecosystem.

On January 15th, NCMC Fisheries Project Director Pam Lyons Gromen traveled to Ensenada for a stakeholder meeting that was held at the request of scientists and conservation groups based in Mexico. "The information presented to the certification team was alarming," Gromen said. "The fishery's catch is not capped, and there appears to be no way to assess the health of the sardine resource, much less a method for determining that adequate prey is left for predators."

In a letter read to the meeting attendees, a small-scale fisherman expressed concern for his livelihood, describing how "feeding frenzies," periods of excited predator feeding activity due to an abundance of prey, used to occur often but are now rare. He also attested to what he perceived as a change in the ecosystem. Sharks - predators of sardines - have disappeared and been replaced by a growing number of sea lions that prey on fish he targets.

At the close of the meeting, Gromen noted "Our colleagues in Mexico are facing the same challenge we are in the U.S. - moving the country's fishery management to an ecosystem-based approach. Sadly, the MSC certification criteria offer little incentive for the sardine fishery to move in this direction." A final decision as to whether or not the fishery merits certification is expected later this year. □

Forage First: How to Protect the Ocean Food Web in the Mid-Atlantic

March 13, 2008
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