SUSTAINABLE FISHING FOR BIG FISH

A work in progress

by Ken Hinman, Wild Oceans President

On a trip to Bermuda while in the midst of researching and writing our 1998 report, Ocean Roulette: Conserving Swordfish, Sharks and Other Threatened Pelagic Fish in Longline-Infested Waters, I picked up a copy of Louis Mowbray’s “A Guide to the Reef, Shore and Game Fish of Bermuda” (1965).

When fishing in the fertile blue waters of the western Atlantic, the naturalist wrote invitingly, you could catch practically anything: “It may be a blue or white marlin, sailfish, swordfish, wahoo, dolphin, yellow-fin, blackfin, or big-eye tuna, mackerels, bonito, barracuda, amberjack, mako shark, or even get snagged in the fin of a giant manta ray.”

What struck me was the similarity to the lists I was compiling of fish caught incidentally to commercial longlining. The longline is a simple construction – the vessel sets up to 40 miles of mainline from which baited hooks are suspended and allowed to drift, all day for yellowfin tuna and all night for swordfish. Like any “hook-and-line” fishery – like trolling with rod-and-reel – pursuing one species creates the possibility of catching something else.

But longlining, because of the sheer number of hooks (hundreds, sometimes thousands) coupled with the time they are in the water (up to 12 hours or more), is hook-and-line fishing on steroids.

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Insightful insights into sustainable fishing for big fish, A work in progress, by Ken Hinman, Wild Oceans President, for the Horizon Summer Newsletter 2015. Wild Oceans was founded by anglers in 1973. Like the sportsmen before us who pioneered wildlife conservation on land, we are passionate protectors of fish and the wild world we share.

Our Mission

Wild Oceans was founded by anglers in 1973. Like the sportsmen before us who pioneered wildlife conservation on land, we are passionate protectors of fish and the wild world we share.

Our mission is to keep the oceans wild to preserve fishing opportunities for the future. To do this, we bring conservation-minded fishermen and pro-fishing environmentalists together to promote a broad, ecosystems approach to fisheries management that reflects our expanding circle of concern for all marine life and the future of fishing.

So much of what we love about the sea, about fish, about fishing, is in the wildness. But that wild world, and the future of fishing, now hangs in the balance. Everything we do, every decision we make, must be guided by a clear vision of the future we want for our oceans and of how the fishing public and responsible consumers will fit into that future.
Acting in the big picture

Earlier this year a group of the world’s top chefs gathered in Spain and, thinking of ways to save the oceans and feed the world, came up with their solution. Eat small fish. The chefs pledged to enlist consumers in the battle against overfishing by encouraging them to take pressure off large fish like tuna and swordfish and eat further down the food chain. They’ve created recipes to show how delicious “forage fish” like sardine, anchovy and mackerel can be.

Of course we’re all for conserving big fish (see A Work in Progress, p. 1) and we’re certainly in favor of chefs and restaurants spreading the word on “sustainable” seafood. But the problem here – and with other silver bullet solutions like farming fish to protect wild fish stocks – is that their intended consequences are entirely dependent on the responses of others; existing fisheries and markets for wild fish, big and small, that generally have very different interests. Without also managing those competing interests, increasing consumer demand for small fish will only make matters worse.

Forage fish account for 37 percent of the global catch and 90 percent of these fish are reduced into meal to feed to farmed fish, hogs, and chickens. Is it a better idea, not to mention a more efficient use of protein, to consume small fish directly, in smaller amounts? No question. But absent stricter controls on the reduction fisheries, we’d merely be adding to the demand for a limited supply. Indeed, because of the much higher value of forage fish left in the water to sustain healthy numbers of predators, including tunas and swordfish, the world’s leading fishery ecologists agree that present rates of fishing should be cut in half.

The demand for small fish to serve as aqua-feed is only going to increase. Fish produced on farms surpassed wild-caught fish for the first time in 2014, and production is predicted to grow by another 50 million tons a year by 2030, according to the UN Food & Agriculture Organization. Unfortunately, the sea has its limits.

Alan Watts described our relationship to the natural world as a loop in an endless knot. If we loosen it in one direction we find that it tightens from another. As commonly practiced, marine aquaculture takes prey from wild predators, degrades coastal habitat and displaces local fishermen.

It makes better sense to restore the one-third of the world’s fisheries that are depleted back to their optimum potential. The FAO estimates that by doing so we would increase what we can safely take from the sea by 20% in the long run. Studies also show that leaving more forage fish in the water will boost predator stocks and in turn enhance the productivity of those fisheries.

It is essential, in taking an ecosystems approach to fisheries, that we see the big picture and act holistically, too. For what we believe is a more natural, more balanced, and far wiser approach to managing marine fisheries, see our new white paper, Resource Sharing, on page 3.

– Ken Hinman, President
WILD OCEANS RELEASES NEW WHITE PAPER

Of predators and prey

Following is the preface to a new Wild Oceans publication, Resource Sharing: The Berkeley Criterion, written by president Ken Hinman.

When we fish, we join the ocean world as predators. That is what we are, by nature, and have been since early times. But unlike other predators, we are limited only by the limits we set for ourselves. Or so we’d like to think. We are subject to all the same natural laws as other predators, yet we behave as if we were not – as though we could fish without regard for fishing’s impact on the ecosystems we share.

In the modern era, our prevailing policy is to maintain fish populations at levels that optimize yields to commercial fisheries, assuming that other predators, namely fish higher up the food chain, marine mammals and seabirds, are not harmed. But as we are learning, this myopic approach to managing fisheries can lead to mismanaging entire marine ecosystems, and

(al)though overfished stocks have been known to recover, revival of communities that have changed states can be excruciatingly slow or even impossible.

Overfishing ecosystems, in other words, has far greater costs – social and economic as well as ecological - than simply mismanaging a fishery.

On a global scale, the numbers of predatory fish have been drastically reduced by industrial fishing. Many predator populations – among them large pelagic species such as billfish, tuna and shark as well as demersal species like cod, grouper and snapper – are the object of determined recovery efforts, not only to revitalize the fisheries but also to restore their vital role as keystone predators, maintaining balance and diversity in marine ecosystems from the top down.

Most of us are familiar with trophic cascades, wherein the presence or absence of top predators influences not just the numbers of their prey but also, through a rippling effect, the structure and character of entire ecosystems. But as we’ve moved down the food chain and intensified exploitation of fish at lower trophic levels – today, so-called forage species, such as sardine, menhaden, herring and anchovy, account for 37 percent of the total world fish catch – we are shrinking the supply of food and limiting predator populations from the bottom up.

In effect, we are burning the predator-prey candle at both ends, producing an ocean environment no longer capable of sustaining life in all its wild diversity and abundance.

"We are burning the predator-prey candle at both ends."

Instead of fishing as one among many predators, “as part of the natural system,” we try and manipulate the ocean in order to catch the species we want in the quantities we demand. Our primary and often only concern is whether or not our catch is “sustainable,” by which we mean making sure not to deplete the stock in ways that would jeopardize future catches.

Country music legend George Jones nailed it when he sang

To think I had been permitted
To see a part of nature’s plan
Oh, there’s nothing that stands out more
Than the selfishness in man

In nature’s plan, all creatures share an evolutionary drive to selfishly advance their own species. But in our case, a narrow view of sustainability, a lack of regard for sustaining other forms of life in the sea, and “a power over the natural world we can no longer afford to use” all work to our collective disadvantage, irreparably harming the environment that supports all of us.

What I call the Berkeley Criterion suggests a more balanced, more natural and far wiser approach to managing marine fisheries, grounded in policies that sustain fishing in a way that protects the broader ecosystem and its living communities. It is, quite simply, Resource Sharing – a novel concept that is nevertheless essential to our co-existence with wild oceans. The future of fishing, I believe, lies in the balance.
At the time *Ocean Roulette* came out, 1 out of 2 fish caught by U.S. longliners were unwanted and discarded and over half of those were dead when thrown back. That’s the critical difference.

**Bycatch is a serious conservation problem in any fishery where (a) there is a significant catch of unintended, unwanted or protected fish [or other wildlife], and (b) there is a high level of mortality of fish at capture.**

With size we lose control, proportionally. Multi-mile longlines – still responsible for 85% of the global catch of swordfish and 14% of tuna, primarily the larger species – fish passively, untended for long periods of time, so that considerable harm is already done by the time the hooks are retrieved.

Because trying to control the outputs of this kind of passive-aggressive fishing (e.g., with quotas and size limits) usually results in more dead discards, the most successful means of mitigating the damage has been regulating inputs – the gear itself and where, when and how it is used to avoid interactions and minimize unavoidable mortality. Since 1998, we’ve made huge strides in doing that (see table), resulting in substantially reduced longline bycatch of non-target species such as billfish, sharks, tunas, young swordfish and endangered sea turtles.

### Across the Board Cuts in Longline Bycatch

Not long after publication of *Ocean Roulette* (and not a coincidence – we sued the National Marine Fisheries Service in 1999), large areas off the southeastern coast and in the eastern Gulf of Mexico were closed to pelagic longlining, some year-round, others seasonally. Since then, the average annual bycatch has been reduced by 58% for blue marlin, 54% for white marlin, 64% for sailfish, 60%; for swordfish (mostly juveniles), and 41% for oceanic sharks. In hard numbers, to use one example, that’s over 40,000 Atlantic billfish not caught and discarded by the U.S. longline fishery over the last 15 years.

Sea turtle interactions are down as well, by 72% since 2000 for an average yearly savings of 429 loggerheads and leatherbacks. That’s due to the closures as well as a requirement that longliners use circle hooks, which tend to snag turtles in the corner of the mouth without serious injury. The hooks, which also greatly enhance survival of released fish, are required in billfish tournaments and widely used now by offshore anglers.

### Recommendations (from *Ocean Roulette*, 1998)

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<tr>
<th>Recommendations</th>
<th>Subsequent Actions Taken (as of 2015)</th>
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<tr>
<td>Establish No Longlining Zones in Known Nursery and Spawning Areas...to protect juvenile swordfish, billfish, sharks and bluefin tuna</td>
<td>In 2000, NMFS closed 133,000 square miles of Atlantic and Gulf of Mexico waters to longlining. Federal waters off the West Coast (200 mile EEZ) were closed to longlines by the Pacific Council in 2004. Additional mid-Atlantic and Gulf time-area closures were implemented in 2014.</td>
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<td>Require That Longline Vessels Be Equipped with Vessel Monitoring Systems (VMS) to Ensure Compliance with Area Closures</td>
<td>Since 2003, NMFS has required that approved VMS be installed and operating on all U.S. pelagic longline vessels fishing in the Atlantic.</td>
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<td>Seek Closures in International Waters</td>
<td>The U.S. delegation to ICCAT has asked the commission’s scientists to study the potential of time-and-area closures on the high seas to aid rebuilding of blue and white marlin.</td>
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<td>Count Dead Discards Against All U.S. Commercial Quotas...as an incentive to avoid bycatch</td>
<td>Longline dead discards are now deducted from total allowable catch allowances for swordfish, bluefin tuna and large coastal sharks.</td>
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<td>Require the Use of Breakaway Gear to Avoid Capture of Giant Bluefin Tuna</td>
<td>NMFS now recommends that longliners fishing in the Gulf of Mexico use &quot;weak hooks&quot; to minimize capture of large spawning bluefin tuna.</td>
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<td>Limit Length of Longline Gear and Soak Time</td>
<td>The west coast-based Pfleger Institute of Environment Research (PIER) is studying the feasibility of short sets and soak times to enhance survival of incidentally-caught fish.</td>
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<td>Research Alternative Gears</td>
<td>NMFS is conducting a pilot program in the Gulf of Mexico testing swordfish buoy-gear and green-stick gear for yellowfin tuna. It is also funding PIER experiments with deep-set buoy-gear off the California coast.</td>
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One animal that did not benefit from the first round of longline closures is the Atlantic bluefin tuna. The average annual bycatch actually increased by 10% through 2013. That prompted Amendment 7 to the Atlantic Tuna, Sharks and Billfish Plan, enacted last October, adding three new no-longlining areas, including on the bluefin’s Gulf spawning grounds, and closure of the fishery when a cap – set at about half recent levels – is reached. It’s too early to gauge its effect, but the preliminary numbers are promising: through June 1st, longline catches are 52% below 2014 levels, a period which covers a good portion of the spawning season.

The east coast’s network of closed areas has also fostered innovation among commercial fishermen, cultivating the use of smaller-scale, actively-tended gears, namely buoy gear for swordfish and greenstick gear for yellowfin tuna. Testing of buoy gear, along with short-set “longlines” with brief soak times, is underway off California.

Efforts are also being made to export these kinds of changes in fishing for big fish to the fleets of other nations fishing the same highly migratory stocks. Meanwhile, we’re closing some U.S. markets to indiscriminate fishing. Most recently, the Billfish Conservation Act of 2012 prohibited foreign imports of marlin and other billfish. The annual sales here of an estimated 30,000 Pacific billfish taken as bycatch by high seas longline fleets has come to a halt, augmenting the long-standing ban on imports from the Atlantic.

Work Still On Our Desk

Clearly, the U.S. angling and conservation communities have worked hard to secure numerous measures to conserve big fish and protect the future of fishing, but there’s more that can and should be done to bring back these magnificent fish. A number of issues, some that are new, some that have been around awhile, deserve our attention (in no particular order).

- The U.S. longline fleet based out of Hawaii, where sales are exempted from the BCA’s mainland ban, landed over 20,000 blue and striped marlin in 2014. These fish are a bycatch, around 3% of the total longline commercial catch, but how many billfish are caught and kept is currently unregulated. That’s got to change.

- The Pacific Council, although it prohibited longlining on the west coast in 2004, incongruously still permits catching swordfish with mile-long drift entanglement nets. Alternatives exist, so it’s time to begin phasing them out. (see p. 6)

- To ensure that billfish conservation and rebuilding in the Atlantic is not undermined by global trade in these vulnerable and recreationally-valuable species, ICCAT needs to bolster its catch limits by limiting retention for local consumption in local markets only. The U.S. delegation should seek an agreement that ICCAT contracting parties will not import or export any species of billfish.

- The recreational catch-and-release ethic has defined the U.S. fishery for decades and all sport catches of blue marlin throughout the Atlantic amount to just 2% of total landings. Still, as long as the population remains overfished, conscientious anglers will ask themselves – can we do more? Only 54 blues were landed by recreational fishermen in 2014, but these are primarily the largest fish, older females that are the most prolific spawners. Many in the billfish community think it’s time to reconsider protecting their contribution to future generations.

- Full circle to Bermuda. Longlining effort in the U.S. Atlantic fleet since 2000 is lower in most regions, 24% overall, but it has increased in the Sargasso Sea, where the number of hooks set by longliners has exploded tenfold (an average of 150,000 a year). It may be a fraction of total effort, nevertheless, the Sargasso is of enormous ecological importance as nursery and feeding ground for all ocean-going species of fish and other wildlife. Last year the U.S. went to the capital of Bermuda to sign the Hamilton Declaration, a statement of intent to protect the Sargasso Sea from among other things overfishing. It’s time to follow up on U.S.-sponsored resolutions (in 2005 and 2012) regarding the importance of the Sargasso Sea at ICCAT with a plan for making the region a sanctuary from longlining and other forms of indiscriminate fishing.
California takes prides in its reputation as a leader in environmental solutions that both protect our natural resources and spur economic growth, often inspiring other states, the U.S. government, and even other countries to follow suit. But when it comes to protecting open-ocean ecosystems from indiscriminate drift gillnets, California not only fails to lead, it’s far behind the rest of the country and most of the fishing world.

High seas drift gillnets gained popularity in the mid 1900s when fishermen began deploying nets as long as 30 miles on the high seas, catching everything that came their way, including salmon, squid, tuna and swordfish as well as unwanted fish like marlin and shark, marine mammals, turtles and birds. They became known as “walls of death.”

The preferred method of curtailing the impact of fishing with drift gill or entanglement nets has been to outlaw them. In fact, today the U.S. west coast stands out as one of the few places these nets are still allowed. California’s driftnets are about 1 mile in length (and 50 yards deep) and used to catch swordfish. Everywhere else in the U.S., these nets have been totally removed from fisheries for tuna, billfish and sharks. Washington and Oregon, also members of the Pacific Council, banned them for swordfish and thresher sharks in their state waters. The Western Pacific Council bans driftnets from a 1.5 million square mile area surrounding the Hawaiian archipelago. The National Marine Fisheries Service has enforced a coast-wide prohibition on the use of driftnets in the Atlantic highly migratory fisheries since 1999.

In 1987, the U.S. passed a law limiting the length of nets used in American waters to 1.5 nautical miles. In 1992 the United Nations made that the law on the high seas, banning the use of driftnets longer than 2.5 km in international waters. Since then, because of continued bycatch problems with the shorter nets, many countries have completely banned the use of driftnets, irrespective of length. New Zealand was one of the first, totally eliminating driftnets from its coastal waters in 1989. The 28-nation European Union did it in 2002 and a year later, the International Commission for the Conservation of Atlantic Tunas banned all drift netting in the Mediterranean Sea. This year, even Vladimir Putin announced that Russia will prohibit drift gillnets in his country’s waters.

But the U.S. has a patchwork of rules, leaving it up to the states and Regional Councils to regulate driftnets of up to 1.5 miles. California’s driftnets are about 1 mile in length (and 50 yards deep) and used to catch swordfish. But the U.S. has a patchwork of rules, leaving it up to the states and Regional Councils to regulate driftnets of up to 1.5 miles. California’s driftnets are about 1 mile in length (and 50 yards deep) and used to catch swordfish. Everywhere else in the U.S., these nets have been totally removed from fisheries for tuna, billfish and sharks. Washington and Oregon, also members of the Pacific Council, banned them for swordfish and thresher sharks in their state waters. The Western Pacific Council bans driftnets from a 1.5 million square mile area surrounding the Hawaiian archipelago. The National Marine Fisheries Service has enforced a coast-wide prohibition on the use of driftnets in the Atlantic highly migratory fisheries since 1999.

Undeniably, the fishery is a net loss to the economy and the environment. California needs to cut its losses and step up as the environmental leader it usually is, and help takes this gear out of the water and replace it with safer, greener alternatives that protect the health of ocean resources and coastal economies.
Staff travel log

Theresa Labriola, Wild Oceans West Coast Fisheries Project Director, attended the Pacific Fishery Management Council Meeting in Spokane, Washington June 11 - 14. Theresa asked the Council to fast-track an amendment to the Highly Migratory Species Fishery Management Plan authorizing buoy-gear as an allowable gear for swordfish. The Council expressed support for the measure. At the same time, the Council approved an Exempted Fishing Permit (EFP) application that will allow two drift gillnet vessels to fish inside the Pacific Leatherback Conservation Area. Fortunately, the Council placed a hard cap on the bycatch of turtles and striped marlin and denied the vessels' request to experiment with longlines. The Council's plan to adopt a series of bycatch reduction measures for the permitted drift gillnet fleet continued to lose steam, and they postponed final action again, until September. (see Memo to California on p. 6)

Theresa travelled to Monterey, California on July 15 & 16 to meet with collaborating organizations and to discuss current and emerging issues facing the California Current Large Marine Ecosystem, including the declining forage base and the continued use of indiscriminate gear in the swordfish fishery.

On June 25 & 26, Wild Oceans staff (president Ken Hinman, executive director Pam Lyons Gromen and Theresa) along with board member Stephanie Osgood Choate gathered in Westerly, Rhode Island for a meeting with Bluefish Digital to initiate a digital marketing strategy for our organization. This meeting kicked off Wild Oceans’ commitment to reach new audiences through social media. Join in the fun by following us on Facebook and Twitter! Wild Oceans thanks Save the Bay’s South Coast Center for the generous use of their conference space and Paddy’s Beach Restaurant & Hotel for the delicious food, outstanding accommodations and unmatched hospitality during our stay.

The Mid-Atlantic Fishery Management Council convened its Ecosystem and Ocean Planning Advisory Panel to develop a series of policy documents addressing anthropogenic impacts to fish habitat. These written policies are intended to facilitate Council responses to activities and projects that could damage fish habitat in the region. As a member of the AP, Pam attended the meeting in Baltimore, Maryland on July 21, weighing in on policies for offshore wind energy, liquefied natural gas and offshore oil activities. The AP was unanimous in recommending to the Council that its policy include an unequivocal statement that offshore oil activities were inconsistent with the Council’s vision of "healthy and productive marine ecosystems supporting thriving, sustainable marine fisheries." The AP will hold additional meetings to discuss impacts of marine transport, coastal development and fishing. The full Council is expected to finalize the policies at its October meeting in Philadelphia.

A big victory for deep water corals was achieved during the June 8 - 11 Mid-Atlantic Fishery Management Council meeting in Virginia Beach, Virginia, attended by Wild Oceans Executive Director Pam Lyons Gromen.

Final measures for the Deep Sea Corals Amendment were selected, creating a network of coral protection zones – areas off limits to bottom-tending commercial fishing gear that could topple the fragile, long-lived and slow-growing coral structures. If approved by the National Marine Fisheries Service, the zones will protect 38,000 square miles of coral habitat, an area that is roughly the size of Virginia.

All 15 canyons systems in the region were designated as discrete protection zones. In addition, a broad zone that generally follows the 450 meter depth contour as the landward boundary and extends outward to the end of the U.S. Exclusive Economic Zone (200 miles from shore) was chosen to prevent the expansion of bottom-tending gear into unexplored areas until we know for certain whether or not corals are present.

The Council agenda also included a number of forage fish issues. First, in the absence of an accepted Atlantic mackerel stock assessment and after another year of dismal commercial landings, the mackerel quota was reduced by more than half to less than 10,000 metric tons, following scientific advice that the mackerel stock is likely depleted. The river herring and shad cap in the mackerel fishery was also lowered, reflecting the Council’s continuing commitment to reduce at-sea bycatch. Finally, the Council approved a scoping document, scheduled to be released this fall, to solicit public input on possible actions for protecting unmanaged forage species from exploitation.

Above image courtesy of Deepwater Canyons 2013 - Pathways to the Abyss, NOAA-OER/BOEM/USGS.
ENVIROMENTAL HERO AND GAME CHANGER

ASF to honor wild oceans board member Mary Barley

On November 11th, the Atlantic Salmon Federation (ASF) will hold its prestigious New York Dinner featuring Mary Barley as the guest of honor. Calling her an "environmental hero and game changer," the ASF commends Mary for her dedication to issues involving the environment, ecosystem restoration and clean water for which she has earned numerous awards and accolades.

Mary is best known as a champion for the restoration of the Florida Everglades, a cause she took up in honor of her late husband George, who pioneered a campaign to save the Everglades when he saw firsthand the degradation of this unique and ecologically-rich habitat. For her successes stemming from years of tireless work, Time magazine named Mary "Hero of the Planet."

With a passion for wildlife and wild places, it is natural that Mary is a recreational fishing enthusiast. Wild Oceans is honored that Mary has served on our Board of Directors since 1998, contributing her expertise as an angler and conservationist to our organization's mission and initiatives.

Wild Oceans President Ken Hinman will attend the New York Dinner to celebrate Mary's outstanding achievements and support the work of the ASF. “ASF and Wild Oceans have worked together in the past, including jointly sponsoring an international symposium on salmon conservation in 1987,” says Hinman. “We look forward to finding new ways to blend the Federation’s goal of ‘Wild Salmon, Wild Rivers’ with Wild Oceans in the future.” For more information on the November event, visit the Atlantic Salmon Federation's web site at www.asf.ca.