Best Fishing Practices

PACIFIC BLUEWATER SWORDFISH FISHERY

Fishing is a human right for the many, not for the few.
Danish fisherman Kurt Christensen

Introduction

"Best management practices" for fisheries are based on pre-determined goals, such as locally-supplied seafood, recreation and tourism, community-based employment and, in support of it all, maintaining abundant and sustainable fishery resources and a healthy environment. Although the primary goals may be social and economic, the long-term health of the resource is always the bottom line. And while each region's specific goals and needs may be unique, best fishing practices, such as low bycatch of non-target species, live release of incidentally-caught or undersize fish, and cost-effective monitoring and enforcement, are universal.

The billfishes, swordfish and tunas, along with dolphin-fish, wahoo and other pelagic species, support valuable recreational and commercial fisheries in many coastal regions. But studies suggest that populations of big ocean fish, including bluefin and bigeye tuna, swordfish, the marlins and many oceanic sharks, may have declined as much as 90 percent over the last 50 years. Efforts to restore them have been hindered in large part due to the continued use of non-selective fishing gears and methods used to target these fish commercially, including pelagic drift nets.

Some would contend that it is how many fish you catch, not how you catch them, that's important to sustaining fish populations. But this misconception ignores a half-century of evidence to the contrary. Our collective experience with non-selective fishing gears is this:

- Excessive bycatch and waste, resulting in one-quarter of the global catch being discarded as unwanted, prohibited or protected species;
- An inability to effectively control fishing mortality for any single species in a fishery that opportunistically targets and catches multiple species;
- Destructive impacts on marine life and the ability of fishermen and coastal fishing communities to survive, much less thrive; and,

- Disproportionate management and regulatory costs imposed on taxpayers and regional economies.

Best fishing practices for conserving and managing big ocean fish require transitioning fisheries away from the large-scale use of indiscriminate, ecologically-harmful fishing gears to more selective, sustainable fishing methods that provide an economically-feasible, low-bycatch alternative. Fortunately, those alternative methods exist.

Untangling the Swordfish Drift Net Fishery

In the early 1980s, California's swordfish fishery transformed from primarily a harpoon fishery to a drift gillnet fishery. The drift net fishery sets invisible nets, fifty yards deep and up to a mile long that ensnare valuable swordfish, but also sea turtles and a whole lot more. The fishery targeted swordfish and thresher shark as far north as the Columbia River, and in 1985, the landings of swordfish soared to a historical high of 2,198 metric tons. In the past thirty years, the drift net fishery has been subject to a number of seasonal closures. It is revealing of the unmanageable nature of drift netting that the most effective regulations implemented are time-area closures; that is, taking the gear out of the water where and when it is doing the most harm.

In 2001, the National Marine Fisheries Service designated federal waters off Oregon and Northern California a Pacific Leatherback Conservation Area (PLCA), where drift netting is prohibited from late summer through the fall to protect critically endangered leatherback turtles that migrate to the coast seasonally to feed on jellyfish. Since then, Oregon and Washington have prohibited swordfish and thresher shark drift net fishing. While bycatch of some species has been substantially reduced, it has come at considerable cost (measured in time, money, and lost fishing opportunities) and a number of serious bycatch threats remain, most notably to marine mammals, sharks and tuna.

The seasonal closures, however, merely underscore the fact that there is no regulatory fix for drift net bycatch, aside from strictly limiting or prohibiting the gear. The PLCA restrictions effectively reduced the observed mortality of leatherback turtles from 112 in ten years to two in the past thirteen seasons. But observer coverage remains low. Just 20 percent of driftnet sets are observed, and the overall bycatch of non-target species and marine mammals remains significant. For example, according to observer reports for 2001 and 2014, for every swordfish or thresher shark landed, five other fish including sharks and tuna were caught. During the same time, driftnets snared one marine mammal or turtle for every 30 swordfish. Despite this, the Pacific Fishery Management Council is looking at proposals to expand the use of drift entanglement nets off the west coast. They propose to close the PLCA later in the year, open it sooner, shrink it in size or all-of-the-above.

Clearly, the major problem with drift nets is that they are mile-long curtains of death. Fishermen set them to "soak" overnight. The longer the nets stay in the water, the greater the bycatch and the higher the probability that bycatch will be hauled in dead. Shorter nets and set-times might diminish the lethal impact of drift nets, just as seasonal restrictions off of California reduced bycatch, but this also reduces fishing effort and moves us further away from ocean drift-netting, which is where we should be going. Alternatives to drift nets – namely, swordfish buoy-gear – developed, not surprisingly, by commercial fishermen in areas where drift nets and pelagic longlines have been prohibited, are economically viable and environmentally sustainable.

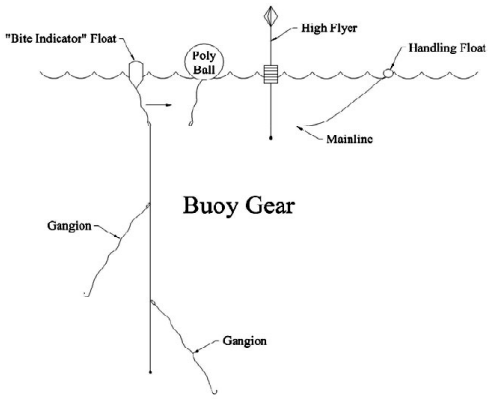
Safe, Sustainable Fishing for Large Ocean Fish

Take a picture of this...

A big striped marlin, feeding on the edge of the continental shelf, chases a bait ball of sardine. The frenzy blinds the marlin to the mile-long drift net, one of hundreds lying ahead. The net - set by a commercial drift net boat plying the blue waters of the Pacific Ocean – is meant for a swordfish or thresher shark. But the hungry marlin doesn't know that. Neither does the loggerhead turtle, dolphin and innumerable other ocean creatures, many prohibited or endangered species, that make up the unwanted "bycatch" of drift netting. The marlin chases the bait ball and gets entangled. She runs, she dives, but she's caught. And she won't be cut loose for hours, when the vessel's crew hauls back the drift net. By then it's too late, the fish is dead. Chalk it up as collateral damage, part of the cost of doing business with drift nets.

Now imagine…

The same commercial fishermen quit drift net fishing for a new way of catching swordfish. They set a very short mainline with one or two branch lines descending, attached to a buoy. There may be a dozen such "buoy-gears" set, with no more than 2 hooks per buoy. The fishermen actively tend the gear so they can retrieve it as soon as the buoy signals that the bait's been taken. Over 90% of what they catch is swordfish. If a juvenile sword or a non-target species is hooked, it can be released soon after, alive. But striped marlin, turtles, marine mammals, bluefin tuna and other vulnerable species are rarely if ever caught.



The gear is called **swordfish buoy-gear**, and it was developed by commercial fishermen on the east coast of Florida after longlines were banned there over a decade ago. It's now being tried all around the U.S. coast and overseas, where the U.S. government is promoting its use by developing countries.

The future belongs to safer, more selective, more sustainable fishing methods that are not only friendly to the environment, but friendlier to fishermen and fishing communities, too. Actively fished gears like buoy-gear provide fresher, higher quality swordfish, too. (Florida fishermen are working with retail chains, like Whole Foods, to get higher prices for their "sustainable" product.) Fishermen want efficiency? Catch rates with buoy-gear come in at 300+ swordfish per 1,000 hooks.

Summary

The use of pelagic drift nets should not be an option for sustainable commercial fisheries because of the irresolvable bycatch problems associated with this indiscriminate gear. The only ones who think drift nets can be sustainable are too narrowly focused on maximizing catches of swordfish and shark, without regard for the impact on other species.

Managing large-scale, indiscriminate gears like drift nets is extremely complicated and costly, from an economic as well as an environmental standpoint. Trying to conserve and protect swordfish, marlin, sharks, tunas, dolphin-fish, turtles, marine mammals and sea birds – targeting some, trying to avoid others; species in varying conditions from abundant to endangered and everything in between; with very different management goals and regulations for each – is the fisheries management equivalent of playing *Wack-a-Mole*.

Fortunately, there are economically-viable alternatives. Best fishing practices can support small-scale, high-yield, locally-supplied fisheries, commercial as well as recreational, using the latest technological developments in sustainable fishing. It is part of a progressive shift away from so-called modern, "efficient" methods of fishing that are wasteful and ultimately unmanageable.

Fishermen want to fish, consumers want local, fresh seafood caught in an environmentally-responsible way. Safe, sustainable fishing for big ocean fish is a win-win for everyone.

*This briefing paper was prepared by **Wild Oceans**, , an independent non-profit group of anglers dedicated to protecting the ocean's top predators – the billfish, tunas, swordfish, and sharks – while preserving healthy ocean food webs and critical habitats essential to the survival of all fish, marine mammals, sea turtles and seabirds.*

Swordfish & Common Thresher Fishery Drift Net Sets, 2001-2014

fishing years	*2001-2014*
observed sets	*2,562*
swordfish caught	*5,265*
common thresher shark caught	*2,229*
striped marlin, blue marlin and other billfish caught	*121*
mola (sunfish) caught	*22,809*
shark caught (including longfin mako, shortfin mako, blue, basking, smooth hammerhead & hammerhead)	*6,114*
marine mammals caught	*242*
percent of total sets observed	*20 percent*

National Oceanic Atmospheric Administration (NOAA), West Coast Observer Program data for 2001-2014.