



Dear Ms. Lowman,

The Deadly Driftnet Fishery for swordfish is operating in violation of conservation laws protecting marine mammals. Driftnets have been banned on the High Seas and along most of the U.S. West Coast because of high bycatch of marine life including endangered whales, dolphins, sea turtles, shark, tuna and other non-target fish.

I urge you to begin to phase out the fishery along our coast and instead to support sustainable fishing practices that don't compromise the health of endangered species, sperm whales, fisheries and our oceans.

Sincerely,



NJR

Loggerhead sea turtles are caught and killed in the CA driftnet fishery.



www.seaturtles.org



Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

As of the supplement public comment deadline for the September Council meeting, September 2, 2015, 115 of these postcards were received.



September 2, 2015

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
70 NE Ambassador Place, Suite 101
Portland, OR 97220

via email: pfmtc.comments@noaa.gov

Re: Agenda Item G.2 – Swordfish Management Plan and Hard Caps FPA

Dear Chair Lowman and Council Members:

Wild Oceans represents anglers dedicated to protecting the ocean's top predators – the billfish, tunas, swordfish and sharks – while preserving healthy ocean ecosystems. We support commercial innovation and commercial fisheries that are highly selective, using gear that captures a high percentage of target species with little impact on the surrounding environment.

Albert Einstein wrote, "*A clever person solves a problem. A wise person avoids it.*" We support the Council's proposed action, to implement hard caps to reduce bycatch in the drift gillnet fishery, as an **intermediate step** in a more holistic plan to transition the West Coast swordfish fishery away from drift gillnets to a more economically and ecologically viable fishery. Up until now, we have tried to be clever, addressing bycatch problems in a piecemeal manner, with gear modifications, pingers and time and area closures. It doesn't work. We are long overdue for a wise solution, one that avoids bycatch in the first place by adopting selective gear.

To this end, we urge the Council to prioritize the authorization of deep set buoy gear as an allowable gear in the Highly Migratory Species Fishery Management Plan. **In the interim, as part of the Swordfish Management and Monitoring Plan, the Council should adopt hard caps on the number of**

high priority protected species entangled in the drift gillnet fishery, require 100 percent at-sea monitoring, and adopt bycatch performance standards for finfish and vulnerable species.

When considering the hard cap alternatives, it is important to select cap levels different from the status quo – a decision that will change behavior on the water and reduce bycatch from current levels. In order to fulfill the Council’s commitment to reduce bycatch in the driftnet fishery, we recommend the following:

1. Adopt a suite of performance standards to minimize finfish bycatch.

In March 2015, the Council tasked the Highly Migratory Species Management Team (HMSMT) with providing data on finfish bycatch during the past 5 seasons. The data reveal that the fishery discarded more than 53 percent of its catch¹ including blue shark, striped marlin and common mola. The Council should select a suite of standards and monitor the bycatch against these standards to provide an annual assessment of overall finfish bycatch, as outlined in Alternative 1, and a review of species bycatch presented in Alternative 3.

The Council should identify a list of target and non-target finfish in the fishery and outline management measures that should be taken if finfish bycatch levels remain at recent levels or increase.

2. Adopt annual hard caps on high priority protected species interactions.

In June 2014, the Council enumerated a set of policy objectives, including the reduction of bycatch of high priority protected species, through the use of hard caps. In order to achieve this goal, we support Alternative 5 that sets hard caps on species *interactions* at either 1 per year or below the level observed in the past 13 fishing seasons.

We also support the use of an annual hard cap as opposed to a two-year hard cap. Because the drift gillnet fleet composition changes annually, an annual cap is necessary to hold the current fleet accountable. As the HMSMT reported, “there is a possibility that at the end of each two-year period, the incentive to avoid risky fishing behavior would be reduced as a closure would only be in effect until the beginning of the next season.”²

3. Adopt 100 percent monitoring on the drift net fishery.

To truly understand the full scope of the bycatch in the drift gillnet fishery, including rare events, requires 100 percent at-sea observer coverage. We

¹ Supp. HMSMT Report, June 2015, Agenda Item E.3.a, Table 4 & 5, p. 3-4.

² Id. at Table 2, p.2.

support the use of electronic monitoring as a supplement to at-sea observers. However, until the effectiveness and accuracy of electronic monitoring is proven, we recommend 100 percent at-sea coverage of drift gillnet trips, with increased observer costs paid by the fishery, not by the taxpayer.

The Council's preliminary preferred alternative addresses the problem of the "unobservable" vessel. We agree that any vessel which is "unobservable" or unable to carry electronic monitoring should be prohibited from the fishery. These vessels tend to fish closer to shore, and may interact with a different composition of bycatch species than larger offshore vessels. However, we ask the Council to close this loophole now instead of waiting until 2018.

There is a national and global movement to eliminate the ecological damage caused by drift gillnets by removing the gear and adopting greener alternatives. It's time to catch up and to adopt this wiser approach.

Sincerely,

A handwritten signature in black ink, appearing to read "Theresa Labriola". The signature is fluid and cursive, with a long, sweeping tail on the final letter.

Theresa Labriola
West Coast Fisheries Project Director



Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, Oregon 97220

September 1, 2015

RE: Agenda Item G.2 – Swordfish Management Plan and Hard Caps FPA

Dear Chair Lowman and Council Members:

I write to you on behalf of the Monterey Bay chapter of the American Cetacean Society, a nonprofit organization dedicated to the conservation of whale, dolphin and porpoise populations. Many species of whales have struggled to regain their pre-whaling numbers and range, but have made progress with the implementation of federal laws to protect them. They are among the most culturally adored sea creatures around the world, and we must continue treating these magnificent animals with a reverence that necessitates thoughtful planning and intelligent policymaking.

As an ardent supporter of our coastal waters, it is difficult to reconcile California's admirably progressive stance on environmental sustainability with its continued use of drift gillnets. Incidental bycatch of other marine animals in drift nets set for swordfish averages about 60% of the take. It is difficult to accept that at least 6 out of 10 animals caught are incidental take, which includes cetaceans and endangered leatherback turtles. This type of gear is indiscriminate, killing more marine mammals than all other fisheries along the west coast combined.

We strongly encourage you to continue reforming the California fishing industry by developing a Swordfish Management and Monitoring Plan that includes a transition away from DGN gear to more selective and actively monitored methods. We also ask that the Council form a strong timeline and schedule for authorizing deep-set buoy gear (DSBG) as part of the Highly Migratory Species (HMS) Fishery Management Plan (FMP).

We all share responsibility in protecting our natural resources, including the marine life that defines the culture and beauty of California's coastal regions. We are confident that you can solidify these action plans and continue to ensure the sustainable management of our fisheries.

Thank you for your dedication to keeping the Pacific Ocean healthy and plentiful for many years to come.

Respectfully,

A handwritten signature in black ink that reads "Diane Glim". The signature is written in a cursive, flowing style.

Diane Glim
American Cetacean Society, Board of Directors
1301 Buena Vista Avenue
Pacific Grove, California 93950
acsonline.org
acsmb.org
vivavaquita.org

Cc:
Jerry Brown, Governor of California
John Laird, California Secretary for Natural Resources

September 2, 2015

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

RE: Agenda Item G.2 –Drift Gillnet Hard Caps and Swordfish Management and Monitoring Plan

Dear Chair Lowman and Council Members:

Thank you for your continued work to develop management measures that limit and reduce bycatch in the California-based drift gillnet swordfish fishery and to develop a swordfish management plan that may ultimately lead to a clean and sustainable West Coast swordfish fishery. As we have stated in the past, drift gillnets are an inherently unselective gear type and we request that the Council prohibit this gear in the Highly Migratory Species (HMS) Fishery Management Plan (FMP) and authorize deep-set buoy gear as an alternative. In order to make the swordfish drift gillnet fishery less damaging to the marine ecosystem, we request you take the following actions under this agenda item:

1. Adopt hard cap Alternative 5 (the California Department of Fish and Wildlife Preliminary Preferred Alternative) with one-year (annual) hard caps on nine species of sea turtles and marine mammals.
2. Adopt Monitoring Alternative 3 (the CDFW and Council PPA) as described in the preliminary draft Environmental Assessment for this action, with immediate removal of the “unobservable” exemption and a minimum 30% observer coverage requirement until 100% monitoring is implemented.¹
3. Adopt an overall discard rate performance objective, plus individual performance objectives for identified marine mammals and finfish, as described in the preliminary analysis for Council bycatch performance metrics,² with modifications described in this letter.
4. Further develop the Pacific Coast Swordfish Fishery Management and Monitoring Plan so that it describes a transition plan that permanently phases out the use of drift gillnets,

¹ PFMC Agenda Item G.2.a National Marine Fisheries Service Report 1. Preliminary Draft Environmental Assessment. Drift Gillnet Hard Caps and Monitoring Alternatives. September 2015.

² PFMC Agenda Item G.2.a National Marine Fisheries Service Report 1. Preliminary Analysis of Options for Council Bycatch Performance Metrics for the U.S. West Coast Large-Mesh Drift Gillnet Fishery.

authorizes deep-set buoy gear, and transfers existing drift gillnet permit holders to a limited entry deep-set buoy gear permit program.

I. Bycatch in the Drift Gillnet Swordfish Fishery is Unacceptable and the Council and NMFS have the ongoing responsibility to minimize bycatch.

Under the Magnuson Stevens Fishery Conservation and Management Act, the Council and National Marine Fisheries Service have an ongoing responsibility to minimize and avoid bycatch.³ As stated in the NOAA National Bycatch Report:

Ensuring the sustainability of marine resources for future generations is the primary mission of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS). Reducing the unintentional capture, or bycatch, of fish, marine mammals, sea turtles, and seabirds is an essential part of this goal and is required under NMFS' guiding legislation.⁴

Similarly, the California Department of Fish and Wildlife, in detailing its Preliminary Preferred Alternative, stated

CDFW feels strongly that minimization of bycatch of finfish and sea turtles and incidental catches of marine mammals can and should improve and that management measures are implemented in a timely manner.⁵

Bycatch is a major unresolved problem in the drift gillnet swordfish fishery. Fishery data collected by onboard observers over the past ten years indicates that the drift gillnet fishery discarded 64% of all animals caught.⁶ For every swordfish landed – the primary target of this fishery – five other animals are discarded. Observers have recorded at least 62 different species killed in this gear, including rare basking sharks and endangered species like leatherback sea turtles, loggerhead sea turtles and sperm whales. Based on NOAA national bycatch reports and regional marine mammal stock assessments, this drift gillnet fishery kills far more cetaceans (7-fold) than all other U.S. West Coast and Alaska fisheries combined. With over 80% of drift gillnet sets unobserved, on average, observer coverage remains insufficient to document the catch of rare and endangered species. What is more, nearly 30% of the fleet is never observed, so it is likely that additional species of concern have been caught.

The California drift gillnet swordfish fishery is the only Category I fishery on the U.S. West Coast as defined by the Marine Mammal Protection Act (MMPA) due to frequent interactions with marine mammals. The MMPA mandates that commercial fisheries “reduce incidental mortality and

³ Magnuson Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1853(a)(11).

⁴ National Marine Fisheries Service. 2011. U.S. National Bycatch Report [W. A. Karp, L. L. Desfosse, S. G. Brooke, Editors]. U.S. Dep. Commer., NOAA Tech. Memo. NMFS-F/SPO-117E, 508 p.

⁵ PFMC Agenda Item H.4.b Supplemental CDFW Report. March 2015

⁶ National Oceanic Atmospheric Administration (NOAA) Observer Program, total discard rate (number of animals) from May 2007 to January 2013.

http://www.westcoast.fisheries.noaa.gov/fisheries/wc_observer_programs/sw_observer_program_info/data_summ_report_sw_observer_fish.html (last accessed 21 March 2014).

serious injury of marine mammals to insignificant levels approaching a zero mortality and serious injury rate.”⁷

It is our view that the Pacific Offshore Cetacean Take Reduction Team (TRT) has failed to meet this mandate. The TRT incorrectly interprets Potential Biological Removal in the MMPA by conflating it with an appropriate catch target. The TRT’s reluctance to issue recommendations to further reduce bycatch, while recommending the removal of sperm whale protections and opposing Council action to further reduce bycatch, is evidence that the TRT is not effectively addressing bycatch reduction and has no plans to achieve the Zero Mortality Rate Goal as required by the Marine Mammal Protection Act. Despite the implementation of take reduction measures including acoustic pingers and net extenders in 1997, little has been accomplished by this team since then to reduce bycatch. While these measures helped reduce bycatch rates of a select group of marine mammals, over 2,000 marine mammals have nevertheless been entangled (the vast majority are killed) by the drift gillnet swordfish fishery since these gear modifications have been in use.⁸

Figure 1. A sperm whale (left, 2010) and a short-beaked common dolphin (right, 2011) killed by California drift gillnets targeting swordfish. Photos: NOAA.



Further, we remind you that members of the California legislature, U.S. Congress, tens of thousands of members of the public, and many other non-governmental organizations have written the Council and NMFS in support of a transition away from drift gillnets to more environmentally friendly gear types. In a letter to the Council and NMFS, 17 members of Congress wrote to support such a transition and outlined the requirements of the MSA to minimize and avoid bycatch, stating that current drift gillnet bycatch reduction measures “do not go far enough” and that “enforceable bycatch limits are imperative.”⁹

⁷ 16 U.S.C § 1387(b)(1).

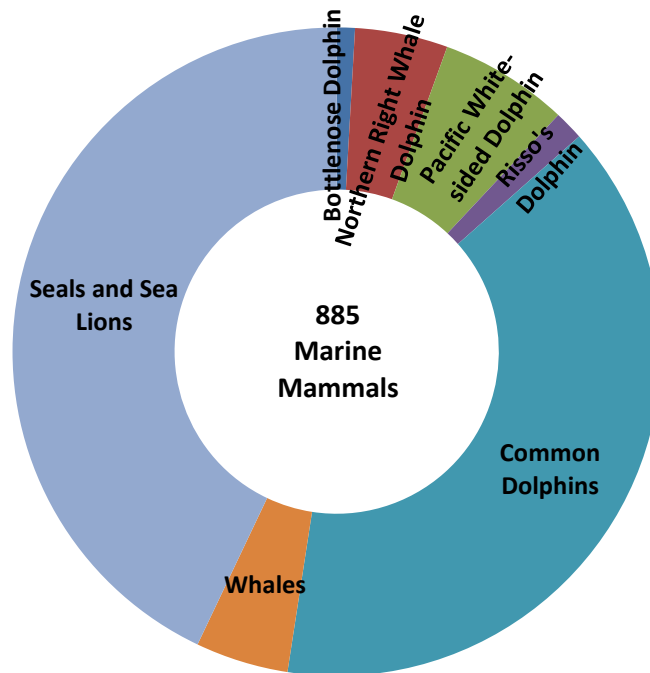
⁸ National Oceanic Atmospheric Administration (NOAA) Observer Program. And, Carretta, J.V., T. Price, D. Petersen, and R. Read. 2004. Estimates of Marine Mammal, Sea Turtle, and Seabird Mortality in the California Drift Gillnet Fishery for Swordfish and Thresher Shark, 1996-2002. *Marine Fisheries Review* 66(2) 21:30.

⁹ Representatives Sam Farr (CA), Jared Huffman (CA), Doris O. Matsui (CA), Lucille Roybal-Allard (CA), Michael M. Honda (CA), Mike Thompson (CA), Jerry McNerney (CA), Grace F. Napolitano (CA), Zoe Lofgren (CA), Mark DeSaulnier (CA), Alan Lowenthal (CA), Adam Schiff (CA), Anna Eshoo (CA), Barbara Lee (CA), John Garamendi (CA), Earl Blumenauer (OR), and Jim McDermott (WA). February 27, 2015. Letter to the PFMC and NMFS, at PFMC Agenda Item H.4.c, Supplemental Public Comment, March 2015.

Figure 2. A gray whale (left, 2013) and short-finned pilot whale (right, 2000) killed by California drift gillnets. An estimated 3 gray whales and 6 short-finned pilot whales were killed in the drift gillnet fishery in the 2013-2014 season. Photos: NOAA.



Figure 3. Estimated marine mammal takes in the drift gillnet swordfish fishery 2004/05 to 2013/14 fishing seasons (data from NOAA West Coast observer program).



II. Adopt Hard Cap Alternative 5 - the California Department of Fish and Wildlife Preliminary Preferred Alternative for protected species hard caps.

We reviewed the CDFW PPA and we support this alternative for protected species hard caps as an interim step leading up to the prohibition of this gear type in the HMS FMP. This alternative is clear, it is well thought out, and it is the only alternative that effectively limits and reduces bycatch in the drift gillnet fishery below currently expected levels. We again note that under the MSA, the Council has both the discretion and a mandate to minimize bycatch beyond the

biological limits established in the ESA or MMPA and it is ultimately the Council’s responsibility to minimize and avoid bycatch and manage for clean, sustainable fisheries.

The caps, based on entanglements rather than serious injury or mortality, will be more easily and rapidly enforced if reached, and eliminate the implementation concerns raised by NMFS. Importantly, these caps will act as a strong incentive to avoid and reduce bycatch, and should be expected to foster changes in fishing behavior to further reduce the risks of interaction with hard cap species. The preliminary draft EA indicates that looking back, the fishery would have closed early seven out of the past thirteen years under these caps. This assumes, however, no change in fishing behavior or effort, and the analysis is premised on higher levels of fishing effort than have occurred in the last few years. Therefore, the actual risk of the fishery shutting down early is lower given currently expected levels of fishing effort. Furthermore, an underlying premise of applying hard caps in lieu of an immediate ban on drift gillnets, is that it puts the responsibility on fishermen to either clean up their gear or switch to cleaner gears. If the hard caps just maintain status quo bycatch, there is no incentive to fish cleaner.

Annual hard caps of one observed entanglement are fully justified for this group of species, based not only on currently expected take, but the dire population status of these species. Pacific leatherback sea turtles, for example, are on a trajectory for extirpation within decades if current trends continue. New research recently presented by NMFS Scientist Jeff Moore, to the HMSMT (and currently slated for publication in a peer-reviewed journal), indicated that for the goal of recovery of the western Pacific population of leatherback sea turtles, the population can sustain only one mortality over a five year period within the U.S. West Coast EEZ.

Alternative 5, with annual caps, is clearly the strongest of the alternatives being considered and the only alternative that would be expected to meaningfully reduce bycatch. Having strong hard caps that limit the take of sensitive and endangered species is the best incentive for changing fishing behavior to avoid these takes in the first place.

Table 1. Oceana supports adoption of hard cap Alternative 5 (CDFW Preferred Alternative) – annual hard caps (“Entanglement Caps”) for high priority species of concern.

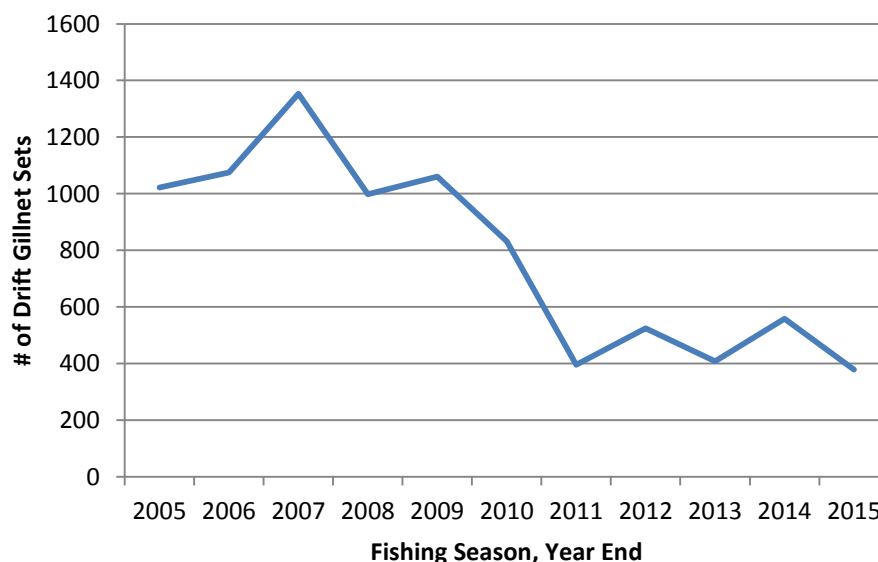
Species	Observed Entanglement Cap*	Estimated Annual Take**
Fin whale	1	1
Humpback whale	1	2
Sperm whale	1	2
Leatherback sea turtle	1	3
Loggerhead sea turtle	1	3
Olive ridley sea turtle	1	1
Green sea turtle	1	1
Short-fin pilot whale	2	4.6 (PBR)
Common bottlenose dolphin	2	5.5 (PBR)

*The observed entanglement cap is calculated as a product of estimated annual take by 0.3 and then rounded up to the nearest whole animal.

*** The estimated annual take is the expected annual entanglements as determined in the incidental take statement of the 2013 drift gillnet biological opinion¹⁰ except for short-fin pilot whales and common bottlenose dolphins which are informed by potential biological removal levels.*

We note that the expected annual takes as described in the 2013 NMFS Biological Opinion are based on the current governing framework and an estimated 1,500 sets per year. Fishing effort in recent years has ranged from as low as 379 sets to a high of 1,353 sets per year (Figure 4). If the fishery continues going forward with relatively low levels of effort, it is even more unlikely that the caps will be reached in any given year.

Figure 4. Total number of drift gillnet sets. If fishing effort remains low, it is less likely that hard caps will be reached.



III. Adopt Monitoring Alternative 3 (the CDFW and Council PPA) as described in the preliminary draft Environmental Assessment for this action but remove the unobservable fishing vessel exemption immediately.

Oceana supports adoption of Monitoring Alternative 3 in the preliminary draft EA, which as previously stated, is the Council and CDFW preliminary preferred alternative. As described in the draft EA, this alternative will require 100 percent monitoring in the drift gillnet fishery, using on-board observers and/or electronic monitoring, by 2018. The EA states that under this alternative, vessels which are unobservable or unable to carry electronic monitoring would be prohibited from fishing in DGN fishery when 100 percent monitoring is required. It was our understanding from Council direction on this point that removal of the unobservable exemption would take place immediately, and we encourage the Council to clarify that in final action. The alternative would maintain the current 30 percent observer coverage level requirement until the 100 percent monitoring requirement is implemented in 2018.

¹⁰ National Marine Fisheries Service. 2013. Biological Opinion on the continued management of the drift gillnet fishery under the U.S. West Coast HMS FMP. Expected annual entanglements, Tables 11 and 12, page 87 and 125. May 2, 2013.

One hundred percent observer coverage of this fishery is necessary for precise and accurate bycatch accounting. Any bycatch that is not observed is essentially undetectable and while it is possible to estimate the total number of takes through extrapolation, this becomes increasingly difficult for critical events, like the take of rare and endangered species. Further, it is imperative to remove the exemption for “unobservable” vessels. The draft EA states that “Four to six DGN vessels have been unobservable during each fishing season from 2011 to present.”¹¹ In these years there have been only 18 to 22 active vessels, meaning that 18 to 27% of the fleet never has an onboard observer. This amounts to a major blind spot in the management of this fishery, where there is little understanding of the bycatch of whales, dolphins, sea turtles and fishes by boats with no observers onboard.

IV. Adopt an overall bycatch rate performance objective, plus individual performance objectives for identified marine mammals and finfish.

We commend the Council for considering bycatch performance objectives as bycatch concerns with this swordfish drift gillnet fishery reach far beyond the endangered species for which hard caps are being considered. A fishery that discards over half the animals it catches is clearly not meeting Magnuson-Stevens Act National Standard 9 to minimize and avoid bycatch to the extent practicable. With respect to the performance objective alternatives, each serves as an indicator of a separate and important concern: the overall bycatch rate, species –specific finfish bycatch and non-ESA listed marine mammal bycatch. Furthermore, there is no cost to setting these standards, as they only trigger further Council review if reached or exceeded. Therefore, we recommend setting performance standards for each category by adopting a total bycatch rate objective, finfish species objectives, and non-ESA listed marine mammal objectives. However, we have some different perspectives for what those objectives should be compared to the preliminary alternatives before you,¹² so for clarity we are including our specific recommendations here.

A. Alternative 1: Total Finfish Discard Rate Based on Total Catch

The overall rate of discards as a percentage of total catch is an important and direct measure of the efficiency and selectivity of a fishery. This alternative would set an overall discard performance objective of 64% discards based on a recent ten-year average of total catch and discards, measured in number of animals. This addresses the bycatch concerns regarding the wastefulness and lack of selectivity for target species. However, a 64% discard rate is certainly not an ambitious goal, and in fact, it simply highlights how dirty this fishery is. Our recommendation is that you adopt Alternative 1, but modify it to *require that the discard rate be set initially at 50% and that it be reduced 10% each year for the next three years.*

While both Alternative 1 and 2 address the issue of overall discard rates, we support Alternative 1 as total discards are easier to monitor and more straightforward. Alternative 2 takes a similar approach, but eliminates estimated “live” discards from the calculation of the discard rate. While this reflects the primary conservation concern of discard mortality, it relies heavily on a fishery

¹¹ NMFS 2015. Preliminary draft EA, at 20

¹² PFMC Agenda Item G.2.a National Marine Fisheries Service Report 1. Preliminary Analysis of Options for Council Bycatch Performance Metrics for the U.S. West Coast Large-Mesh Drift Gillnet Fishery. Pgs 1-6.

observer’s determination of mortality. As NMFS has pointed out for marine mammals, “serious injury” determinations with management significance often take a wide suite of factors into account and may occur months after an observed event to ensure accuracy. Furthermore, without estimates of post-release mortality, the assumption that any “live” discards had zero mortality is likely to be biased. Therefore, if the Council prefers Alternative 2 over Alternative 1, the Council should take post-release mortality into account as is done for some groundfish species. Due to these complications, we urge the Council to select Alternative 1 and set performance objectives to reduce discard rates below current levels.

B. Alternative 3: Number of Discards by Finfish Species Groups

In addition to the overall discard rate, there are several species of finfish discarded as bycatch in the swordfish drift gillnet fishery that have additional management concerns. Billfish discards have been a persistent concern since drift gillnet gear was first authorized, particularly because of their population status, vulnerability and importance to recreational fishing. Several rare shark species are already prohibited species in the HMS FMP (basking, megamouth, and white sharks) due to their population status and vulnerability. We recommend these be included, and we further recommend that hammerhead sharks and manta rays (mobulids) be included as well based on their inclusion in CITES Appendix II, which indicates an international recognition of their endangered status. Furthermore, blue sharks and common molas are by far the highest discard species by number, usually greatly exceeding the number of target species caught in this fishery. These species are ecologically important and very little is known about the impacts of drift gillnet bycatch on their populations. While discards of blue sharks and molas may be distinguished based on live, dead, or unknown by observers, we urge the Council to evaluate them based on total discards (live or dead) for consistency and simplicity.

We recommend that you adopt performance objective Alternative 3 (number of discards by finfish species group) but modify the numbers to set them all under a consistent methodology based on the average total estimated levels of take in recent years. Since observer coverage may change from year to year until 100% coverage is implemented, and there is no in-season management of these standards, we recommend setting the objectives at total annual estimated take, and determine whether each is met at the end of the season by extrapolating observed take based on actual observer coverage. In reviewing the numbers presented in the preliminary analysis for bycatch performance metrics (at page 3), we found some discrepancies in how the numbers were calculated (some are based on observed take and others are based on total estimated take). Therefore, we are providing a modified set of species-specific performance objectives based on average annual total takes over the last 10 years of NMFS observer records.

Finfish Species Group	Objective based on average annual total estimated takes (live and dead) from 2004-2014.
Billfish (other than swordfish)	26
Prohibited sharks (megamouth, basking, white)	2
Hammerhead sharks	4
Manta Rays	2
Blue sharks	818
Ocean sunfish	8,463

*Rounded up to whole animals

C. Alternative 4 (Council Preliminary Preferred Alternative): Non-ESA-listed Marine Mammal Mortality & Serious Injury based on Ten-Year Observer Data

More needs to be done to limit and stop drift gillnets from killing whales and dolphins. We support the intent of Alternative 4 to establish annual performance objectives for non-ESA listed marine mammals based on mortality and serious injury (sub-option 1). However, we believe the proposed numbers are too high, as the metrics are based on the 10-year maximum observed interactions in any one season over the ten fishing seasons, 2004-2014. We believe that setting objectives based on maximum observed interactions does not provide an incentive to reduce bycatch and instead reflects the status quo. We urge the Council to modify this objective to set initial performance standards at the average total estimated take for each species, and reduce the performance standards over time.

Table 2. Oceana supports adoption of the following annual performance metrics for non-ESA listed marine mammals in Alternative 4 based on the 10-year mean total estimated take.

Species	Annual performance metric based on mean estimated take (2004-2014)
Minke whale	1
Short beaked common dolphin	28
Long beaked common dolphin	6
Risso's dolphin	2
California sea lion	37
Northern elephant seal	2
Northern right whale dolphin	5
Gray whale	1
Pacific white-sided dolphin	6

*Rounded up to whole animals

V. Further develop the Pacific Coast Swordfish Fishery Management and Monitoring Plan so that it describes a transition plan that permanently phases out the use of drift gillnets, authorizes deep-set buoy gear, and transfers drift gillnet permit holders to a limited entry deep set buoy gear permit program.

There are limits on how much an inherently unselective gear type can become selective. The current configuration of drift gillnets (200 feet deep and nearly one mile long) results in much greater mortality of the animals caught as bycatch than with actively tended gears that can be checked more frequently. A mile long 14-inch mesh gillnet placed in a global hotspot of biological diversity and density -- the California Current ecosystem -- will inevitably catch large quantities of unintended species. Even if changes to time, area, and configuration can reduce bycatch of certain species, they are likely to increase bycatch of all other species. As NMFS scientist Dr. Jim Carretta pointed out at the Take Reduction Team meeting, if you look across all species caught in this fishery, there is no place in the California Current that is not a hotspot. After 35 years of management and experimentation with drift gillnet gear, the fishery has simply failed to minimize bycatch. It is therefore unlikely that drift gillnets will ever be able to achieve acceptable bycatch levels.

The existence of fundamentally different techniques to catch swordfish, both harpoons and deep-set buoy gear (DSBG) indicates that it is possible and practicable to catch swordfish with acceptable levels of bycatch. Therefore a transition that includes a full prohibition on drift gillnets while authorizing deep-set buoy gear is ultimately a more cost effective way to minimize bycatch while maintaining a viable swordfish fishery. Energy and resources devoted to a sustainable swordfish fishery are better spent on making the known cleaner gears more economically viable, rather than on endeavors to make the drift gillnet fishery marginally better. There remains a clear need for a transition plan that includes a prohibition on drift gillnet gear combined with measures to authorize and increase the use of selective gear types.

According to NMFS observer data since 1990, the drift gillnet swordfish fishery achieved an average swordfish catch rate of 2.1 swordfish per set (ranging annually from 0.48-3.6). According to data from the Pflieger Institute of Environmental Research (PIER), DSBG is currently achieving catch rates of 0.6 to 1.75 swordfish/ day with 10 buoys, and swordfish catch rates are increasing as fishermen gain more experience with the gear.¹³ While less than 40% of catch in drift gillnet gear is retained due to the remainder being unmarketable, DSBG has achieved catch rates of 94% marketable species. Furthermore, because DSBG is actively tended and catch is retrieved ~15 minutes after being caught (rather than soaked overnight for hours in a drift gillnet), any DSBG discards would be expected to have a far lower discard mortality rate. Although this performance was achieved by researchers, it is a clear indication that this is a clean, profitable gear type for catching swordfish. The PIER data also indicates that the current configuration of DSBG could be scaled up to further increase swordfish Catch per Unit Effort, indicating the potential to develop a unique “West Coast Gear Type” for high-value swordfish that could increase West Coast landings with minimal bycatch.

Based on the comparison of swordfish catch rates and the price differential between drift gillnet caught swordfish (\$4.34/lb in 2013) and DSBG-caught swordfish (\$8.75/lb in 2014), it is possible to design a fair transition program such that drift gillnet permit holders could have the option receive a permit for what would be number of deep-set buoys with an equivalent revenue potential. We commend the Council for approving EFPs to further test DSBG, the results of which can be utilized to craft appropriate measures for DSBG authorized in the HMS FMP. We also envision the establishment of a “Transition Fund” that would provide financial assistance/compensation to drift gillnet fishermen to test and convert to deep-set buoy gear and/or voluntarily choose to exit the fishery.

Given the increasing interest in DSBG by many fishermen, we believe such a permit conversion would provide equivalent opportunities to profit from the swordfish fishery, and allow drift gillnet fishermen who wish to exit the fishery to obtain fair compensation by selling their permits. Fully exploring such transition options will foster informed decision-making by the Council, NMFS, and stakeholders on a future vision for this fishery. It may also provide a means to pursue common ground goals such as those developed at the May 2015 Swordfish Workshop. Such a gear transition could happen in a single FMP amendment that establishes a sunset on drift gillnet gear after which it is prohibited and authorizes DSBG as an allowable gear type with appropriate management measures. We believe this to be the most effective means to achieve the Council’s goal of a clean domestic swordfish fishery off the U.S. West Coast. Developing a

¹³ PIER, Exempted Fishing Permit Application for Deep-Set Buoy Gear. PFMC Agenda Item H.3. Attachment 2. March 2015

transition plan should be the top priority for the Council upon completion of this action on drift gillnet hard caps.

A. Delete the objective on page 5 of the draft West Coast swordfish plan to “allow access to the Pacific Leatherback Conservation Area (PLCA).”

We strongly oppose allowing drift gillnets into the Pacific Leatherback Conservation Area (PLCA). We request that you delete this objective¹⁴ and halt the Council approved EFP that would allow two drift gillnet vessels to fish inside the PLCA. The PLCA has been working to reduce and avoid the bycatch of endangered leatherback sea turtles. The PLCA is a critical conservation area that protects leatherback foraging hotspots and migratory corridors for Pacific leatherback sea turtles. It would be irresponsible and dangerous to the conservation of these sea turtles to open the PLCA to drift gillnets.

We remind the PFMC of the scientific paper submitted in the March 2013 supplemental briefing book highlighting the ongoing long-term decline of the western leatherback sea turtle population. In a peer-reviewed scientific publication the authors:

“found a 29% decline in nesting at Jamursba Medi and a 52% decline at Wermon from 2005 through 2011. We found that the estimated annual number of nests at Jamursba Medi has declined 78.3% over the past 27 years (5.5% annual rate of decline) from 14,522 in 1984 to 1,596 in 2011.”¹⁵

A new IUCN Red List assessment of leatherback sea turtles estimates that as few as 1,438 mature adult leatherback sea turtles remain in the western Pacific population, and the IUCN predicts a 96 percent total population decline by 2040.¹⁶ Further, it names fisheries bycatch as one of the biggest threats to leatherbacks regionally and globally, offering further support for reducing the threat of interactions in U.S. managed fisheries. What is more, NMFS recently highlighted the Pacific leatherback sea turtle as one of the “species in the spotlight,” which includes eight species “among the most at risk of extinction in the near future.”¹⁷ Continued declines at current rates will jeopardize the leatherback’s existence; therefore we do not support the introduction of an additional mortality risk in the turtle’s key migratory and foraging habitat off the West Coast.¹⁸

Conclusion

Moving forward, we encourage the Council to return to the previously stated goal to transition “the current drift gillnet fishery to a fishery utilizing a suite of more environmentally and

¹⁴ PFMC September 2015. Agenda Item G.2. Attachment 1, at 5.

¹⁵ Tapilatu, R. F., P. H. Dutton, M. Tiwari, T. Wibbels, H. V. Ferdinandus, W. G. Iwanggin, and B. H. Nugroho. 2013. Long-term decline of the western Pacific leatherback, *Dermochelys coriacea*: a globally important sea turtle population. *Ecosphere* 4(2):25. <http://dx.doi.org/10.1890/ES12-00348.1>.

¹⁶ Tiwari, M., Wallace, B.P. & Girondot, M. 2013. *Dermochelys coriacea* (West Pacific Ocean subpopulation). The IUCN Red List of Threatened Species. Version 2015.2. <www.iucnredlist.org>. Downloaded on 12 August 2015.

¹⁷ http://www.nmfs.noaa.gov/stories/2015/05/05_14_15species_in_the_spotlight.html

¹⁸ Benson, S. R., T. Eguchi, D. G. Foley, K. A. Forney, H. Bailey, C. Hitipeuw, B. P. Samber, R. F. Tapilatu, V. Rei, P. Ramohia, J. Pita, and P. H. Dutton. 2011. Large-scale movements and high-use areas of western Pacific leatherback turtles, *Dermochelys coriacea*. *Ecosphere* 2(7):art84. doi:10.1890/ES11-00053.1

economically sustainable gear types.”¹⁹ Swordfish can be harvested profitably, with low to zero bycatch, using existing harpoon and deep-set buoy gear²⁰ once authorized. In this time of precautionary and ecosystem-based approaches to management, we urge the Council to phase out and close the drift gillnet fishery and in the meantime, please adopt the hard caps, performance standards and observer coverage requirements as presented in this letter.

Thank you for your time and consideration of these comments.

Sincerely,



Ben Enticknap
Pacific Campaign Manager

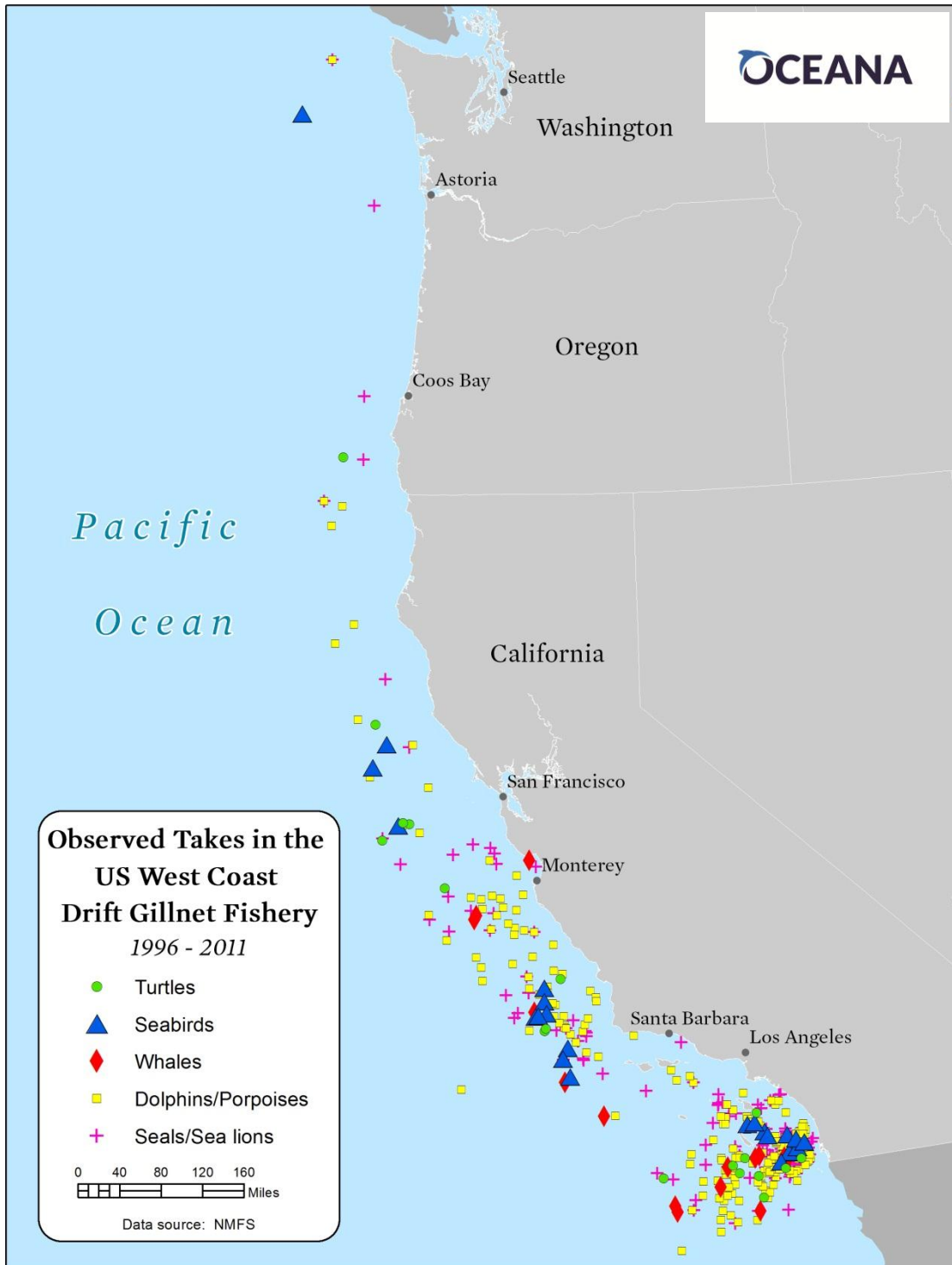


Geoffrey G. Shester, Ph.D.
California Campaign Director

Attached: Figure of the location of protected marine life observed taken in the U.S. West Coast drift gillnet fishery.

¹⁹ PFMC March 2014 decision document. <http://www.pcouncil.org/wp-content/uploads/0314decisions.pdf>

²⁰ C.A Sepulveda, S. A. Aalbers, and C. Heberer. 2014. Testing Modified Deep-Set Buoy Gear to Minimize Bycatch and Increase Swordfish Selectivity. NOAA Bycatch Reduction Engineering Program 1(27-32). http://www.nmfs.noaa.gov/by_catch/docs/brep_2014_sepulveda.pdf



An interactive version of this map is available at:
http://usa.oceana.org/our-campaigns/drift_gillnets/campaign

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August 24, 2015

Dorothy Lowman, Chair Pacific Fishery Management Council

7700 NE Ambassador Place, Suite 101

Portland, OR 97220

RE: Agenda item G.2 – Swordfish Drift Gillnet Management including Final Action on Hard Caps

Dear Chair Lowman and Council Members,

We are the Coastal Conservation Association of California. The purpose of CCA-CAL is to advise and educate the public on conservation of marine resources. Our objective is to conserve, promote, and enhance the present and future availability of our coastal resources for the benefit and enjoyment of the general public. In the short time we've been around, we already have about 1,500 members in Southern California and are growing. In the 38 years that our National organization has been around, it has grown to 215 local chapters and over 100,000 members in 18 states.

We would like to go on record with the following position from our members and sponsors:

“Until there is sufficient scientific evidence that longlines and drift gill nets are not destructive, CCA-CAL opposes their use. CCA-CAL favors the use of more selective gear, like hook and line, harpoons and buoy gear and will continue to work with National Marine Fisheries Service (NMFS) and the Pacific Fishery Management Council (PFMC) to reduce unnecessary bycatch.”

Our Board of Directors alone are representing the following companies: AFTCO International, Shimano American Corporation, The Fred Hall Shows, BD Outdoors, Wavewalker Charters, Hook Line & Sinker, Cousins Tackle, Davis Boats, Catalina OffShore Products, Let's Talk Hookup, Pure Fishing, Melton Tackle, Saba Slayer Guide Service, and Izorline International.

We look forward to working with the council and committees to protect and enhance our coastal fisheries here in California.

Sincerely,

Wayne Kotow

Executive Director – CCA-CAL

Comparative Analysis of Shallow-Set Longlines and Deep-Set Buoy Gear as a Potential Replacement for Drift Gill Nets in California

Celia Flores

Co-authors: Tiffany Portulano, Lauren Boswell,
Adzan Adlan, Haley Murray, and Dannah Rosales

Acknowledgements:

We would like to thank Donald Croll for his inspiration in creating the analysis and spending valuable time editing it. Secondly, we would like to thank Geoff Shester for his advance and review of the document.

Abstract:

The California drift gill net fishery targeting swordfish is considered to be problematic due to its high rate of bycatch of protected and charismatic species as well as high discard rates. This unintentional catch of non-target species is not only harmful to the impacted species, but also has the potential to negatively impact the sustainability of the fishery to fishermen. A logical solution to these issues is the replacement of the drift gill nets currently in use cleaner fishing gears. Shallow-set longlines and deep-set buoy gear that have been proposed as alternative gears to reduce bycatch while maintaining a profitable swordfish fishery along the California coast. We analyzed recent observer data from Hawaii shallow-set long line fisheries, Atlantic deep-set buoy gear fisheries and California deep-set buoy gear trials to compare the effectiveness of these two gear types with statistics from the current drift gill net fishery. Drift gillnets have discard rates of 63%, while shallow-set longlines have discard rates of 37%. Buoy gear discard rates varied from 10% to 51% in Atlantic and California trials, respectively. Unfortunately, shallow-set longline non-target catch includes several species of concern which would increase bycatch problems on the U.S. west coast, making it problematic as a replacement for drift gillnets. However, since the deep-set buoy gear fisheries have much lower bycatch rates than shallow-set longline gear and swordfish catch rates are achieving profitable levels, we recommend it as the best alternative for drift gill nets for the California swordfish fishery.

Background:

This composition started as an undergraduate research project as part of a Marine Conservation Biology class at the University of California, Santa Cruz. The goal of the project was for students to research a current and real-world marine-related environmental issue, develop a proposed set of potential solutions, and directly apply the solutions in an effort to mitigate conservation impacts. Our group used publicly available data to examine the current impacts of the established swordfish drift gill net fishery in the California, and develop potential data-driven solutions to decrease bycatch. First, we assessed current bycatch rates using the established gear (drift gill nets) and techniques. This analysis demonstrated problematic bycatch rates, particularly of rare, sensitive, iconic, and protected species, including US federally endangered species. We then examined bycatch rates for two other potential replacement gear types: shallow-set longlines (SSL), currently deployed off Hawaii and deep-set buoy gear (DSBG), deployed commercially in the U.S. Atlantic as well as experimentally off California. Data for the report is composed of data from readily available public information from NOAA and NMFS. The goal of our comparative analysis is to provide: 1) data-based information on

bycatch rates of current gear and potential alternatives, and 2) specific recommendations for more sustainable alternatives to drift gill nets.

Introduction:

Swordfish are highly migratory, predatory fish. They reach up to approximately 15 feet in length and are widely found in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans from near the surface to about 600 meters. They are generally found in pelagic waters of high productivity, consuming squid, octopus, bluefish, and mackerel. Swordfish mature at 5-6 years of age, and are estimated to live about 9 years. In the U.S., they are targeted in fisheries operating off California, Florida, Hawaii, and the western North Atlantic.

In California, swordfish are targeted using drift gillnets and, to a smaller degree, harpoons. Despite efforts to reduce bycatch with drift gillnet fisheries, it continues to have relatively high bycatch of non-targeted species, including iconic game fish, ecologically important species, protected species, rare species, and vulnerable species. According to the National Marine Fisheries Service Observer Program from 2006-2013, the California drift gillnet fishery discarded 63% of its catch, by number of individuals, with approximately 15% of total sets observed. Gear selectivity of targeted swordfish was low, with only 13% of the observed catch being retained swordfish. Discarded catch included several protected marine mammal species (various species of dolphins, whales and pinnipeds), protected marine birds (albatross, fulmar, shearwater) and different species of sea turtles. About 98% of the bycaught individuals were dead when discarded.

Shallow-set longlines and deep-set buoy gears have been proposed as alternatives to drift gill nets, and the Pacific Fishery Management Council is currently exploring these methods. Shallow-set longlines consist of one main line, which extends parallel to the surface of the water with many hooks hanging from it in a relatively shallow region of the water column. There are fisheries observer data from a Hawaiian swordfish fishery using this gear since 2007. Deep-set buoy gear has been suggested as another alternative to reduce bycatch in the swordfish fishery. It is currently being used to target swordfish on the East coast of Florida, and has been increasingly used since a longline fishing ban was established in 2001. In recent years, modifications of this approach have been examined in experimental fisheries off Southern California as a replacement for the drift gill nets. The deep-set buoy gear is comprised of a main longline that branches at the bottom to two other smaller lines with hooks (Figure 1). The buoys float at the surface while the lines quickly sink to the appropriate depth. The gear is constantly monitored and pulled when a bite is indicated by movement of the floats. The Florida swordfish fisheries release their buoy gear at night and fish above the thermocline, while the proposed California buoy gear would be set during the day with the lines reaching a depth of approximately 350 feet, below the thermocline. This is in response to hypotheses that swordfish off California are adapted to colder waters and often found feeding during the day below the thermocline. Thus, this modified method is intended to catch more swordfish while reducing bycatch of non-targeted species that typically do not venture below the thermocline due to the colder waters and limited sunlight.

Florida- shallow set at night

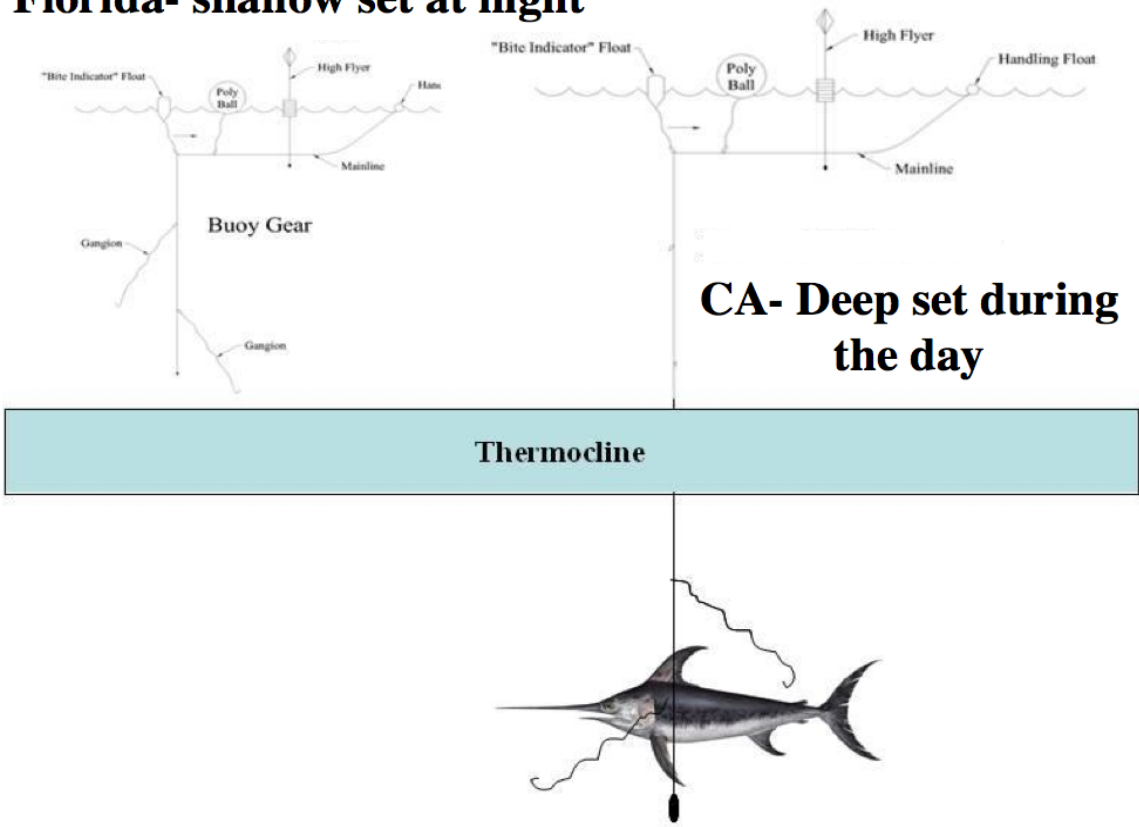


Figure 1: Visual explanation of deep-set buoy gear used in Florida and experimentally off of California; Source: Sepulveda, C. et al. 2014.

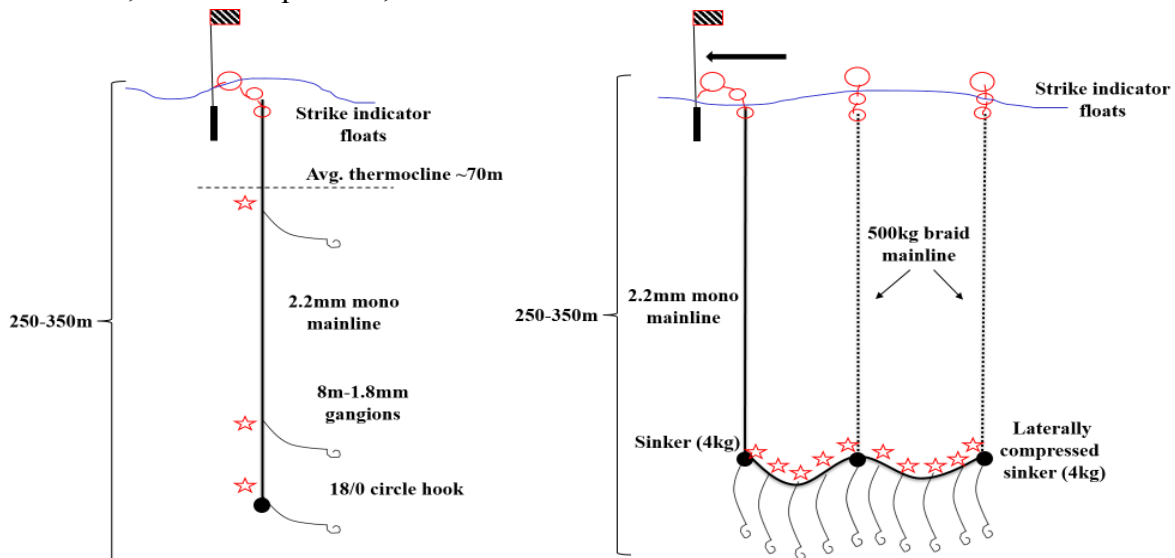


Figure 2: Diagram of the two final DSBG configurations chosen for experimental trial a) vertical configuration, b) horizontal configuration (arrow represents orientation and direction of travel, stars represent illumination). Source: Sepulveda, C. et al. 2014.

Figure 2 represents the two deep-set buoy gear configurations currently being tested in Southern California in efforts to determine the most efficient method. Both have a 2.2mm monofilament mainline extending far beyond the thermocline with strobe flashers at each hook allowing nocturnal detection, but vary in hook placement and orientation in the water column. The vertical configuration (Figure 2a) is similar to standard DSBG with the addition of one extra hook further up on the line with the intended purpose of increased targeting of swordfish closer to the thermocline. The horizontal configuration (Figure 2b) consists of a mainline suspended along three vertical buoy lines, one 2.2mm monofilament line and two constructed out of braided 500kg material with laterally compressed drop sinkers to reduce drag and maintain orientation of the gear in the current so that it drifts in the direction of the leading edge. These two configurations have so far shown an increase in deployment and retrieval efficiency, total hook count, and nocturnal detectability compared to earlier trials of standard buoy gear. These modifications also allow fishers to alter the gear under different environmental conditions and as tests continue, should improve the efficiency and effectiveness of DSBG as an alternative gear in swordfish fisheries.

Results:

The following results are based on publically available data from the Hawaii shallow-set longline (2007-2012), the Atlantic deep-set buoy (2007-2009), US Atlantic deep-set buoy (2007-2012), and the California deep-set buoy (2011-2013) fisheries. The deep-set buoy fisheries were divided into two parts: those in the Atlantic and the one in California. This was done in order to analyze how the California's experimental fishery is performing compared to the one in the Atlantic.

Shallow-Set Longline

Hawaii SSL					
Species	Status	Caught	Kept	Released	% of Total Catch
Swordfish	Least Concern	107,114	98,095	9,019	43.20
Blue Marlin	Vulnerable	864	830	36	0.35
Other billfishes	Unknown	67	59	8	0.03
Shortbill Spearfish	Unknown	721	634	87	0.29
Striped Marlin	Near Threatened	2967	2771	196	1.20
Sharks					
Blue Shark	Near Threatened	67,109	144	66,965	27.06
Mako Shark	Unknown	6200	785	5415	2.50
Oceanic Whitetip Shark	Vulnerable	331	42	289	0.13
Other Sharks	Unknown	273	5	268	0.001
Silky Shark	Near Threatened	18	0	18	0.01
Thresher Shark	Vulnerable	546	39	507	0.22
Tunas					
Albacore Tuna	Near Threatened	11,808	8613	3195	4.76
Bigeye Tuna	Vulnerable	7,152	6,569	583	2.88
Bluefin Tuna	Vulnerable	13	12	1	0.01
Other Tunas	Unknown	42	10	32	0.02
Skipjack Tuna	Unknown	341	305	36	0.35
Yellowfin Tuna	Near Threatened	1683	1607	76	0.68
Other Species					
Mahimahi	Least Concern	23,438	21,838	1600	9.45
Moonfish	Least Concern	958	637	321	0.39
Oilfish	Unknown	14,830	12,187	2643	5.98
Pomfret	Least Concern	823	653	170	0.33
Wahoo	Least Concern	406	385	21	0.16
TOTAL		247,967	156,312	91,655	100.00

Table 1: Hawaii-based Shallow Set Longline (SSL) Catch by Species (2007-2012); Source: PIFSC. 2014a

The data in table 1 comes from a shallow-set longline (SSL) fishery in Hawaii taken from the years 2007-2012 (PIFSC 2014a). This table summarizes the number of species caught, kept, and released. It also indicates the status of the species according to the IUCN’s Red List (2014). Catch includes over 18 non-target species, and the “other” category suggests that there might be additional species caught beyond those listed. The combined landings of blue marlin, striped marlin, yellowfin tuna, mahi mahi, wahoo, and bigeye tuna exceed the landings of swordfish. These species have been described by Boggs and Ito (1993) as overexploited. Two of these are IUCN Red List threatened species (blue marlin and bigeye tuna – both listed as *vulnerable*). In addition other species worth noting include striped marlin and yellowfin tuna (IUCN *near threatened*), and wahoo (*least concern*).

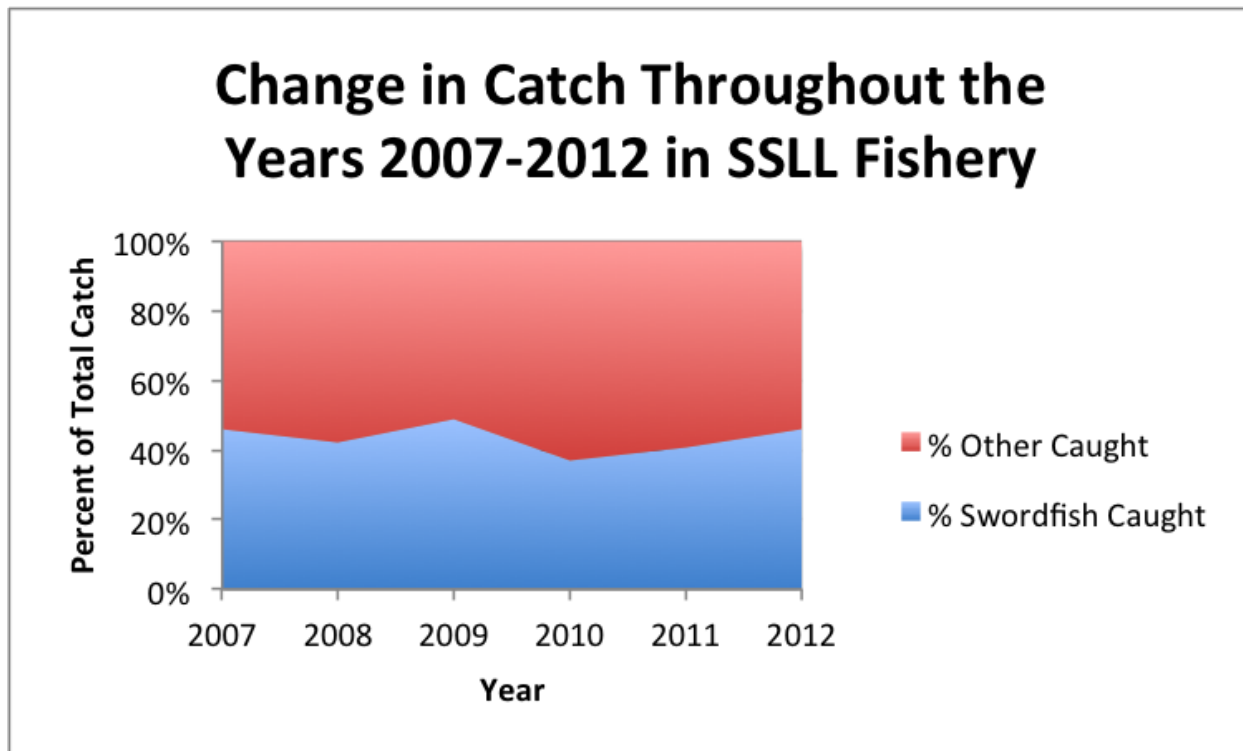


Figure 3: Comparison of the amount of swordfish caught versus the amount of bycatch caught throughout the years 2007-2012; Source: PIFSC. 2014a

Year	Swordfish	Total Catch	% Swordfish Caught	% Bycatch Caught	# Hooks Set	Swordfish Caught/ Hook
2007	20,843	45,365	45.9	54.1	1,371,949	0.0152
2008	20,342	48,283	42.1	57.9	1,496,298	0.0136
2009	18,508	38,020	48.7	51.3	1,721,346	0.0108
2010	16,708	45,125	37	63	1,803,432	0.0093
2011	16,405	40,166	40.8	59.2	1,489,243	0.0110
2012	14,308	31,008	46.1	53.9	1,453,234	0.0098

Table 2: Summary of total catch of swordfish and hooks used throughout the years 2007-2012; Source: PIFSC. 2014a

Effort, catch rates, and proportion of retained targeted catch in the SSL fishery has remained fairly consistent through time (2007-2012) (Figure 3). Figure 3 shows that, on average over the five year period, only 43% of the total catch is swordfish in the Hawaii shallow-set longline fisheries, while 57% of all catch consisted of non-targeted species. Blue shark comprises the majority of non-targeted species (27.1% of total catch). Blue sharks are a *near threatened* species and while most caught (99.8%) are released, post-release survival is unknown, posing a potential negative impact. Table 2 shows the specific number of swordfish caught versus bycatch caught every year.

	Total # Caught	% of Catch
Kept	156,312	63%
Discarded	91,655	37%
% Catch Retained Swordfish	98,095	40%
MM/ Sea Turtles/ Sea Birds	590	0.24%

Table 3: HI SSLL Observed Catch Composition (2007-2012); Source: PIFSC. 2014a; PIFSC. 2014b

Table 3 above is a summary of the data based on the observer program established. In the table, the total kept, and discarded was summed over the five year period. The percentage of the total catch that is retained swordfish is 40%, but as shown in table 1 above, 43% of total catch (which includes kept and discarded) was swordfish. This means 3% of the caught swordfish were discarded. The observer data is helpful in showing the number of federally protected species such as marine mammals, sea turtles and sea birds that are being affected by this fishery. This shows that shallow-set longline gear is inefficient at catching its target species and much of the remaining catch is thrown overboard as discarded bycatch.

Although it may seem that the percentage of protected species caught (0.24%) is low, the actual number of individuals taken is unacceptable due to lack of legal permission for take of protected species (MMA/ESA listed species).

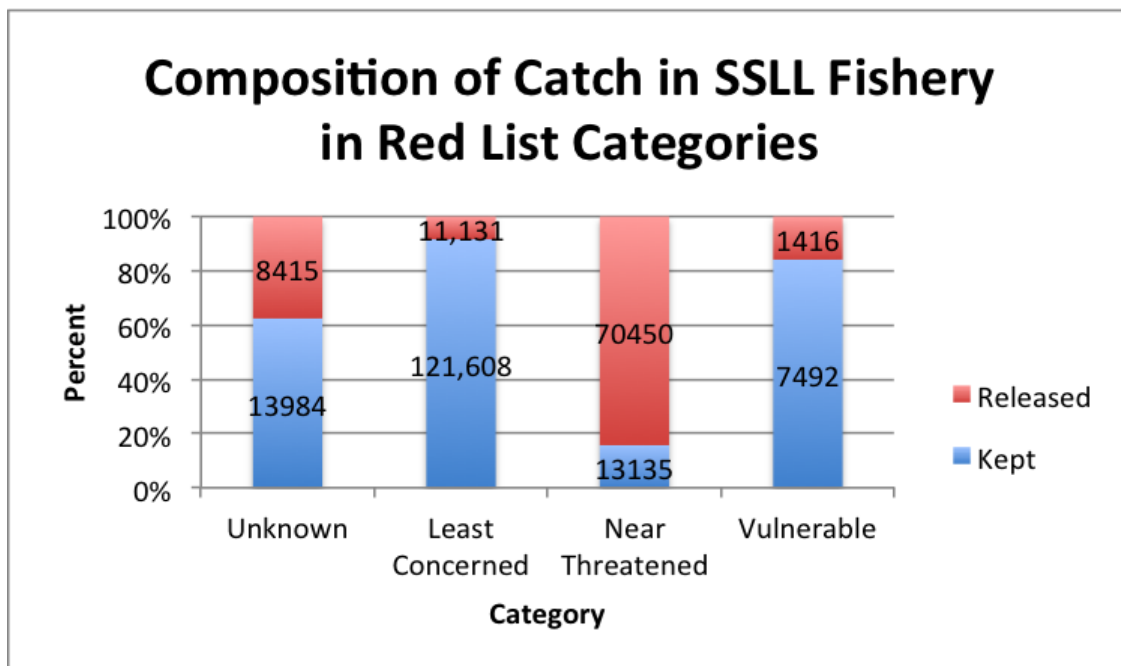


Figure 4: Percentage of each Red List category that were released and kept; Source: PIFSC. 2014a.

The majority of species classified as *least concern* caught in shallow-set longlines are kept and sold, including swordfish, mahi mahi, moonfish, wahoo and pomfret (Figure 4). IUCN *vulnerable* species are also retained and kept far more than they are released but since they are in danger of becoming threatened, their fisheries should be regulated in a way that limits their removal from the oceans until it is certain that they will not be overexploited by other fisheries including those targeting swordfish. These *vulnerable* species include blue marlin, thresher sharks, oceanic whitetip sharks, bigeye tuna and bluefin tuna. Species classified as *near threatened* include striped marlin, blue sharks, silky sharks, albacore tuna and yellowfin tuna. Even though most of these species are released back to the ocean, post-release survival is unknown.

Deep-set Buoy Gear

Atlantic DSBG						
Species	Red List Status	Caught	Kept	Released Dead	Released Alive	% of Total Catch
Swordfish	Least Concern	21382	13446	645	7286	90.46
Blue Marlin	Vulnerable	8	0	1	7	0.03
White Marlin	Vulnerable	3	0	0	3	0.01
Bigeye Tuna	Vulnerable	10	9	0	1	0.04
Blackfin Tuna	Least Concern	38	33	2	3	0.16
Skipjack Tuna	Least Concern	1	0	0	1	0.004
Yellowfin Tuna	Near Threatened	17	17	0	0	0.07
Bigeye Thresher Shark	Vulnerable	9	0	1	8	0.04
Blacktip Shark	Near Threatened	72	2	0	70	0.30
Blue Shark	Least Concern	38	0	0	38	0.16
Dusky Shark	Vulnerable	27	0	0	27	0.11
Hammerhead Shark	Unknown	299	14	3	282	1.27
Longfin Mako Shark	Unknown	28	0	1	27	0.12
Night Shark	Vulnerable	419	0	4	415	1.77
Oceanic Whitetip Shark	Vulnerable	1	0	0	1	0.004
Sandbar Shark	Vulnerable	4	0	0	4	0.02
Scalloped Hammerhead	Endangered	4	0	4	0	0.02
Shortfin Mako	Unknown	59	40	1	18	0.25
Silky Shark	Near Threatened	70	7	12	51	0.30
Thresher Shark	Vulnerable	18	1	0	17	0.08
Tiger Shark	Vulnerable	9	0	0	9	0.04
Unknown Shark	Unknown	3	0	3	0	0.01
Bonito	Unknown	25	25	0	0	0.11
Dolphin (Mahimahi)	Least Concern	650	625	0	25	2.75
Greater Amberjack	Unknown	9	8	0	1	0.04
King Mackerel	Unknown	196	196	0	0	0.83
Oilfish	Unknown	124	121	1	2	0.52
Sailfish	Least Concern	5	0	0	5	0.02
Snake Mackerel	Unknown	2	0	2	0	0.01
Wahoo	Least Concern	106	106	0	0	0.45
TOTAL		23636	14650	680	8301	100

California Trial I/II DSBG						
Species	Red List Status	Caught	Kept	Release Dead	Released Alive	% of Total Catch
Swordfish	Least Concern	25	18	0	0	48.08
Thresher Shark	Vulnerable	1	1	0	0	1.92
Blue Shark	Least Concern	8	0	0	8	15.38
Bigeye Thresher Shark	Vulnerable	10	10	0	0	19.23
Mako Shark	Unknown	1	1	0	0	1.92
Salmon Shark	Least Concern	1	0	0	1	1.92
Opah	Unknown	5	5	0	0	9.62
Mola	Unknown	1	0	0	1	1.92
TOTAL		52	35	0	10	100

Table 4: Summary of data from various fisheries: Atlantic (2007-2009), US Atlantic (2007-2012) and California (2011-2013) Deep-set Buoy Caught by Species; Source: NMFS. 2014; Kerstetter. 2009; Sepulveda, C. et al. 2014.

Table 4 summarizes the data from three different sources: Atlantic deep-set buoy fishery (2007-2009), US Atlantic deep-set buoy fishery (2007-2012) and California deep-set buoy trial phases I/II (2011-2013). Although both the Atlantic deep-set buoy fishery and the US Atlantic deep-set buoy fishery take place in the same location, the data of one was not included in the data of the other, therefore both sets were combined in order to look at the overall success. Similarly, the data from both phase I and phase II in the California trials were put into one table. In the Atlantic DSBG fishery, there were 5 swordfish lost at boat and in the California DSBG trials, there were 8 swordfish lost at boat. These lost swordfish were included in the “caught” column but were not counted as either kept or released. Both tables are arranged based on fish classification (ie billfish, tuna, shark, other). There were thirty species caught in the combined Atlantic DSBG fisheries and eight species caught in the California DSBG fishery.

In both the Atlantic and the California DSBG Fisheries, most of the species caught were IUCN *Least Concern*. On average, the swordfish caught comprised 90% and 48% of total catch in the Atlantic and California DSBG fisheries, respectively.

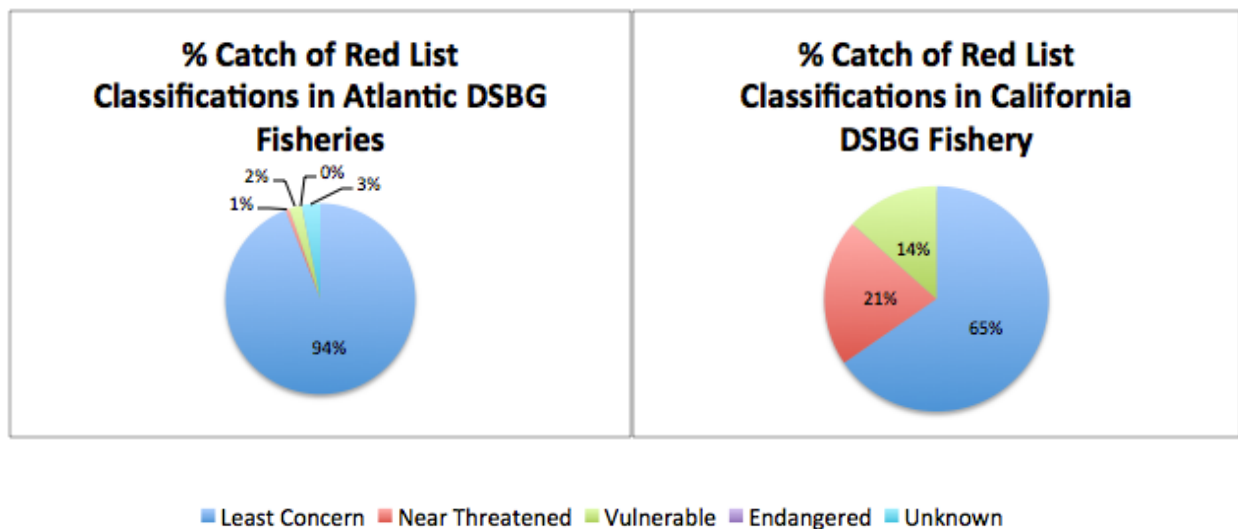


Figure 5: Composition of total catch by Red List classification in the Atlantic and California DSBG fisheries, respectively; Source: NMFS. 2014; Kerstetter. 2009; Sepulveda, C. et al. 2014.

As shown in table 4 and figure 5 above, the majority of catch in both the Atlantic and California DSBG fisheries were IUCN least concern, and virtually all (92% and 100 % in the Atlantic and California fisheries, respectively) non-retained individuals were released alive (although the fate of these released individuals is unknown). The data above does not include data after 2013, but according to the latest Exempt Fishery Proposal (EFP) from Pflieger Institute of Environmental Research (PIER), the California DSBG fishery continues to show very high selectivity for swordfish and marketable species. In the report, it is said that 94% of the catch is marketable, and the catch rates are increasing rapidly, and are expected to continue to increase. Neither fishery was observed taking protected species.

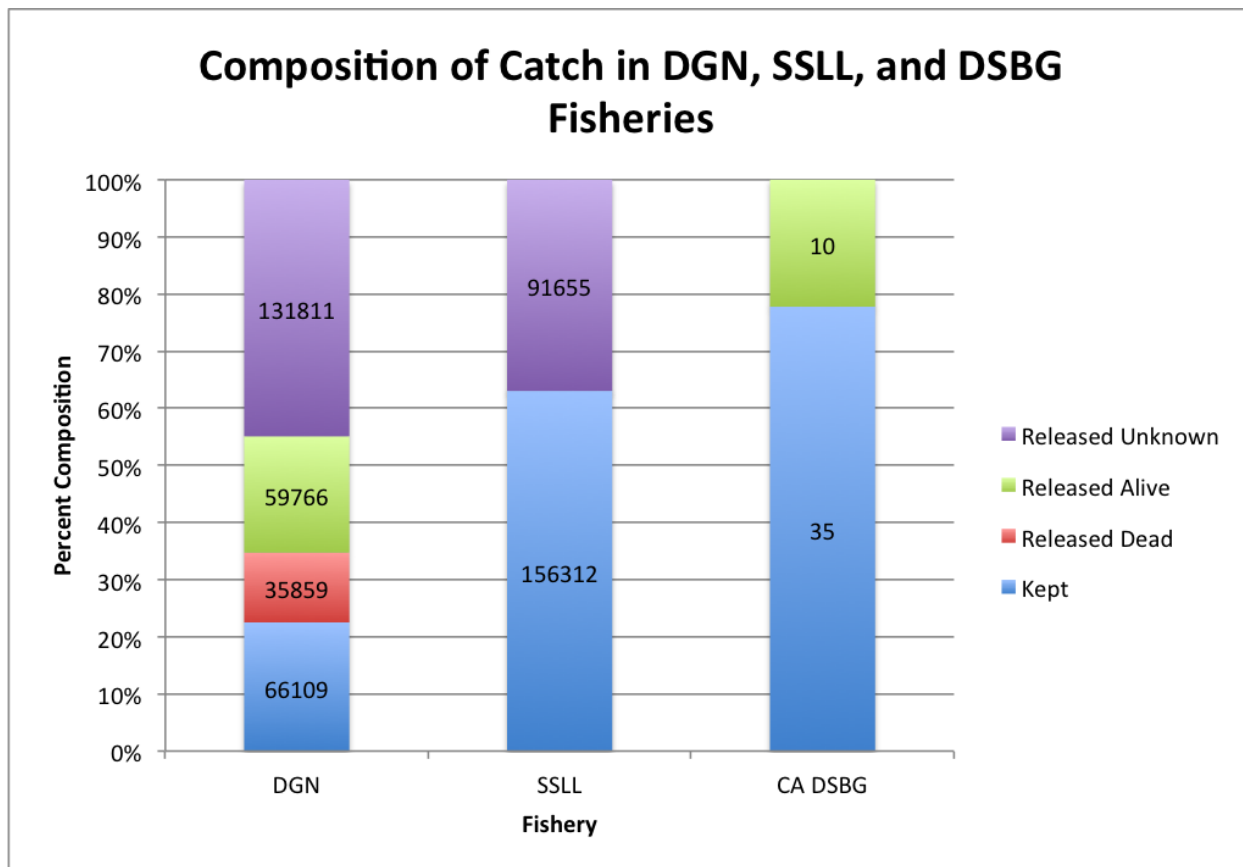


Figure 6: Summary of number released, and kept for the three fisheries: drift gill nets, shallow-set longlines, and deep-set buoy gear; Source: PIFSC. 2014a; NMFS. 2014; Kerstetter. 2009; Sepulveda, C. et al. 2014; NMFS Observers Program.

Figure 6 above shows a summary of the fate of the total catch in each of the fisheries. Data from the drift gill net fishery (DGN) (NMFS observers program, 1990-2014) was compared to data from shallow-set longline data (2007-2012) and California deep-set buoy gear data (2011-2013). In the CA DSBG fishery, all of the individuals released were released alive. For the SSSL fishery, all releases were classified as *released unknown*, because their condition upon release was not specified in the data. The DGN fishery had many more species released in an unknown condition than alive or dead. It is evident from this summary that the use of drift gill nets is unsustainable, because less than thirty percent of total catch is kept. The SSSL fishery had a higher percentage and a higher number of individuals kept than the DGN fishery, however, still has high bycatch rates for certain species of concern, such as sharks, seabirds, sea turtles, marlins, and marine mammals. By far, the highest percentage of individuals kept comes from the CA DSBG, but since it is a relatively new technique, there are fewer individuals caught. Although there is not much data for the CA DSBG, there is significant data from the Atlantic

DSBG fishery, which makes us confident that the CA DSBG fishery will be as successful as the one in the Atlantic

Discussion:

With discard rates in the drift gill net fishery of 63% of total catch in recent years, only 13% of observed catch comprised of swordfish, and high bycatch of IUCN threatened and US federally protected species, the California drift gillnet swordfish fishery needs practical alternatives. Of the two alternative gear types we examined – SSSL and DSBG – DSBG was preferred. Total catch in DSBG sets had high proportions of swordfish with lower proportions of non-target species. In addition, take of IUCN threatened and US federally protected species was close to zero for DSBG, whereas the introduction of SSSL off the West Coast would likely increase the catch of several protected species, and discard rates for SSSL are much higher than for DSBG. Further analysis is required to determine swordfish catch per unit effort and the relative economic efficiencies of the potential gear alternatives. Deep-set buoy gear is still in the experimental fishery stage, but is yielding positive results and profitability appears to be increasing with time. If more trials are conducted for the California DSBG fishery, we anticipate continued improved swordfish selectivity as fishing techniques are further modified for conditions off California.

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August 28, 2015

Ms. Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, OR 97220

RE: Agenda Item G2: Swordfish Management Plan and Hard Caps

Dear Chairman Lowman and Council Members,

On behalf of The Nature Conservancy (TNC), I would like to express our support for the Council's efforts to finalize a management plan for the HMS fishery, including provisions for setting science-based bycatch controls on sensitive species, requiring 100% accountability to ensure fairness and accuracy across the fleet, and setting goals for finfish bycatch. Additionally, we'd like to inform you about our activities to advance progress in three key areas:

Encouraging the advancement of bycatch avoidance research

TNC continues to participate in a dynamic ocean management project, EcoCast. The resulting collaboration thus far has resulted in a smartphone app and eelogbook platform that can be both a data collection tool and a way to serve up predictive bycatch hotspot models to fishermen on the water in real time. The modeling team is currently working to develop integrated maps that we anticipate being ready for testing in the summer of 2016.

Considering the use of modified or new gear- types

We recently provided a grant to the Pflieger Institute of Environmental Research (PIER) in support of their proposed research to expand deep-set techniques, including those for larger vessels. We see tremendous value in the diversity of high-performing gear options for this fishery, and encourage the Council to support future testing with appropriate monitoring controls.

Expanded use of electronic monitoring (EM) to improve information on fishery bycatch and achieve 100% monitoring of the Drift Gillnet (DGN) fishery

TNC recently received a \$330k grant from NOAA S-K program to conduct a pre-implementation of EM/ER for the DGN fleet over two years (2016-2018). Working in partnership with NOAA's WCROP, we are currently soliciting participation for up to seven vessels for a two-year project that will improve EM functionality and act as a bridge toward programmatic implementation.

Benefits to fishermen include installation of camera system at no cost, a stipend for fishing with EM system, and ability to have direct input on confidentiality agreements – a major concern for the fleet. In addition, EM review data will be an additional source of bycatch summary data for

the Council and its staff's efforts to set or adjust appropriate bycatch hard cap levels and performance standards.

We look forward to working with Council members, agencies, and the industry on these projects and other efforts to rebuild this valuable domestic fishery.

Sincerely,

A handwritten signature in black ink, appearing to read 'M Stevens', with a long horizontal flourish extending to the right.

Melissa Stevens
Fisheries Project Director
The Nature Conservancy | Oceans Program
melissa_stevens@tnc.org
831-332-0465



Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, Oregon 97220

Los Angeles, September 2, 2015

RE: Agenda Item G.2 – Swordfish Management Plan and Hard Caps FPA

Dear Chair Lowman and Council Members:

Ocean Conservation Society is a research nonprofit supporting educational projects and the conservation of marine mammals and their ocean habitat. At the upcoming September PFMC meeting in Sacramento, we see a unique opportunity for the Council to have an active part in significantly reducing the number of marine mammal deaths in our oceans.

The swordfish fishery in Southern California remains one of the only locations in the world where drift gillnet (DGN) gear has not been upgraded to more selective and actively monitored gear. As a result, the fishery sees inexcusably high levels of bycatch- well over 60 percent. Marine mammals, turtles, and countless other species of marine life continue to be killed in these walls of death. We ask that the Council revert back to its commitment to transition away from the drift gillnet fishery to one using more actively tended gear types.

Deep-set buoy gear is not only considered a viable alternative to drift gillnets- it is largely supported by both the fishing and conservation communities. To this end, we urge the Council to establish a timeline and schedule for authorizing the use of this gear under the Highly Migratory Species (HMS) Fishery Management Plan (FMP). Additionally, we believe that the Council has the opportunity to establish firm protections for marine mammals by enforcing annual hard caps on high-priority species based on entanglement and requiring 100 percent monitoring in the DGN fishery while these transitions are under way.

California proudly influences state governance in the United States on the sustainability front, and the continued use of DGN fishing gear is a contemptible legacy for our state. It is time for the Pacific Fishery Management Council to catalyze change towards a more sustainable fishing industry in Southern California.

Thank you for your efforts to implement more environmentally sustainable practices into the fishing industry and for keeping our oceans healthy and abundant.

Sincerely,

Maddalena Bearzi

Maddalena Bearzi
Ocean Conservation Society President

Cc:

Jerry Brown, Governor of California
John Laird, California Secretary for Natural Resources



September 2, 2015

VIA ELECTRONIC MAIL

Dorothy Lowman, Chair
Pacific Fishery Management Council
1100 NE Ambassador Place, #101
Portland, Oregon 97220

RE: Agenda Item G.2 – Swordfish Management Plan and Hard Caps FPA

Dear Chair Lowman and Council Members:

Endangered Habitats League is Southern California's only regional conservation organization, dedicated to ecosystem protection and sustainable land use. Our mission extends from land to sea, and we recognize the importance of recruiting the help of stakeholders to create cooperative and realistic solutions to our state's pressing environmental challenges.

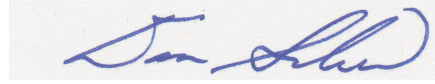
The health of our coastal ecosystem has long been a source of livelihood, state revenue, beauty and pride for Californians, yet sound policy and effective management of its resources are unfortunately lacking. The continued use of drift gillnets (DGN) in California's swordfish fishery is one such example, with over 60% of the catch thrown overboard.

Adopting a Final Preferred Alternative (FPA) can go a long way in protecting many species that are killed by this indiscriminate method of fishing. It is vital that the Council enforce hard caps on high-priority protected species based on entanglement, establish performance objectives on finfish and other bycatch species, as well as mandate the necessary 100 percent monitoring in order to render these plans effective.

The time is now for the Council to establish an achievable schedule and procedure for transitioning from DGN by developing a Swordfish Management and Monitoring Plan. We urge you to include a timeline for the approval and implementation of deep-set buoy gear (DSBG) under the Highly Migratory Species (HMS) Fishery Management Plan (FMS), an alternative that currently holds widespread support from both fishermen and conservation groups.

We understand the reality that many equate environmental conservation with economic sacrifice, and we implore you to recognize that the proposed alternatives to DGN are viable both now and in the long term for sustaining businesses and fishermen's livelihoods. We also recognize the complexity of reforming an industry with so many stakeholders, but we are confident that the Council can continue leading our fisheries towards a more sustainable path.

Yours truly,



Dan Silver
Executive Director

cc: Jerry Brown, Governor of California
John Laird, California Secretary for Natural Resources



Dorothy Lowman, Chair
Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220

William Stelle, Regional Administrator
NOAA Fisheries, West Coast Region
760 Sand Point Way NE
Seattle, WA 98115

September 2, 2015

RE: Comments on
Council Agenda
Item G.2

Dear Council Members,

In an era where pollution, overfishing and climate change are wreaking havoc upon the world's oceans, United States must take leadership in developing fisheries that are genuinely sustainable in the face of the devastation of the modern era. The obsolete industrial practices that worsen these impacts can no longer be tolerated.

In that spirit, we applaud the Council's commitment to take a more holistic approach to the fishery to look to other cleaner gear, such as harpoons or deep set buoy gear, to meet the Council's objectives. Rather than clinging to old ways of doing things, the PFMC is in a position to lead the world in the development of new approaches. The advent of rules to impose sanctions upon more destructive fisheries based on US standards only strengthens the key role of the PFMC as a global leader.

We therefore recommend that the PFMC prioritize the development of the gear of the future while eliminating obsolete industrial methods that have a dire track record instead of recycling or rehashing them. Thus, we recommend that the implementation of Deep Set

Buoy Gear (DSBG) and the transition away from Drift Gill Net gear be moved up in the schedule and discussion of implementing long lines off the west coast be scrapped entirely.

We strongly condemn the proposal to introduce shallow set long lines of the west coast. Given the extraordinary impacts on protected species, the introduction of shallow set long line gear would be breathtakingly irresponsible. Although the proposal cites modifications used in the Hawai'i fishery, even with the technical modifications use of this gear still results in unacceptably high bycatch. While the FMP proposal cites the shallow set long line fleet landings from 2010-2014, the Draft FMMP fails to mention that during that same period the Hawai'i shallow set long line fleet took 99 sea turtles (2010 through second quarter 2014), a rate that absolutely dwarfs the already highly problematic drift gill net gear. Indeed, the scoping for the shallow set long line suggests that the proposed fishery would kill some 30 leatherback sea turtles and 35 loggerheads over a five year period, more than four times the number of leatherback kills than analyzed for the 2013 drift gill net biological opinion. Given that the current population of this long lived species likely numbers fewer than 2,000 in the sharply declining West Pacific nesting population, this proposal is nothing short of unconscionable. The corresponding number would be more than 8 times the number of loggerhead kills. This grisly pattern is repeated across the board, with double the expected deaths of humpback whales, five times as many olive ridleys, and five times the number of green turtles killed. At a time when the PFMC is making moves to take global leadership in areas of marine species protection, this proposal is jarringly wrongheaded.

Similarly, we strongly support the implementation of the CDFW hard caps developed in alternative 5, although this proposal should be modified to close the fishery for the remainder of the season when caps are exceeded and for all subsequent seasons until the average rate is below the fractional limit that represents the actual biological target. Rounding is a poor scientific or management rationale for allowing excess mortality of species which are already severely threatened. Nevertheless, we still support the reasonable steps proposed by the PFMC to ensure that the destruction of marine ecosystems is stringently limited in an effort to provide future generations an opportunity to meet their needs and enjoy healthy oceans into the future.

As we have previously indicated we also applaud the effort to establish performance standards for finfish. As we have argued, the problems with mass-scale industrial gear such as drift gill nets and long lines are both as much the sheer breadth of species affected as they are the impacts on particular single species. Because these gear are indiscriminate, it is critical that management take a similarly broad view of managing the broad range of impacts from the fishery. This philosophical shift in focus is most welcome.

Despite this progress, we find it utterly contradictory and bewildering that at the same time that the PFMC implicitly recognizes the destructiveness of DGN gear in expressing an interest in limiting fishing effort, the same council would consider providing greater access to the PLCA. These two contradictory policies cannot be easily reconciled. In fact, the PFMC knows full well that the gear is destructive, and the PLCA may be the only measure that has shifted the overall impact of the gear. For example, in June, the HMSMT presented data on the bycatch of protected marine mammals and sea turtles collectively from 1990 through 2010. Analyzing the five year running average take of protected species jointly shows that the take rate per 1,000 sets is as high today as it has ever been. Indeed, the only noticeable drop occurred around 2001 with the introduction of the PLCA and other closures which appear to have dropped the take rate per 1,000 sets from approximately 1.5 protected animal takes to roughly 0.5 takes. With preliminary indications that the take rate is again climbing, it appears that all efforts to reduce bycatch from drift gill nets have essentially failed, except reducing fishing effort and closing the PLCA. Why the PFMC would consider reversing the closure of the PLCA is difficult to comprehend, when it has proven one of the few modestly effective measures for what has otherwise proven to be a stubbornly impossible gear to clean up.

Given that we know that the take of protected, vulnerable, threatened, endangered and rare species by long lines and drift gill net gear is unacceptably high, clearly the correct approach is to eliminate the use of such gears. We note that the list of jurisdictions that has banned the use of drift gill nets is long and growing. Of course, every state and region in the United States prohibits the gear (including, we note, Oregon and Washington, which have delegations sitting on a council that inexplicably still votes to authorize the gear) but California. Indeed, as others have noted, this year has seen Russia ban drift gill nets. At this point, the California delegation must start to question whether it is acceptable that on this point at least Vladimir Putin must now be considered a more serious conservationist than Gov. Brown and the California legislature that the delegation represents. Clearly, it is time to end the use of drift gill nets.

Modestly biting attempts at humor aside, Turtle Island Restoration Network encourages the PFMC to take the wider perspective on achieving sustainability by prioritizing gears that have lower or zero bycatch. From this perspective, the natural order is to work to develop fisheries with cleaner gear before turning to proven destructive gear. Thus, we must evaluate the effectiveness of DSBG before any effort to look to less effective higher bycatch gear such as long lines. We therefore recommend taking up the DSBG in November, and discontinue development of any long line fishery until the combination of harpoons and DSBG are proven to be insufficient. We often hear how the fishing industry can “figure it out” when trying to reduce bycatch. Perhaps it is time to turn that same ingenuity to work on making demonstrably low take gear profitable before resorting to obsolete methods.

Finally, as a California non-profit, we strongly oppose efforts to federalize this fishery. Unlike others, the drift gill net fishery is now a uniquely California phenomenon, and the people of California have a unique interest in its management. Furthermore, the State of California has a unique duty as the trustee of the public trust in wildlife to protect these resources for the people of the state to whom they belong. Since the State of California government has a unique relationship and duty with respect to the marine resources off our coast, it would be inappropriate to treat this fishery as if it were a multi-state or national fishery. Because the industry is located solely in California and the impacts are uniquely felt in California, it must be California that has a lead role in its management.

As always, we are grateful for the work and dedication the Council, staff and stakeholders in balancing these difficult and sensitive issues, and stand ready to assist in that work where we can.

Respectfully submitted with best regards,



Doug Karpa
Legal Program Director