CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE REPORT ON SWORDFISH MANAGEMENT AND MONITORING PLAN

At this meeting the Pacific Fishery Management Council (Council) is scheduled to take final action on management of the drift gill net (DGN) fishery, including establishing hard caps and other mechanisms to reduce bycatch in this fishery. The California Department of Fish and Wildlife (CDFW) previously submitted comments this subject at the March meeting (Agenda Item H.4.b, Supplemental CDFW Report, March 2015) including a preferred alternative for hard caps. The intent of this report is to offer additional comments for Council consideration.

Bycatch

NOAA administers its programs utilizing two different definitions of bycatch. The definition of bycatch under the Magnuson-Stevens Act (MSA) is only fishes that are harvested but which are not sold or kept for personal use, and includes economic discards and regulatory discards. Conversely, in NOAA's more recent work on the National Bycatch Strategy and bycatch reduction efforts, the definition is expanded, to include "discarded catch of any living marine resources, plus unobserved mortality due to a direct encounter with fishing gear"[1] and encompasses all taxa, not just fishes.[2]

Although marine mammals and sea turtles are not included within the MSA definition of bycatch, they are contained within the expanded definition of bycatch used by NOAA Fisheries in practice today. This 'expanded definition' of bycatch appears to be the one that NOAA Fisheries is focusing on as it begins a review of its national bycatch priorities and strategies with the intent of developing a new National Bycatch Strategy[3]. This may suggest a shift in thinking from application of the narrowly defined MSA definition to the expanded version in order to effectively address regional, national, and international bycatch issues.

The Council has adopted forms of this expanded definition of bycatch for its Fisheries Management Plans (FMP). The groundfish FMP, for example, specifically states that "…the Council may manage fisheries to minimize the incidental take of these species [marine mammals, sea turtles, sea birds]…"[4] Accordingly, NOAA Fisheries' West Coast Groundfish Observer Program has tailored its program to assist with meeting this goal by requiring observers to identify and record any encounter the groundfish fishery has with marine mammals, seabirds,

[1] http://www.nmfs.noaa.gov/by_catch/bycatch_whatis.htm
[2] http://www.nmfs.noaa.gov/by_catch/bycatch_BREP.htm; *see also* NOAA Fisheries, Bycatch Reduction Engineering Program 2013 Annual Report to Congress (2013).
[3] http://www.nmfs.noaa.gov/sfa/management/councils/ccc/2015/June/bycatch.pdf
[4] http://www.pcouncil.org/wp-content/uploads/GF_FMP_FINAL_May2014.pdf

and sea turtles. These data collection activities would be beyond the scope of 'bycatch monitoring' if only the narrow MSA definition was employed.
Since NOAA Fisheries and the Council considers bycatch as discard of any living resource, marine mammal and sea turtle bycatch would be subject to a Council-recommended swordfish management and monitoring plan implemented under the authority of MSA.

Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA) and Magnuson-Stevens Act (MSA)

There are three federal laws which influence policy and decision making on management of the west coast swordfish fishery – MMPA, ESA, and MSA. The MMPA is the principle Federal legislation that guides marine mammal species protection and conservation policy in the United States. The ESA provides for the conservation of species that are endangered or threatened throughout all or a significant portion of their range, and the conservation of the ecosystems on which they depend. The MSA is the primary law governing marine fisheries management in U.S. federal waters and was enacted to promote fisheries and reduce bycatch.

While these three laws share numerous similarities, they are quite different in one crucial aspect: how policy is determined. Regulatory decisions made under the MMPA are grounded predominantly on the biological health of marine mammals. Meanwhile, decisions under the ESA are based "solely on the basis of the best scientific and commercial data."[5] Both MMPA and ESA focus on the protection of a specific set of natural resources, and judgments under both statutes are made based on the biological status of these specific resources. The MSA, on the other hand, prescribes a set of National Standards that are heavily embedded with policy value judgments. In addition to considering scientific information, MSA also takes into account social and economic factors.

Concern has been raised that implementation of management measures to reduce marine mammals in the swordfish fishery is not appropriate using MSA authority and may in part "…produce less effective management…" and result in an "…increase risk to protected resources…" (Agenda item E.3.a, NMFS Report, June 2015). CDFW asserts that MSA is the more appropriate authority to use to manage all bycatch because in doing so it takes into account a variety of considerations – scientific, social and economic. CDFW also strongly believes that implementing hard caps will provide more, not less, effective management and result in increased protection for protected resources, not an increased risk.

As part of its decision making and fulfilling obligations under the National Environmental Policy Act (NEPA), the Council must evaluate biological, economic, and social impacts of a proposed action. An environmental impact statement (EIS) or an environmental assessment (EA) forms the foundation for decision making and documents in part, description of and impacts to the affected environments (i.e., physical, biological, socioeconomic) and consistency with applicable laws (MSA, MMPA, ESA, Migratory Bird Treaty Act, Coastal Zone Management Act, etc.). The proposed management actions would not survive the NEPA process if they actually increase the risk to any protected resource. The Council may recommend actions which are more precautionary than the bare minimum required by law (per the National Standard guidelines) and

[5] 16 USC § 1533(b)(1)(A) (2015); 50 CFR 424.11(b) (2015).

all recommendations must be consistent with other federal acts such as MMPA and ESA, otherwise they cannot be implemented. Because the Council's proposed action under MSA would apply a more stringent (i.e. more precautionary) standard than those imposed by MMPA or ESA, it would not be in conflict with either Federal law.

The proposed Council action would enhance, not hamper, the more specific goals of the MMPA and the ESA by applying more restrictive conservation measures that would benefit marine mammals and sea turtles. Given that the issue of bycatch in the swordfish fishery encompasses a broad suite of scientific, social, and economic factors, CDFW believes that implementing regulations aimed at reducing bycatch under the authority of MSA is appropriate and would be complimentary to MMPA and ESA.

Consistency with MSA National Standards

Fishery management actions prepared pursuant to the MSA must be consistent with the 10 National Standards for fishery conservation and management listed in MSA Section 301. The Council's proposed action to manage the DGN fishery using hard caps are specifically meant to fulfill its responsibility under National Standard 1 (achieve optimum yield), National Standard 5 (consider efficiency in utilization of fishery resources), and National Standard 9 (minimize bycatch).

Implementation of the Pacific Leatherback Conservation Area (PLCA) in 2001 to protect listed leatherback sea turtles significantly impacted both landings and fishery participation in the swordfish fishery. Historically the PLCA contained some of the most productive fishing grounds, yet domestic landings and participation have steadily declined throughout the years due to this closure despite the swordfish stock being at healthy levels.

The PLCA was implemented by NMFS under the authority of the Endangered Species Act. At that time the Highly Migratory Species FMP was still under development, thus management actions taken at that time were not subject to MSA. As DGN fishery management in 2001 wasn't subject to MSA conformance, one could reasonably question whether the action to close the PLCA would have been deemed consistent with the National Standards - particularly National Standards 1 and 8 given access to swordfish was greatly constrained by this significant time/area closure potentially resulting in adverse economic impacts to fishing communities.

The majority of swordfish purchased and consumed in the United States is harvested by foreign fleets in Ecuador, Chile, Costa Rica, Mexico and Indonesia. These non-domestic fleets may not operate under the same or even any sustainable fishery practices that are required of U.S. fishermen, particularly for reducing marine mammal and turtle interactions. Since the PLCA was implemented, domestic swordfish landings have declined considerably, making it difficult to meet consumer demand with locally caught fish.

Under its current management structure, some might conclude that the DGN fishery fails to achieve National Standard 1 because of decreased access to swordfish due to the inflexible permanent time/area closure (i.e., PLCA). Besides DGN, harpoon gear is the only other legal gear to harvest swordfish in California waters. While harpoon gear is permitted inside the PLCA

year-round, it alone cannot achieve optimal swordfish yield due to its low volume and greater seasonality in catches. Compared to harpoon gear, DGN is much more efficient and can be deployed in a much wider range of weather conditions. Allowing fishing vessels to access more productive fishing areas using DGN would allow a more efficient utilization of the fishery resources (National Standard 5). Hard caps can help DGN vessels transition into these areas without sacrificing PCLA's protective effects. Implementation of hard caps coupled with changes to the PLCA would help promote/better achieve National Standard 1.

Implementing hard caps and fishery closure mechanisms will help ensure that bycatch of marine mammals is minimized and that additional bycatch is not accrued once a cap has been reached. Changes in fishing strategies such as shorter set times, more active gear tending, gear modifications, or switching to lower more selective gears can help decrease bycatch and bycatch mortality and incidental catches and mortality of marine mammals consistent with National Standard 9.

Management Using Hard Caps

Hard caps would provide a level of conservation that is more stringent than the existing MMPA and ESA safeguards for several protected species. Under ESA and MMPA management, when take of these species occurs above allowable take levels, fishing continues, and an evaluation process ensues. These evaluation processes have generally taken a year or more to generate a change to management in the form of a regulation, if needed. Conversely, a hard cap would produce an immediate management response that serves to eliminate risk of further bycatch from accruing after the cap has been reached. The existence of a hard cap itself would also encourage fishermen to develop fishing strategies that would further reduce bycatch, which might allow future access to swordfish and other target stocks in areas closed to fishing with DGN gear. The resulting decrease in bycatch, combined with the prospect of 'promoting fisheries' are undoubtedly MSA concepts that achieve mandates set forth by the National Standards.

Hard caps are also expected to induce behavioral changes in fishermen. As noted in our March 2015 report (Agenda Item H.4.b, Supplemental CDFW Report) the groundfish fishery has demonstrated that changes in fishery behavior can reduce bycatch. Because groundfish fishermen are responsible for bycatch, they now use more risk adverse fishing strategies and have changed when, where, and how they fish. The result has been a large overall decline in bycatch, and increased access to fishing areas in the trawl Rockfish Conservation Area. The same successes can materialize for the DGN fishery. Changes such as shorter set times, more active gear tending, gear modifications, or switching to lower more selective gears can help decrease bycatch and bycatch mortality and incidental catches and mortality of marine mammals, which may ultimately allow for access to additional fishing areas.

Although hard caps are expected to reduce bycatch, quantifying by how much is not possible at this time. We do know that hard caps will limit future encounters to an established number, which will improve management of marine mammal bycatch in the DGN fishery because we will know with certainty that marine mammal mortalities in the DGN fishery will not exceed these established limits. While higher encounters may not necessarily jeopardize the health of a stock

under ESA or MMPA, they are contrary to both CDFW and the Council's policy to minimize bycatch and to reduce impacts on non-target species affected by the swordfish fishery.

Hard caps are currently being used to manage marine mammal and turtle interactions in other Regional Fishery Management Councils under NOAA Fisheries' jurisdiction. In the Hawaii-based Shallow-set Longline Swordfish Fishery, the Western Pacific Fishery Management Council recommended and NMFS implemented a loggerhead sea turtle interaction hard cap under MSA authority. The proposed modifications to the shallow-set fishery management measures were intended to further the purposes of the MSA by encouraging optimum yield from the shallow-set fishery, while minimizing bycatch and bycatch mortality.[6] NMFS has also implemented a "trigger" (i.e., hard cap) to manage the False Killer Whale in the Hawaii deep-set longline fishery under MMPA which is based on serious injuries or mortalities within a giving fishing year[7].

Concerns have also been raised that "…hard caps are not consistent with the agency's best practices (NOAA guidelines for assessing marine mammal stocks, NMFS 2005)…" and "…AND they are difficult to operationalize..." (Agenda item E.3.a, NMFS Report, June 2015). CDFW asserts that hard caps are consistent with agency best practices and are currently being used today to successfully manage marine mammal and sea turtle bycatch in West Coast fisheries. As discussed in our written report and Council discussions at the March 2015 meeting, the design of the CDFW hard caps (based on entanglement and assuming 30% observer coverage) address challenges that have been previously identified by NMFS and the Highly Migratory Species Management Team in prior reports. Since observers document marine mammal interactions and convey them as part of their normal debrief process – reporting any entanglements would not pose any substantial additional workload nor be difficult to operationalize.

CDFW believes that hard cap management is the most effective and appropriate mechanism to address bycatch reduction. It provides an incentive to continuously minimize bycatch of important species, a timely mechanism to close the fishery once a cap has been reached, and assurance that no additional bycatch will accrue in a given season. Also, as described in the prior CDFW comments this approach is consistent with management approaches employed in the Council's other Fishery Management Plans, as well as other Regional Fishery Management Councils.

Annual versus Multi-Year Caps

Stability in business planning and fishing opportunity is extremely important to the economic vitality of California's coastal communities and annual hard cap management can provide this stability. If an annual hard cap is reached, the fishery would be closed down until the start of the next fishing season. Members of the Highly Migratory Species Advisory Subpanel and other fishery constituents have reminded the Council that such a closure would be highly disruptive to fishing operations and markets, and undermine investments made pre-season to participate in the fishery for the year. CDFW recognizes these as valid concerns – the DGN fishery is already

[6] http://www.wpcouncil.org/pelagic/Documents/FMP/Amd%2018.pdf
[7] http://www.gpo.gov/fdsys/pkg/FR-2012-11-29/pdf/2012-28750.pdf

seasonal and does not start and stop numerous times during the course of the season like salmon, halibut and groundfish fisheries. Under multi-year caps, a fishery could be closed for longer than one year depending on the number of encounters and the level at which the cap is set. However, the two-year cap alternatives under consideration are all at values that are greater than one, meaning that it would take greater than one entanglement to hit the cap and close the fishery. In the course of scoping this management tool, industry and others have reminded the Council that a "one and done" management strategy is not desirable, and is extremely destabilizing. Considering these concerns and the alternatives, CDFW believes the two-year cap alternatives may be preferable and mitigate the concerns raised by the industry, while accomplishing the management goals of hard caps.

Future of the Swordfish Fishery

While individuals may have differing views on what they think a future swordfish fishery should look like, they all share a common goal - to maintain and develop a viable and profitable domestic swordfish fishery off the West Coast that can fill at least some of the market demands currently being met with imported fish. While there may be differing opinions on how this can be achieved, this needs to be kept in mind as the Council moves forward in discussions about the swordfish management and monitoring plan.

Successful management under hard caps could provide a mechanism allow access back into areas where swordfish are more plentiful (i.e. PLCA), allowing for greater utilization of this resource. Hard caps would provide a level of assurance that bycatch would not exceed allowable levels proscribed under the hard caps when vessels are fishing in these areas – otherwise the fishery would close for the remainder of the season. If individuals can successfully target swordfish in these areas while staying within the allowable levels of bycatch established under hard caps, locally and sustainably-caught swordfish could replace those swordfish taken with less sustainable fishing practices.

In addition to hard caps, the Council is also looking at alternative gears to harvest swordfish. Whether these gears will replace or complement DGN gear is unknown. At this time, CDFW believes it is too soon to make decisions on which gear(s) or portfolio of gears will ultimately be successful but hard caps are a critical component of this overall vision as we move forward. If individuals can successfully harvest swordfish while staying within proscribed bycatch levels than perhaps there is room not just to maintain but perhaps even to expand DGN fishery activities in the future. While there have been discussions about alternative gears (i.e., deep set buoy gear), the gear is still in the research phase. Data are not yet available to inform what fleet-wide bycatch levels would be under non-research conditions, or what an optimal fleet size would be. This gear does show promise and CDFW supports continued investigation and development of this gear and others to target swordfish while minimizing bycatch.

Summary

- CDFW supports a decision to consider modifications to management of the DGN fishery, including establishing hard caps and other mechanisms to reduce bycatch in this fishery.

- CDFW asserts that MSA is the more appropriate authority to use to manage all bycatch because in doing so it takes into account a variety of considerations – scientific, social and economic.
- CDFW strongly believes that implementing hard caps will provide more, not less, effective management and result in increased protection for protected resources.
- Implementing hard caps would apply a more stringent standard than currently in effect, further the goals to minimize bycatch, and ensure that once a cap is reached the fishery will be closed in a timely manner preventing further takes.
- Hard caps are currently being used to manage marine mammal and turtle interactions in other Regional Fishery Management Councils under NOAA Fisheries' jurisdiction.
- CDFW believes that hard caps style management are consistent with NOAA's best practices and CDFW has suggested a hard cap structure which minimizes operational challenges and takes advantage of data already being collected by onboard observers.
- A "one and done" management strategy is not desirable and is extremely destabilizing; therefore the two-year cap alternatives may be preferable and mitigate the concerns raised by the industry, while accomplishing the management goals of hard caps.
- Successful management under hard caps could provide a mechanism to allow access back into areas where swordfish are more plentiful, allowing for greater utilization of this resource in furtherance of National Standards 1, 5 and 9.
- CDFW supports continued development of additional bycatch friendly gears to target swordfish.