

HIGHLY MIGRATORY SPECIES MANAGEMENT TEAM REPORT ON DRIFT GILLNET FISHERY HARDCAPS

Almost since their inception, hard caps for the large-mesh drift gillnet (DGN) fishery have been controversial and gained criticism from several agencies outside of the Pacific Fishery Management Council (Council) process. This may largely be due to the misconception that the intent of hard caps is to manage specific marine mammal and sea turtle bycatch levels in the fishery for the purpose of a biological need, which is already managed through other Federal processes, such as the Marine Mammal Protection Act and Endangered Species Act.

Original, as well as recent, Council discussion has made clear that the hard caps action is a policy decision aimed at reducing bycatch in the DGN fishery by incentivizing responsible fishing practices in the fleet. The Highly Migratory Species Management Team (HMSMT) proposed a revised Purpose and Need which attempted to capture the Council's current policy objectives ([Agenda Item F.5.a](#)), but the HMSMT still struggles to fully understand why hard caps management continues to be the preferred method to achieve them.

Prior Council Discussion on Hardcaps

In 2014, the Council was evaluating the potential reopening of a section (Area Under Consideration [AUC]) of the Pacific Leatherback Conservation Area (PLCA) to DGN fishing. In the midst of the process, the Pacific Offshore Cetacean Take Reduction Team was convened to address the incidental take of two sperm whales in the DGN fishery. It was this event that initiated a Council discussion of further management of the DGN fishery, including the possible implementation of hard caps. In the discussions that followed, the Council stated its intent was to reduce bycatch and incentivize changes in the fishing behavior of DGN participants. In more recent years, however, much of the context surrounding Council discussion at the outset of considering hard caps management seems to have been lost.

Originally, hard caps, in tandem with 100 percent observer coverage, were discussed as a way the DGN fishery could continue fishing with increased opportunity under an opening of part(s) of the PLCA (such as the AUC), while limiting bycatch. Additionally, the Council discussed the eventual goal of transitioning the DGN fishery to another viable commercial gear capable of harvesting a comparable quantity and value of swordfish and other marketable species, with less inherent bycatch. In public comment, both industry and non-governmental organization (NGO) representatives openly supported the approach; the fishermen lending support in light of increased opportunity, and the NGOs lending support for the purpose of bycatch reduction.

This context, in conjunction with the state of the DGN fishery and issuance of the first deep-set buoy gear exempted fishing permits, made hard caps a viable approach to reaching the Council's specified goals.

Changes in Characteristics of the DGN Fishery Since 2014

Given that Federal DGN permits were not issued until after the Council’s 2015 recommendation to implement hard caps, the HMSMT reviewed trends in permit issuance at the state level and found that the number of issued permits has decreased substantially. In 2014, 74 DGN permits were issued by the state of California ([CDFW License Statistics](#)), but this number has dropped to only 36 state permits in 2021—a reduction of 51.4 percent in state permits. In 2018, the California state bill SB1017 was implemented, and a permit buyback program established. According to the [CDFW report](#) under F.4, if all eligible permit holders complete the state program, the number of state permits would drop to 33.7 percent of the 2014 number.

Effort has also decreased in the DGN fishery over time. Around the time of initial hard cap discussion, estimated effort in the DGN fishery was 559 sets for the 2013-14 season, and 379 sets for the 2014-15 season. With the prospect of hard caps, permit buyouts, and repeated state legislation aimed at prohibiting the fishery, effort jumped to 714 sets in the 2016-17 season and 618 sets in the 2017-18 season. Since then, effort has again dropped substantially to 321 sets in the 2019-20 season. Since the effort peak in the 2016-17 season, effort has dropped by 55.1 percent. Even using the lower effort estimate for 2014 (379 sets for the 2014-15 season vs. 559 sets for the 2013-14 season), the fishery has seen a 15.4 percent decrease in effort between 2014-15 and 2019-20 seasons. This does not account for the further reduction in fishing effort associated with the SB1017 buyback program starting in 2020, in which 16 of the 32 active state permit holders recently completed the program, and 28 of those 32 active permit holders indicated their intent to participate. Should all 28 active permit holders complete the program, 87.5 percent of the active participants in the DGN fishery are expected to no longer fish DGN gear, which would further reduce bycatch levels.

In addition to declines in permits and effort over time, there were no interactions with hard cap species between the Council’s hard cap recommendation and the 2019/2020 fishing season, despite higher levels of effort during two seasons (to levels that had not been seen since prior to the implementation of the PLCA), and higher observer coverage levels than much of the pre-PLCA period (Table 1). The finfish retention rate has also consistently remained above the Council’s performance metric of 70 percent in recent years. Ten-year moving average trends for finfish bycatch indicate flat or decreasing trends for finfish performance metric species or species groups (see Figure 1 in Agenda Item F.4.a, Supplemental HMSMT Report 1).

Due to the history of litigation on hard caps, proposed Federal legislation for the DGN fishery, ongoing litigation on the state buyback program, and the current state of the DGN fishery, the HMSMT sees even less of a biological need for hard caps. Despite this, the HMSMT wishes to provide the Council with clear options for a range of alternatives to the Council’s 2015 proposed hard caps as requested, but has found it challenging to identify new alternatives to achieve Council objectives while not resulting in a negative economic impact to the DGN fishery participants that is disproportionately high relative to conservation benefit should a cap be reached.

Items for Council Consideration

Below, the HMSMT provides pros and cons to each of the three general hard cap management response approaches mentioned in the HMSMT report ([Agenda Item F.5.a](#)). The HMSMT would like to reiterate that the approaches and examples in the prior report were largely intended to capture discussion, illustrate ideas, and offer a broad foundation from which recommendations could be made. As such, many of the pieces of that report, such as the changing of hard cap numbers (outside of adjustments necessary to changes of the cap window), using serious injury (versus injury), are not given further consideration in this report because the HMSMT did not feel they met Council objectives.

Absent of additional feedback from the Council on revisions to the Purpose and Need or other considerations for specifying a proposed action, the HMSMT assumed that the proposed action for developing a range of alternatives is to manage the fishery solely through a hard cap system, versus other management options (e.g., reducing latent effort, transitioning the fishery to other gears). However, there was consensus within the HMSMT that the changes in the characteristics of the fishery since hard caps were proposed as an effective strategy indicate that they may no longer be the optimal method to improve bycatch avoidance in the fishery. Should the Council wish to only consider hard caps as its approach to bycatch reduction, the HMSMT presents some potential options for management response approaches for the Council to consider.

Management Response Approaches: Pros and Cons

- 1) Revisit Hard Cap Numbers (e.g., cap bycatch below species biological need, yet incentivize responsible fishing behavior with reduced economic impact):
 - Pros:
 - a) Numbers could be determined or adjusted based on current effort and bycatch levels in the fishery.
 - b) Numbers could be determined or adjusted based on temporal or spatial variability in bycatch species.
 - c) Slight increases to cap levels could greatly reduce closure frequency with limited additional impacts to bycatch species of concern.
 - Cons:
 - a) Lengthy process with no clear methodology for systematically adjusting the Council-adopted cap levels.
 - b) Council has stated that it does not want to consider changes to cap levels aside from proportional adjustments that may be warranted by reduction of the timeframe over which caps are applied.

- 2) Adjust the management response to reaching a cap (e.g., reduce temporal or spatial extent of the closure, tailor closure to benefits for hard cap species):
 - Pros:
 - a) Reducing the closure period would reduce the economic burden to the fleet.
 - b) Could augment Marine Mammal Protection Act goals for strategic stocks, ensuring a zero rate mortality goal (less than 10 percent potential biological

removal) is met and tailor the management response (in severity and conservation benefit) to the species of concern.

- Cons:
 - a) Adds another layer of complexity to identifying and evaluating alternatives, and monitoring and enforcing the management response if a hard cap is triggered.
 - b) Remaining season closure could have a high negative impact if an Individual Bycatch Cap or fleet cap is met early in the season.
 - c) Incentives may be reduced during the later portion of the season if closure periods do not carry over into the following season; however, the delayed closure effect may reduce potential conservation benefits to hard caps species if oceanic conditions/species presence changes during that time.
- 3) Adjust how current caps are administered (e.g., individual versus fleet-wide caps and closures)
 - Pros:
 - a) Fleet cap may increase incentive for fleet-wide coordination on bycatch avoidance.
 - b) Modifying the trigger for fishery closure to the exceedance rather than meeting of a hard cap by maintaining limits on bycatch with much less frequent closures and with minimal increase in bycatch.
 - Cons:
 - a) Feasibility of ensuring equitable monitoring coverage across the fleet.
 - b) Minimal difference in individual versus fleet cap size.
 - c) Issues for observers reporting interactions.

Alternative Approaches to Incentivization and Bycatch Minimization

Should the Council decide that hard caps management is not the best approach, we offer the following alternative management approaches for initial consideration:

- 1) Replace the hard caps approach with a monetary fine (fleetwide or individual) associated with an interaction with a species of concern. Such an approach may be more effective at incentivizing more selective fishing practices because vessels could continue to fish and employ lessons learned.
- 2) Place a retainer on the Federal limited entry DGN permit to incentivize reduced bycatch through reward rather than punishment. That is, permit fees could be applied to fund a retainer for a DGN fishing season which would be refunded at the end of the season to individuals in the fleet who have no interactions with species included on the hard cap list. Alternatively, if the policy were to be implemented at a fleet level, the refund could apply to all members of the fleet. Similar to the first alternative, this approach may allow vessels to continue to fish and apply lessons learned.
- 3) Performance metrics: A policy to implement a closure or penalty for participants in the fishery based on whether a trend in the 5-year or 10-year moving average of estimated total bycatch exceeded a predetermined threshold (see Figures 1-4 in Agenda Item F.4.a, Supplemental HMSMT Report 1).

The HMSMT views these alternative approaches as novel ideas in need of further investigation of their feasibility.

The HMSMT requests that the Council provide guidance to the HMSMT on which of the approaches described in [Agenda Item F.5.a, HMSMT Report 1](#) and/or the alternatives described above are consistent with the Purpose and Need the Council is slated to adopt at this meeting. With that information, the HMSMT can develop a range of alternatives for a future meeting.

Table 1. Council hard cap species and levels adopted in 2015, the number of observed interactions for each species and their disposition, number of observed and estimated sets, and observer coverage levels during seasons (4/1-3/31) from 1990-91 through 2019-20 seasons.

Species	Cap	OBSERVED INTERACTIONS																													
		Season:																													
		90/91	91/92	92/93	93/94	94/95	95/96	96/97	97/98	98/99	99/00	00/01	01/02	02/03	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20
Fin whale	2	0	0	0	0	0	0	0	0	0	1 (D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Humpback whale	2	0	0	0	0	1 (A)	0	0	0	0	1 (A)	0	0	0	1 (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sperm whale	2	0	0	3 (2A, 1D)	3 (1A, 2D)	0	0	1 (A)	0	1 (D)	0	0	0	0	0	0	0	0	0	0	0	2 (1A, 1D)	0	0	0	0	0	0	0	0	0
Leatherback sea turtle	2	1 (D)	1 (A)	5 (2A, 3D)	2 (1D, 1U)*	1 (A)	5 (1A, 4D)	2 (D)	4 (2A, 2D)	0	2 (A)	0	0	0	0	0	0	0	0	0	1 (A)	0	1 (A)	0	0	0	0	0	0	0	0
Loggerhead sea turtle	2	0	0	5 (4A, 1D)	2 (A)*	0	0	0	4 (2A, 2D)	3 (A)	0	1 (A)	0	0	0	0	1 (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olive ridley sea turtle	2	0	0	0	0	0	0	0	0	0	1 (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green sea turtle	2	0	0	0	0	0	0	0	0	0	1 (D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Short-fin pilot whale C/O/W	4	1 (D)	0	1 (D)	8 (D)	0	0	0	1 (D)	0	0	0	0	0	1 (D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2 (D)	0
Common bottlenose dolphin C/O/W	4	0	0	3 (D)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1 (D)	0	0	0	0	0	0	0	0	0
Observed Sets:		195	477	660	757	662	587	467	748	498	528	444	323	373	295	223	228	284	158	146	108	52	97	84	191	113	41	160	114	124	86
Estimated number of sets:		4,375	4,578	4,755	5,652	3,689	3,918	3,389	3,436	2,959	2,401	1,953	1,678	1,673	1,433	1,022	1,075	1,353	998	1,060	832	396	525	408	559	379	378	714	618	473	321
Observer Coverage Rate:		4.5%	10.4%	13.9%	13.4%	17.9%	15.0%	13.8%	21.8%	16.8%	22.0%	22.7%	19.2%	22.3%	20.6%	21.8%	21.2%	21.0%	15.8%	13.8%	13.0%	13.1%	18.5%	20.6%	34.2%	29.8%	10.8%	22.4%	18.4%	26.2%	26.8%

* 3 unidentified turtles (2A, 1D)

A = released alive; D = released dead; U = released unknown condition

PFMC
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