HMSMT Report on Drift Gillnet Fishery Hard Caps FPA

Hard Cap

Boot Strap

Pacific Fishery Management Council meeting
November 4, 2022

Overview of HMSMT Reports

- The HMSMT met October 12-14, 2022 at the SWFSC La Jolla lab to discuss results of the bootstrap analysis of the hard caps range of alternative and the draft Environmental Assessment

- Supplemental HMSMT Report 1 under Agenda Item G.3.a summarizes discussion and analyses conducted at the October 2022 HMSMT meeting

- Supplemental HMSMT Report 2 provides additional input on the hard caps ROA from the November 2022 HMSMT meeting discussion

Supplemental HMSMT Report 1 Overview

- Comments on the Alternatives Under Consideration
- Comments on the Draft Environmental Assessment
- Summary of Historically Observed High Priority Protected Species Interactions in Baseline Data
- Methods to Evaluate Differences Between Alternatives
- Additional Approaches Considered by the HMSMT to Evaluate the Alternatives

Table 1. Average annual per-vessel inflation-adjusted ex-vessel revenue by two season time periods for DGN and DSBG, 2014-2021.

	Time period	
Fishery	May-Oct.	Nov.-Jan.
DGN	$5,526	$24,039
DSBG	$12,794	$5,140

Table 2. Number of observed Mortality/Injury (M/I) events in the large-mesh drift gillnet (DGN) fishery by season, 2000/01 - 2020/21.

Species	Individual Cap Reached	Individual Cap Exceeded & Fleetwide Cap Reached	Fleetwide Cap Exceeded	OBSERVED NUMBER OF MORTALITY/INJURY Season:																			
				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	20/21
Fin whale	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Humpback whale	1	2	3	0	0	0	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Sperm whale	1	2	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Leatherback sea turtle	1	2	3	0	0	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0	0	0	0
Loggerhead sea turtle	1	2	3	0	*	0	0	0	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olive-ridley sea turtle	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green sea turtle	1	2	3	0	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	3	4	5	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Common bottlenose dolphin C/O/W	3	4	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
			Estimated number of sets:	*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*	*147*

** indicates interaction with one animal, released alive and uninjured (and therefore not applicable to caps)*

Table 3. Contingency Table to Compare Alternative 3 Options and Sub-options.

Cap Type	Condition	Timing	A.II	A.I	C.I	C.II	B
Vessel	Reached	5/1-10/31	Closed to 1/31	30 days	30 days	30 days	30 days
Vessel	Reached	11/1-1/31	Closed to 1/31	14 days	14 days	14 days	14 days
Vessel	Exceeded	5/1-10/31	Closed to 1/31	Closed to 1/31	Closed to 1/31	Closed to 10/31	Closed to 1/31
Vessel	Exceeded	11/1-1/31	Closed to 1/31	Closed to 1/31	Closed to 1/31	Closed to 10/31	Closed to 1/31
Fleetwide	Reached	5/1-10/31	Closed to 1/31	Closed to 1/31	30 days	30 days	Open
Fleetwide	Reached	11/1-1/31	Closed to 1/31	Closed to 1/31	14 days	14 days	Open
Fleetwide	Exceeded	5/1-10/31	Closed to 1/31	Closed to 1/31	Closed to 1/31	Closed to 10/31	Closed to 1/31
Fleetwide	Exceeded	11/1-1/31	Closed to 1/31	Closed to 1/31	Closed to 1/31	Closed to 10/31	Closed to 1/31

Table 4. Estimated annual finfish mortality reduction (average number of fish per season)

Annual Average Finfish Mortality Reduction, Scenario 2 (11 Vessels)

	Reduction in Sets	Finfish Mortality Reduction
Alternative 2	27.42	76.78
Alternative 3-A.I	7.11	19.91
Alternative 3-A.II	7.11	19.91
Alternative 3-B	3.54	9.91
Alternative 3-C.I	5.20	14.56
Alternative 3-C.II	9.97	27.92

Supplemental Report 2 Table 1. Bootstrap Estimates of Effects of Hard Caps Alternatives

	Alt 2	Alt 3-AI	Alt 3-AII	Alt 3-B	Alt 3-CI	Alt 3-CII
Scenario 1 (2 vessels)						
Change in Annual Average HPPS M/I	-0.0028	-0.0009	-0.0009	-0.0009	-0.0009	-0.0011
Change in Annual Average Ex-vessel Revenues	-$1,469	-$465	-$465	-$465	-$465	-$820
O.C. of Revenues per Unit Reduction in HPPS M/I	$524,719	$517,155	$517,155	$517,155	$517,155	$745,346
Scenario 2 (11 vessels)						
Change in Annual Average HPPS M/I	-0.0688	-0.0233	-0.0233	-0.0105	-0.0126	-0.0171
Change in Annual Average Ex-vessel Revenues	-$43,699	-$11,917	-$11,917	-$5,898	-$8,651	-$14,119
O.C. of Revenues per Unit Reduction in HPPS M/I	$635,163	$511,480	$511,480	$561,724	$686,562	$825,648
Scenario 3 (30 vessels)						
Change in Annual Average HPPS M/I	-0.4894	-0.1674	-0.1674	-0.0482	-0.0488	-0.0608
Change in Annual Average Ex-vessel Revenues	-$318,459	-$86,056	-$86,056	-$25,635	-$46,076	-$64,159
O.C. of Revenues per Unit Reduction in HPPS M/I	$650,713	$514,071	$514,071	$531,836	$944,182	$1,055,243

Conclusions

- It may be challenging to adopt an FPA at this meeting, given incomplete Regulatory Impact Review/Regulatory Flexibility Act (RIR/RFA) analyses
- Questions also remain about the feasibility of implementing any of the options in Alternative 3
- The Council may wish to choose a PPA or otherwise narrow the range of alternatives under consideration, or choose no action (Alternative 1) as its FPA, which the HMSMT identifies as the most practical among those under consideration based on currently available information