Interagency Halibut DMR Workgroup[1] Recommendations for GOA and BSAI Groundfish Fisheries in 2026 and 2027

Summary

This document provides halibut Discard Mortality Rate (DMR) estimates for in-season management of BSAI and GOA groundfish fisheries in 2026 and 2027 (Table 1), as recommended by the Interagency Halibut DMR Workgroup (WG).

The basic structure remains unchanged from recent recommendations; updates include:

1. Observer data and corresponding updated annual DMRs through 2024
2. General working group recommendations
3. Updates on current research activity related to halibut DMRs

Introduction

Halibut discard mortality rates (DMRs) are reviewed each year as part of the North Pacific Fishery Management Council's (Council) groundfish harvest specifications process and are used for in-season management of halibut prohibited species catch (PSC) relative to limits[2] established for Gulf of Alaska (GOA) and Bering Sea and Aleutian Islands (BSAI) groundfish fisheries. DMRs are currently specified for twelve operational groups, each defined by area, gear, and handling characteristics that affect halibut mortality (see listings in Table 1). DMRs are estimated based on observer data for eleven of the operational groupings, while the pelagic trawl fisheries have a fixed at 100%. Prior to Council specification, draft DMRs are updated by an interagency workgroup that includes staff from the Alaska Fisheries Information Network (AKFIN), the Council, the International Pacific Halibut Commission (IPHC), the National Marine Fisheries Service (NMFS), and the Pacific States Marine Fisheries Commission (PSMFC). The workgroup's recommendations are reviewed by the Council's GOA and BSAI Groundfish Plan Teams, and by the Scientific and Statistical Committee (SSC) along with other annual BSAI and GOA SAFE documents[3].

DMR Estimation Methods

A detailed description of halibut DMR estimation methods was provided at the November 2016 Groundfish Plan Team meeting[4] and those methods continue to be applied in the current update. Briefly, data are collected by onboard observers who sample halibut according to established protocols including physical examination of individual halibut just prior to the discarding event (see AFSC 2023 for details). Based on injury type and overall vitality, halibut are assigned to gear-specific condition categories (e.g., minor injuries, moderate, serious, among others) that correspond to fixed mortality probabilities derived from the literature (e.g., Clark et al. 1992, Williams 1997, and Kaimmer and Trumble 1998).

Expansion of condition data from samples to hauls, trips, and ultimately to the defined operational group is structurally consistent with the statistical sampling hierarchy. Expansion of discard estimates is done

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[2] https://www.fisheries.noaa.gov/alaska/sustainable-fisheries/alaska-groundfish-harvest-specifications

[3] https://www.fisheries.noaa.gov/alaska/population-assessments/north-pacific-groundfish-stock-assessments-and-fishery-evaluation

[4] 2017-2018 Halibut DMR Recommendations

within each sampling strata (e.g., full coverage or gear-specific partial coverage) before estimates are combined across strata to produce fishery-level DMRs.

Specified DMRs are averages of the expanded DMRs for the two most recent complete fishing years. The appropriateness of different reference timeframes was evaluated by the workgroup and reviewed by the Plan Teams and SSC in 2016. A two-year period was chosen to balance the need for robust sample sizes and stable estimates while keeping PSC accounting consistent with recent DMR levels and fishery operational practices. In 2023, upon completing a 5-year review of rates and intra-annual variance associated with the specified rates, the Workgroup began using four-year averages for the GOA Rockfish Program non-pelagic trawl CV, GOA hook-and-line CV, and pot operational groups. The continued goal is to apply two-year averages when feasible to maintain a rate responsive to current fishing practices. From a management/policy perspective, frequently updating applied DMRs may, in the presence of other contributing factors, provide incentives for operations to adjust handling practices to improve halibut survival.

The GOA hook-and-line CV operational group saw a significant decrease in the number of condition assessments on trips with halibut PSC estimates collected in 2019. In 2023, the GOA hook-and-line CV operational group was moved to a 4-year average in response to this decrease. Prior to 2024, CVs that retain but are not targeting halibut did not contribute data to the DMR for this operational group. These vessels' operations are similar to those vessels that have some IFQ quota (can retain halibut) but target other groundfish (e.g., sablefish or P. cod). In 2024 the workgroup moved to a new methodology that includes trips that do not target halibut but retain halibut to estimate the hook-and-line CV discard mortality rate, thus increasing the sample size. This observer-based discard estimate methodology allows the calculation to be derived from all observed trips that did not target halibut regardless of whether halibut was retained rather than the PSC estimated by the AKRO Catch Accounting System (CAS; PSC is not estimated on trips where halibut is retained). The observer-based discard estimate methodology utilizes the same sampling-hierarchy structure and operational grouping as explained in the 2017-2018 Halibut DMR Recommendations.

Workgroup recommendations:

The workgroup recommends the DMRs provided in Table 1 be used for in-season management of halibut PSC in 2026, noting that groundfish harvest specifications are for two-year periods, and these DMRs would also be specified for 2027 until recalculated for the 2027/2028 harvest specifications. Annual DMR estimates and additional supporting information (numbers of vessels, trips, hauls, and condition assessments) for the selected operational groups are provided in Tables 2-7. Note that pelagic trawl DMRs are not estimated, but are instead specified at 100%. In cases where data from very few vessels contributed to DMR estimates, proxy operational groupings with similar halibut handling characteristics were identified (see footnotes in Table 1).

Proxy rates

For the BSAI hook-and-line CV operational group neither estimation methodology had large enough sample size to support an estimate, consistent with previous years. The recommendation is for the BSAI hook-and-line CV operational group to continue to use the rate estimated for BSAI hook-and-line CPs as a proxy. Halibut PSC for the group was less than .01 tons in 2024.

Deck sorting

As in previous years, the DMR estimates provided here do not pertain to deck-sorted halibut. PSC mortalities for deck-sorted halibut are estimated through an independent process that is not part of the Council specification cycle. Because deck-sorted halibut do not enter the factory and are discarded relatively quickly, discarded halibut are presumed to have lower post-capture mortality. DMRs for deck

sorted halibut are calculated based on real-time observer collected data and applied on a haul-specific basis.

Directed halibut fishery

Halibut DMRs needed for calculating discards in the directed halibut fishery are addressed independently as part of the IPHC 's stock assessment process. Table 8 presents the estimated DMRs for all vessels targeting halibut in the BSAI and GOA (using observer-based discard estimate methods for halibut targets).

Pelagic trawl samples

For the pelagic trawl gear operational group, the DMR is fixed at 100%. The workgroup concluded that halibut condition data collections were no longer necessary. Starting in 2022, observers discontinued the collection of halibut condition data on pelagic trawl vessels; however, all other data related to halibut continue to be collected (e.g., counts and length data).

Model based DMRs

The Workgroup supports continued research into the feasibility of modeling DMRs based on variables expected to impact post-capture survival (hook-release method, time-out-of-water). Using modeled DMRs would reduce the data collection burden on observers and would dovetail with the expansion of Electronic Monitoring.

Marine mammal interactions

As noted in the October 2024 DMR WG Report on Marine Mammals Interactions paper, the current approach to DMRs does not explicitly account for marine mammals feeding on discards. When marine mammals are observed feeding on discards, deck sorting (if it is occurring) is halted and viabilities are not collected. It is unknown to what degree marine mammal interactions may affect currently used DMRs and there are no available data to inform such an estimate. The DMR working group supports further research to investigate this topic.

Research related to halibut discard mortality:

The workgroup looks forward to reporting on any research findings that could be incorporated into alternative calculations of DMR. Ongoing projects are summarized below.

In 2023, IPHC used pop-up archival and traditional tags to estimate DMRs for fish captured using common charter recreational gear (12/0 and 16/0 circle hooks) and fishing and handling practices aboard charter vessels operating out of Sitka and Seward, AK. The results of this work show a mortality rate estimate of 1.35% with a 95% CI of 0.0-3.95% for Pacific halibut captured on circle hooks and released in the 'Excellent' viability category. This estimate is lower than the value of 3.5% for 'Excellent' viability fish released in the commercial fishery which serves as the basis for the recreational fishery DMRs (Meyer 2007; Loher at al. 2022). The results of this study will be used to evaluate an updated DMR for charter and non-charter recreational fisheries.

In 2024, FMA initiated an observer research study to assess whether halibut condition data could be collected at the observer sample station on non-pelagic trawl CPs instead of at the point of discard. On some vessels, observers do not have access to the last point of discard because of obstructions in the factory such as conveyor and incline belts, factory machinery, and/or discard exits that are obscured from view; hence halibut condition data are not collected. On other vessels, the point of discard may be far from the observer sample station and could create additional sampling burdens and safety hazards for the observer. Conducting halibut condition assessments at the observer sample station instead of the point of discard would 1) increase the observer's ability to collect more halibut condition data than currently possible, 2) decrease the effort required to collect data and the disruption to other observer sampling duties, and 3) provide consistency in data collection locations. This study is currently ongoing and is expected to continue through fall 2025 with results available in late 2025. Should changes in the location of halibut condition data be supported, the change would be implemented in January 2026.

References

(AFSC) Alaska Fisheries Science Center. 2023. 2024 Observer Sampling Manual. Fisheries Monitoring and Analysis Division, North Pacific Groundfish Observer Program. AFSC, 7600 Sand Point Way N.E., Seattle, Washington, 98115. Current manual available at https://www.fisheries.noaa.gov/resource/document/north-pacific-observer-sampling-manual

Clark, W. G., Hoag, S. H., Trumble, R. J., and Williams, G. H. 1992. Re-estimation of survival for trawl caught halibut released in different condition factors. Int. Pac. Halibut Comm. Report of Assessment and Research Activities 1992: 197-206.

Kaimmer, S. M. and R. J. Trumble. 1998. Injury, condition, and mortality of Pacific halibut bycatch following careful release by Pacific cod and sablefish longline fisheries. Fish. Res. 38:131-144.

Williams, Gregg H. 1997. Pacific halibut discard mortality rates in the 1990-1995 Alaskan groundfish fisheries, with recommendations for monitoring in 1997. Int. Pac. Halibut Comm. Report of Assessment and Research Activities 1996: 173-183.

Dykstra, C.L., Wolf, N., Harris, B., Stewart, I.J., Hicks, A.C., Restrepo, F., and Planas, J.V. 2024. Relating capture and physiological conditions to viability and survival of Pacific halibut discarded from commercial longline gear. Ocean & Coastal Management 249. doi:10.1016/j.ocecoaman.2024.107018.

Loher, T., Dykstra, C.L., Hicks, A.C., Stewart, I.J., Wolf, N., Harris, B.P., and Planas, J.V. 2022. Estimation of Postrelease Longline Mortality in Pacific Halibut Using Acceleration-Logging Tags. North American Journal of Fisheries Management 42(1): 37-49. doi:10.1002/nafm.10711.

Meyer, S. 2007. Halibut Discard Mortality in Recreational Fisheries in IPHC Areas 2C and 3A. Discussion paper for the NPFMC. September 17, 2007. 30 p.

North Pacific Fisheries Management Council. Current Information on Marine Mammals Feeding on Halibut Discards in the GOA and BSAI Groundfish Fisheries. Available at https://meetings.npfmc.org/CommentReview/DownloadFile?p=13373c65-e9d4-4b40-846b-ee6b8d2d7723.pdf&fileName=C3d%20DMR%20WG%20Report%20on%20Marine%20Mammals%20Interactions.pdf

Tables

Table 1. Halibut DMRs specified for fishery operational types defined for halibut PSC management in GOA and BSAI groundfish fisheries in 2025 and workgroup recommendations for application in 2026 and 2027.

Area	Gear	Operation	2025 DMRs (specified)	2026/27 DMRs (recommended)
BSAI	Pot	All	21% [b]	19% [b]
	Hook-and-line	CP	9%	10%
	Hook-and-line	CV	9% [a]	10% [a]
	Non-pelagic trawl	Mothership / CP	86%	86%
	Non-pelagic trawl	CV	67%	62%
GOA	Pot	All	32% [b]	29% [b]
	Hook-and-line	CP	10%	12%
	Hook-and-line	CV	19% [c]	15% [c]
	Non-pelagic trawl	Mothership / CP	76%	79%
	Non-pelagic trawl	CV	74%	62%
	Non-pelagic trawl	CV-Rockfish Prog	56% [b]	53% [b]
All	Pelagic trawl	All	100%*	100%*

[a] Based on BSAI HAL CP

[b] 4-year average

[c] Observer Estimate methodology

*Fixed, not estimated

*Table 2. **BSAI hook and line** vessels, trips, hauls, injury assessments and corresponding DMRs from 2015–2024 observer data. The bottom rows for each panel provides the recommended specified DMRs based on two-year averages or proxy values (*) from similar operations. Source: AKFIN Data.*

BSAI Hook and Line CPs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	28	259	2,884	10,224		7.8%
2016	28	239	2,225	7,104		7.9%
2017	27	221	1,931	6,345		9.1%
2018	23	141	1,065	3,617		9.1%
2019	20	125	694	1,925	8%	8.1%
2020	18	95	441	1,190	9%	10.5%
2021	16	92	550	1,422	9%	6.7%
2022	18	141	1054	4,041	10%	8.0%
2023	17	132	942	3,567	9%	10.3%
2024	16	162	1231	5,099	7%	8.9%
		2025 Specs			9%	
		WG recom. for 2026 Specs			10%	

BSAI Hook and Line CVs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	1	1	1	6		4.0%
2016						
2017	1	1	1	2		4.0%
2018	2	4	17	83	17%	4.0%
2019	1	1	5	15	4%	11.0%
2020					9%*	
2021					9%*	
2022					10%*	
2023					9%*	
2024	5	5	33	163	7%*	9.5%
		2025 Specs			9%*	
		WG recom. for 2026 Specs			10%*	

*Utilized BSAI HAL CP rate

*Table 3. **BSAI non-pelagic trawl** vessels, trips, hauls, viability assessments and corresponding DMRs from 2015-2024 observer data. The bottom rows for each panel provides the recommended specified DMRs based on either two-year average. Source: AKFIN Data.*

BSAI Nonpelagic Trawl CPs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	10	22	186	463		81.2%
2016	14	96	881	3,685		83.8%
2017	11	61	517	2,003		73.8%
2018	20	165	1049	2,426	84%	84.7%
2019	20	164	1101	2,879	78%	83.6%
2020	15	114	945	2,578	75%	85.2%
2021	16	106	744	2,167	84%	85.1%
2022	18	84	585	1,768	84%	85.5%
2023	14	78	568	1,696	85%	85.4%
2024	11	63	621	2,028	85%	85.7%
			2025 Specs		86%	
			WG recom. for 2026 Specs		86%	

BSAI Nonpelagic Trawl CVs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	34	146	446	1,977		58.0%
2016	43	163	660	2,677		64.9%
2017	49	205	1555	10,199		53.7%
2018	40	165	1389	11,085	60%	61.6%
2019	47	177	2,093	16,781	59%	56.6%
2020	35	139	1,100	9,063	58%	67.7%
2021	29	62	524	3,668	59%	56.8%
2022	38	101	573	4,740	62%	69.9%
2023	31	69	485	4,790	62%	64.4%
2024	28	150	695	5,782	63%	60.3%
			2025 Specs		67%	
			WG recom. for 2026 Specs		62%	

T*able 4.* ***GOA hook and line*** *vessels, trips, hauls, injury assessments and corresponding DMRs from 2015–2024 observer data. CV group shows Observer estimate methodology while the CP represents the PSC estimate methodology. The bottom row for each panel provides the recommended specified DMRs based on either two-year or four-year averages. Source: AKFIN Data.*

GOA Hook and Line CPs

Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	6	25	382	1,570		8.5%
2016	9	18	185	1,399		10.1%
2017	8	21	217	1,539		14.9%
2018	2	3	29	232	10%	18.7%
2019	3	5	15	106	11%	18.6%
2020					11%	
2021	2	4	16	147	15%	15.7%
2022	5	8	38	309	15%	5.8%
2023	3	5	48	369	13%	15.0%
2024	3	6	60	450	11%	9.0%
		2025 Specs			10%	
		WG recom. for 2026 Specs			12%	

GOA Hook and Line CVs

Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	45	59	188	803		11.2%
2016	54	69	186	845		17.6%
2017	42	59	164	653		15.4%
2018	41	46	144	688	17%	11.6%
2019	37	45	125	602	21%	15.6%
2020	11	12	21	77	13%	26.9%
2021	23	30	89	301	13%	16.1%
2022	13	15	51	205	12%	10.7%
2023	26	27	60	226	9%	23.8%
2024	16	20	70	316	10%	10.6%
		2025 Specs			19%	
		WG recom. for 2026 Specs			15%	

*Moved to 4 year average 2023

*Moved to observed weights for assessments in 2024

T*able 5.* ***GOA non-pelagic trawl*** *vessels, trips, hauls, viability assessments and corresponding DMRs from 2015–2024 observer data. The bottom row for each panel provides the recommended specified DMRs based on either two-year averages or interpolated values (*) from similar operations. Source: AKFIN Data*

GOA Nonpelagic Trawl CPs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	1	1	1	1		90.0%
2016	7	13	76	232		84.0%
2017	5	38	424	2,367		75.0%
2018	4	25	114	709	84%	82.9%
2019	5	40	359	1,669	79%	85.9%
2020	5	30	170	988	75%*	85.5%
2021	5	26	260	576	84%*	77.9%
2022	4	11	95	230	83%	88.2%
2023	4	11	76	175	83%	70.4%
2024	3	17	77	115	83%	86.8%
		2025 Specs			76%	
		WG recom. for 2026 Specs			79%	

*Utilized BSAI NPT CP rate

GOA Nonpelagic Trawl CVs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	19	33	66	346		64.2%
2016	36	94	239	1,433		65.9%
2017	28	59	144	778		67.6%
2018	25	46	105	641	67%	69.4%
2019	24	65	153	1,034	67%	68.9%
2020	13	35	93	515	68%	68.9%
2021	13	31	52	279	69%	70.3%
2022	16	30	42	237	69%	68.6%
2023	19	28	48	241	74%	79.2%
2024	14	25	58	292	69%	46.7%
		2025 Specs			74%	
		WG recom. for 2026 Specs			62%	

Table 6. ***BSAI and GOA pot*** *vessels, trips, hauls, viability assessments and corresponding DMRs from 2014–2024 observer data. The bottom rows for each panel provides the recommended specified DMRs based on either two-year or four-year averages. Source: AKFIN Data*

BSAI Pot CPs and CVs

Year	Vessels	Trips	Hauls	Assessments	Spec DMR	DMR
2015	24	78	310	723		5.8%
2016	24	66	245	424		10.8%
2017	14	33	191	335		25.5%
2018	22	34	101	197	9%	7.9%
2019	19	28	73	140	19%	39.0%
2020	9	13	51	60	27%	27.9%
2021	7	21	83	181	32%	20.0%
2022	17	51	176	441	33%	15.6%
2023	18	42	191	317	26%	24.4%
2024	20	57	219	821	26%	16.8%
		2025 Specs			21%	
		WG recom. for 2026 Specs			19%	

*Moved to 4 year average 2023

GOA Pot CPs and CVs

Year	Vessels	Trips	Hauls	Assessments	Spec DMR	DMR
2015	32	82	210	895		5.4%
2016	37	62	158	732		8.4%
2017	20	25	50	168		0.0%
2018	9	11	20	69	7%	0.0%
2019	11	16	40	82	4%	21.4%
2020	6	10	33	128	0%	42.9%
2021	38	62	220	730	10%	12.0%
2022	42	55	168	405	29%	37.7%
2023	42	64	148	410	27%	32.9%
2024	27	32	121	366	26%	33.0%
		2025 Specs			32%	
		WG recom. for 2026 Specs			29%	

*Moved to 4 year average 2023

Table 7. ***Rockfish Program GOA non-pelagic trawl*** *vessels, trips, hauls, viability assessments and corresponding DMRs from 2015–2024 observer data. The bottom rows for each panel provides the recommended specified DMRs based on either two year or four-year averages. Source: AKFIN Data*

GOA Nonpelagic Trawl Rockfish Pgm CVs						
Year	Vessels	Trips	Hauls	Assessments	Spec DMR	Est DMR
2015	10	17	30	94		69.8%
2016	16	46	108	375		41.1%
2017	17	47	99	400		57.7%
2018	14	23	57	246	62%	46.7%
2019	13	18	28	61	49%	73.2%
2020	12	13	29	105	52%	59.5%
2021	6	15	33	115	60%	72.6%
2022	3	9	13	35	66%	20.0%
2023	3	4	10	57	55%	71.7%
2024	5	11	15	47	56%	46.8%
		2025 Specs			56%	
		WG recom. for 2026 Specs			53%	

*Moved to 4 year average 2023

Table 8. Halibut IFQ hook and line vessels, trips, hauls, viability assessments and corresponding DMR estimates from 2025–2024 observer data. The annual DMR is specified by IPHC. Source: AKFIN Data

Halibut IFQ Hook and Line CVs					
Year	Vessels	Trips	Hauls	Assessments	Est DMR
2015	132	156	702	2,796	21.0%
2016	153	179	906	2,997	19.8%
2017	94	115	528	1,651	13.8%
2018	116	152	773	2,882	17.1%
2019	114	139	670	2,218	15.2%
2020	38	53	317	1,034	12.9%
2021	73	115	677	2,207	18.4%
2022	62	87	460	2,456	12.7%
2023	91	140	957	3,666	21.5%
2024	88	126	954	3,987	15.5%

*Rate specified by IPHC

*Using observed weights for assessments