

Halibut Deck Sorting: A tool for Amendment 80 to reduce halibut mortality in Bering Sea and Gulf of Alaska flatfish fisheries

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Amendment 80 and NMFS' FMA Division collaborated to change fish handling and observer sampling to reduce halibut mortality rates for flatfish fishing

- Changes to fish handling and catch accounting regulations/procedures for deck sorting were developed through a series of experimental fisheries (EFPs)
- NMFS collaboration was critical to developing a program that could be successfully implemented into A 80 fishery regulations
- Main objective of deck sorting is to reduce halibut mortality rates while maintaining accurate accounting for halibut catches and viability rates (condition of halibut) that are put back in the water from the vessel's deck

Amendment 80 and NMFS' FMA Division collaboration for Deck Sorting (continued)

- Regulations allowing for deck sorting in the regular fisheries (outside EFPs) fisheries were implemented in 2020.
- Deck Sorting now widely used by all A80 vessels while fishing for flatfish and other species in the Bering Sea and Gulf of Alaska
- This presentation focuses on Gulf of Alaska deck sorting usage (slide 13)

Summary of Rules of Deck Sorting

- NMFS-trained fishery observer (two on each A80 vessel) must be present on deck whenever deck sorting occurs
- To utilize deck sorting, a vessel must have a NMFS-approved safety plan, NMFS-approved monitoring cameras and NMFS-approved deck sorting table/chute for putting halibut back into the water
- Vessel cannot run any fish from stern tanks into factory while deck sorting. (necessary because the observer is occupied the data collections on deck and cannot perform normal catch sampling and accounting duties until deck sorting is completed)

Rules of Deck Sorting

- Observer data collection on deck determines amount and mortality of deck sorted halibut
 - Stratified random sample of halibut (20% of halibut sampled)
- 35-minute time limit on deck sorting, beginning when codend is opened
- Vessel may opt out of deck sorting (e.g. when halibut encounters are very low or in severe weather conditions)



The codend is pulled forward of the live tank hatches and opened. As fish flow out of the net, crewmembers sort halibut out of the catch.



A view of crewmembers sorting fish and pushing target species catch into the live tanks.



Crewmembers carefully transport a halibut to the observer's sample table. An observer is present for all sorting activities and randomly samples the halibut to measure length and estimate viability.



A crewmember slides a halibut to the observer for measuring; the observer is just out of frame to the top left of the image.



A 80 vessels typically use 5-8 crew members to sort halibut from the target species (here Arrowtooth flounder) and carry them to the observer station. The observer can be seen in the background measuring a halibut before its quick release overboard.



In this overhead view of an observer sample table, the observer prepares to measure a lively halibut.



Observer sample tables are customized to best fit each vessel; in this one, a conveyor belt helps to move halibut.



2019-2021 Gulf of Alaska Deck Sorting Usage and Halibut Mortality Rates/Mortality Savings

Year	Groundfish for DS Hauls (MT)	# Hauls with deck sorting	Deck sorted halibut (MT)	Halibut Mortality Rate (average)	Halibut Mortality (MT)	Halibut Savings (MT)*
2019	24,877	1,308	240.9	46%	110.9	69.8
2020	7,318	509	203.5	49%	99.7	71.2
2021	11,028	604	242.0	43%	104.1	96.8

*Mortality savings calculations based on non-deck sorting mortality rate (75%, 84%, 83% for 2019-2021) applied to weight of halibut that was deck sorted each year compared to actual deck sorting mortality rates achieved with deck sorting each year.

FMA's Perspectives on deck
sorting in general and
specifically on A80 vessels
fishing in the Gulf of Alaska