

## How Are Halibut Catch Limits Determined?

A fishery catch limit is the result of a multi-step process which has the objective of determining how much can be harvested by the directed fisheries, while accounting for all other removals, and still meet the Commission's goals for stock conservation.

The process starts in the fall, when the Commission staff conducts the annual stock assessment, which estimates the coastwide stock size (in numbers of fish at each age) and the female spawning biomass in pounds. The process culminates at the Annual Meeting, where the Commission makes catch limit decisions using information from the staff and input from the halibut community.

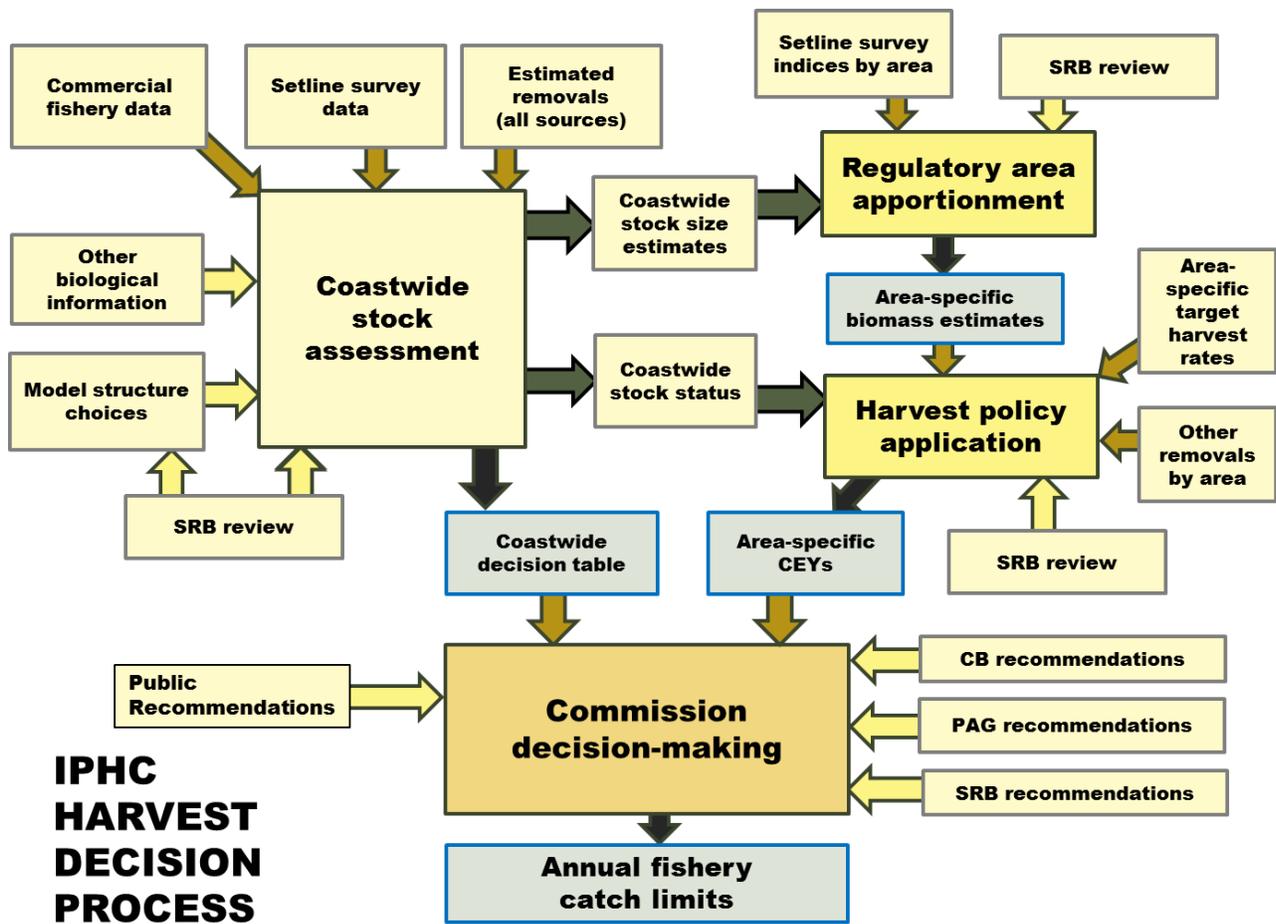
Harvest advice information is provided by the Commission staff in a decision table, with rows representing different levels of harvest and columns representing various risk metrics that indicate the projected consequences to the stock and fishery trend and status. The table can be used to compare different levels of benefits (harvest) with the estimated risks associated with those levels of harvest. An example of the harvest decision table format is shown on the reverse side of this sheet. One row of the harvest decision table represents the level of harvest resulting from application of the Commission's current harvest policy. This row is referred to as the Blue Line, as it is highlighted in blue in the staff's presentations and handouts.

The stock assessment calculates the coastwide exploitable biomass and the harvest decision table is based on coastwide harvest levels. To determine the catch limits for individual IPHC regulatory areas, the coastwide exploitable biomass is divided among the IPHC regulatory areas through a process called biomass apportionment. Catch rate information from the annual IPHC assessment survey and the halibut habitat of each regulatory area form the basis of the apportionment.

Once exploitable biomass has been apportioned, the next step involves applying the Commission's target harvest rate for each area. The result of exploitable biomass times target harvest rate is referred to as the Total Constant Exploitation Yield, or TCEY. Other Removals are then subtracted from the TCEY to determine the Fishery CEY or FCEY. It is the FCEY which forms the basis of the directed fishery catch limits. The makeup of Other Removals varies somewhat by area, but in general, this includes sport and subsistence/personal use harvest, wastage from the commercial halibut fishery, and bycatch mortality. Exceptions to this list occur for Areas 2A, 2B, 2C, and 3A where some or all of the sport fisheries are included in the Commission's fishery catch limit because of allocation plans adopted by the national governments. Additionally, for bycatch and wastage, only that portion of the catch which is greater than 26 inches is included in this step.

The Commission staff distributes the assessment information, the decision table, and catch limits calculated for the Blue Line in advance of the Annual Meeting, allowing the halibut industry to discuss and provide comment back to the Commission. Once the Annual Meeting commences, the Conference Board and Processor Advisory Group further discuss the harvest advice and produce formal recommendations to the Commission. The Commission considers all of the input – public comments, the advisory bodies' recommendations, and staff harvest advice – and adopts a directed fishery catch limit by vote for each area.

## Flow chart of the Catch Limit Determination Process



## An example of the Harvest Advice Decision Table format

Total removals (M lb)	Fishery CEY (M lb)	Fishing intensity	Stock Trend				Stock Status				Fishery Trend			
			Spawning biomass				Spawning biomass				Fishery CEY from the harvest policy			
			in 2016		in 2018		in 2016		in 2018		in 2016		in 2018	
			is less than 2015	is 5% less than 2015	is less than 2015	is 5% less than 2015	is less than 30%	is less than 20%	is less than 30%	is less than 20%	is less than 2015	is less than 10% 2015	is less than 2015	is less than 10% 2015
<b>Benefits</b>			<b>Risk</b>											