

Interim IPHC Harvest Strategy and Policy

February 2020

The current interim harvest strategy policy for the management of Pacific halibut is composed of three major components (Figure 1): scale, TCEY distribution, and decision-making. The management procedure is only the first two components, scale and TCEY distribution, and in each of these components, there are science inputs and management inputs. The management procedure is a well defined procedure that defines the reference TCEY's by IPHC Regulatory Area. The decision-making step may depart from these reference TCEY's based on additional considerations.

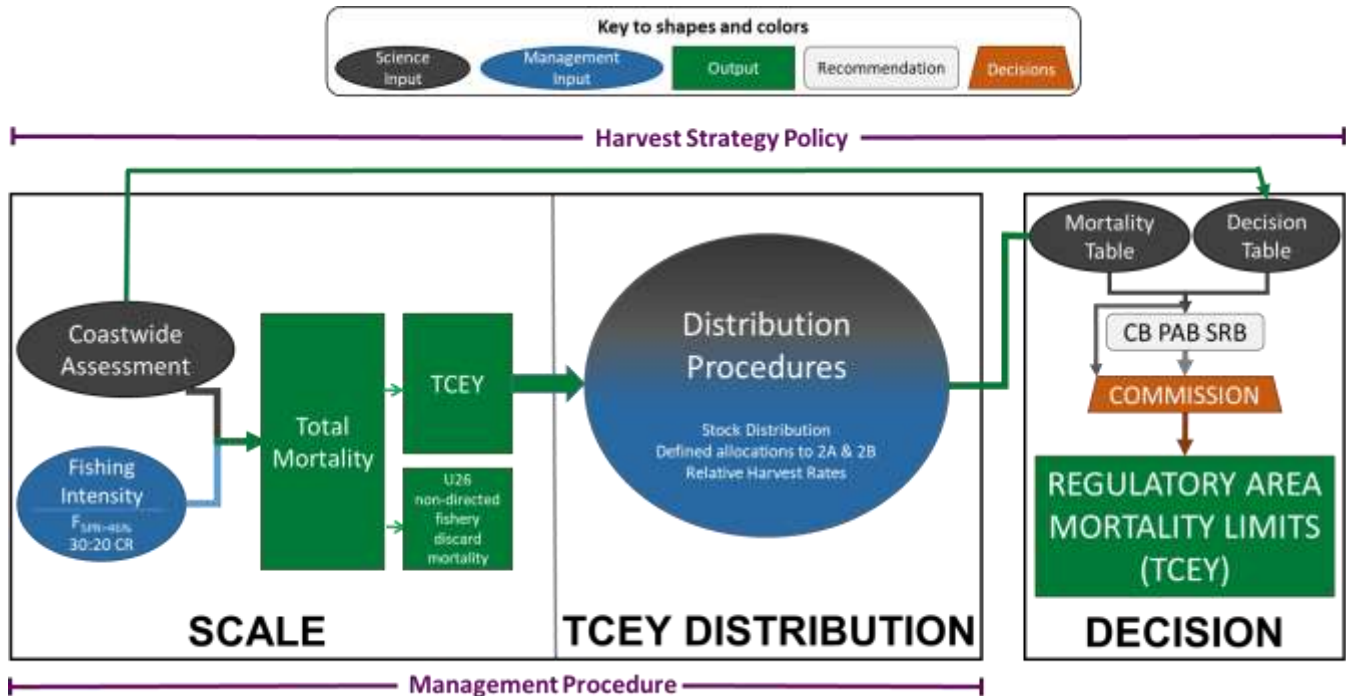


Figure 1: An illustration of the interim IPHC interim harvest strategy policy.

SCALE

The scale component defines the coastwide total mortality, which is divided into the under 26-inch (U26) non-directed fishery discard mortality and the remainder of mortality called Total Constant Exploitation Yield (TCEY). The TCEY is composed of commercial directed fishery mortality (including directed fishery landings and discard mortality; this also includes landings associated with IPHC research and monitoring via the Fishery Independent Setline Survey, FISS), recreational mortality (also landings and discard mortality), mortality from subsistence fisheries, and over 26-inch (O26) discard mortality from non-directed fisheries.

The stock assessment and the reference fishing intensity are science and management inputs into the scale portion of the management procedure to determine the Total Mortality (TM). All sizes and sources of mortality are used in the stock assessment to estimate the historical and projected stock size. The fishing intensity, measured using the spawning potential ratio (SPR), is estimated in the stock assessment. The reference fishing intensity is a fishing mortality rate that would reduce the SPR in the coastwide stock to 46% ($F_{SPR=46}$). In a harvest control rule, the reference SPR is adjusted to reduce the fishing intensity at low levels of spawning biomass by linearly increasing the SPR (i.e., reducing the fishing intensity) if the estimated stock status is less than a trigger, to zero fishing

intensity (SPR=100%) when the estimated stock status is less than a limit (Figure 2). Stock status is relative to unfished spawning biomass (B_0) and called relative spawning biomass (RSB). The trigger and limit are RSB levels of 30% and 20%, respectively. This is referred to as the 30:20 control rule. The TCEY is determined by removing projected U26 non-directed fishing discard mortality from the total mortality.

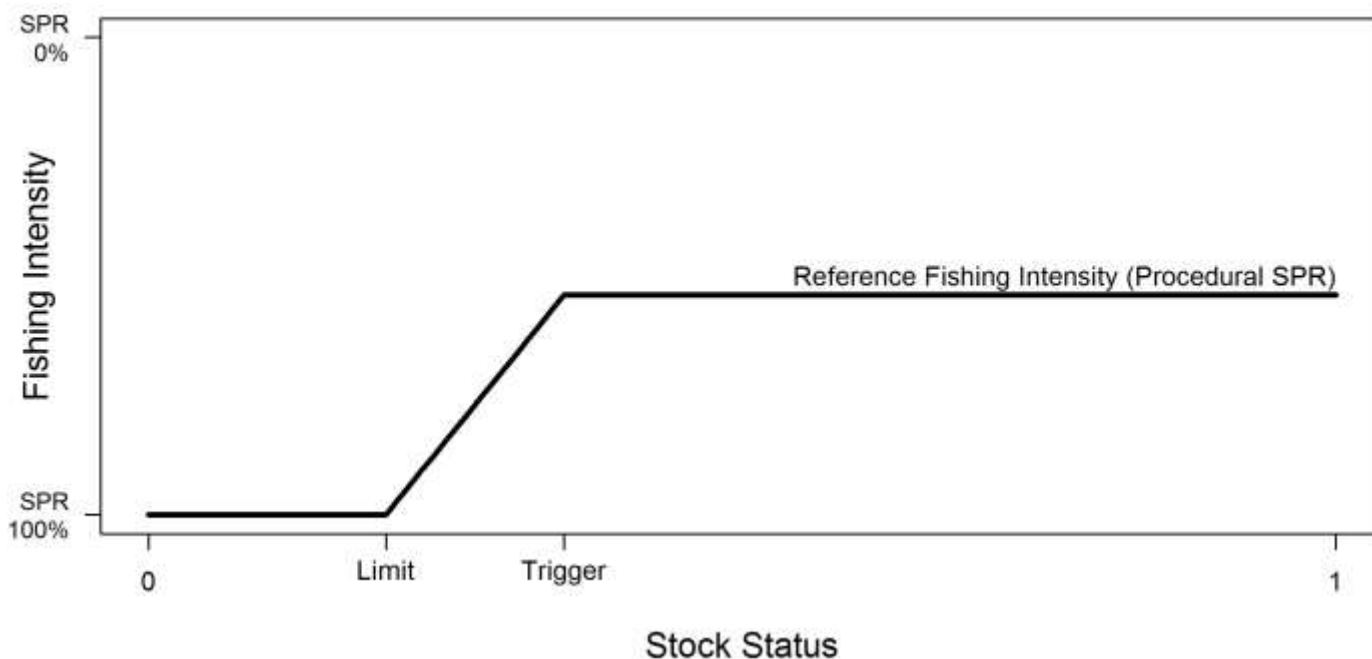


Figure 2: The harvest control rule used in the SCALE component of the IPHC interim management procedure showing a decrease in the fishing intensity when the stock status is below the trigger (30% of unfished spawning biomass) and no fishing when the stock status is below the limit (20% of unfished spawning biomass).

DISTRIBUTION

The TCEY is distributed among IPHC Regulatory Areas using the estimated stock distribution of O32 Pacific halibut based on the IPHC modelled survey index, and adjusted via relative harvest rates in IPHC Regulatory Areas 3B, 4A, 4B, and 4CDE that are three-quarters of the relative harvest rates in IPHC Regulatory Areas 3A, 2C, 2B, and 2A (Table 1).¹ The result is a TCEY for each IPHC Regulatory Area.

¹ The interim management procedure currently includes agreements for IPHC Regulatory Areas 2A and 2B for the period of 2019–2022. The agreement for IPHC Regulatory Area 2A is to receive a TCEY of 1.65 Mlbs and the agreement for IPHC Regulatory Area 2B is a share-based allocation defined based on a weighted average that assigns 30% weight to the current interim management procedure's target TCEY distribution and 70% on 2B's recent historical average share of 20%. After accounting for the IPHC Regulatory Area 2A and 2B agreements the stock distribution and relative harvest rates determine the target TCEY distribution in the remaining IPHC Regulatory Areas. See [IPHC-2019-AM095-R](#), Para. 69.

Table 1. IPHC Regulatory Area O32 stock distribution estimated from the 2019 modelled survey results, IPHC Regulatory Area-specific relative target harvest rates, and resulting 2019 target TCEY distribution based on the IPHC’s interim management procedure.

	2A	2B	2C	3A	3B	4A	4B	4CDE	Total
O32 stock distribution	2.0%	12.5%	15.3%	30.3%	12.1%	9.3%	5.2%	13.2%	100%
Relative harvest rates	1.0	1.0	1.0	1.0	0.75	0.75	0.75	0.75	NA
Target TCEY Distribution	2.2%	13.9%	17.0%	33.6%	10.1%	7.7%	4.3%	11.0%	100%

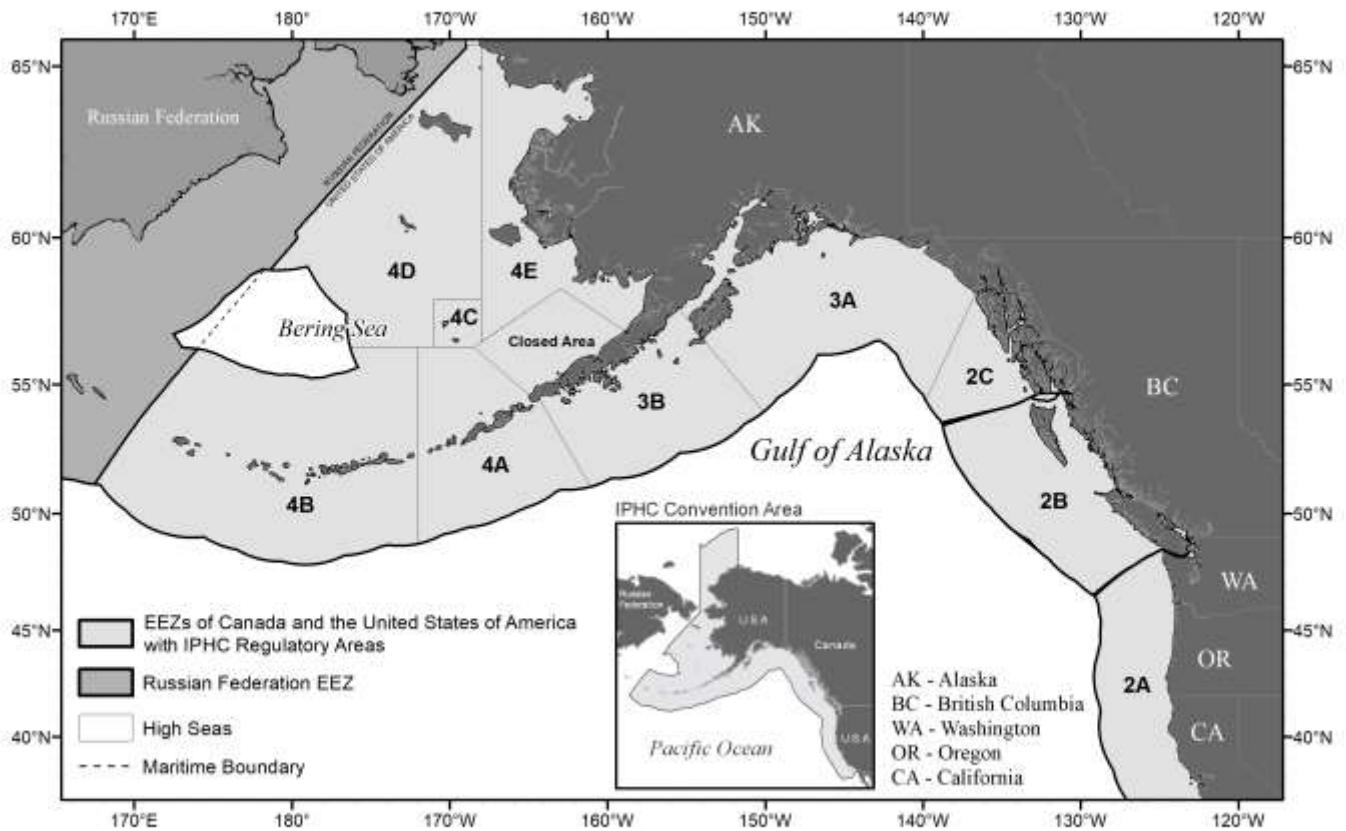


Figure 3: IPHC Convention Area and Regulatory Areas.

DECISION-MAKING

The final component of the harvest strategy policy is the decision-making process leading to annual mortality limits. During the IPHC’s Annual Meeting the final mortality limits are determined based on the previous year’s limits, the interim management procedure, as well as social and economic considerations. The reference TCEY’s by Regulatory Area are those based on the above interim management procedure.