

IPHC Memo

To: NPFMC Halibut Charter Stakeholder Committee

From: IPHC Staff

Date: March 20, 2006

Re: Data request for March 21-23, 2006 meeting

This memo is in response to two items in the minutes from the February 2006 meeting, and provides additional information to the Committee.

1. Explanation of how overage is deducted by IPHC and as proposed under separate accountability

The assumption about the “overage” being referred to is the harvest in excess of the GHL. In practice, IPHC uses the total reported harvest (or catch) in the estimation of population abundance (exploitable biomass). As such, an overage (or underage) is simply part of the total harvest. It is not treated separately or differently than the rest of the harvest by that sector. The same would hold true if one of the groundfish fisheries exceeded their halibut Prohibited Species Catch bycatch limit. Only the actual removal is used in the computations.

2. Table of 2000-2006 as if the combined commercial and charter CEY was in place, as biomass was previously predicted and under current estimates.

Tables shown on the next page provide the information requested. On the left side of the tables (labeled “Based on Expl. Biomass Estimated That Year”), estimates of Exploitable Biomass are shown as estimated by the assessment conducted for that year. For example, in 1999, the Area 2C assessment estimated ebio at 64 Mlbs. Total CEY is calculated as the product of that Exploitable Biomass and the harvest rate, also shown. Other Removals is shown but this ONLY includes legal bycatch mortality, unguided sport harvest, subsistence (as was known at that time), and commercial fishery wastage. Finally, the combined commercial and charter CEY is calculated after subtracting Other Removals from the Total CEY.

Similar information is shown on the right-hand side of the tables, but uses Exploitable Biomass as was determined in the most recent stock assessment, retrospectively.

In some instances there are large differences in the biomass estimated in a given year, and the biomass estimated for that same year but by the current biomass. This is not uncommon and is due to the current assessment having more information on each year-class as it gets older and the fishery has an opportunity to fish on that part of the stock. It also reflects technical revisions to the assessment model made by IPHC biologists as new data become available.

Area 2C										
Year	Based on Expl. Biomass Estimated That Year					Based on Expl. Biomass Estimated in 2006				
	Expl. Bio ¹	Harvest rate	Total CEY	Other Removals ²	Comm + Chrtr CEY	Expl. Bio ³	Harvest rate	Total CEY	Other Removals ²	Comm + Chrtr CEY
1999	64	0.200	12.80	1.37	11.43	62	0.200	12.4	1.37	11.0
2000	42	0.200	8.44	1.43	7.01	59	0.200	11.8	1.43	10.4
2001	56	0.200	11.20	1.16	10.04	55	0.200	11.0	1.16	9.8
2002	53	0.200	10.66	1.25	9.41	61	0.200	12.2	1.25	11.0
2003	60	0.200	12.00	1.23	10.77	59	0.200	11.8	1.23	10.6
2004	80	0.250	20.00	1.56	18.44	58	0.250	14.5	1.56	12.9
2005	66	0.225	14.90	--	--	60	0.225	13.5	--	--
2006	61	0.225	13.73	--	--	61	0.225	13.7	--	--

Area 3A										
Year	Based on Expl. Biomass Estimated That Year					Based on Expl. Biomass Estimated in 2006				
	Expl. Bio ¹	Harvest rate	Total CEY	Other Removals ²	Comm + Chrtr CEY	Expl. Bio ³	Harvest rate	Total CEY	Other Removals ²	Comm + Chrtr CEY
1999	159	0.200	31.80	4.60	27.20	233	0.200	46.6	4.60	42.0
2000	95	0.200	18.98	3.97	15.01	224	0.200	44.8	3.97	40.8
2001	139	0.200	27.80	2.85	24.95	216	0.200	43.2	2.85	40.4
2002	155	0.200	30.96	3.28	27.68	202	0.200	40.4	3.28	37.1
2003	200	0.200	40.00	3.32	36.68	194	0.200	38.8	3.32	35.5
2004	146	0.250	36.50	3.46	33.04	178	0.250	44.5	3.46	41.0
2005	146	0.225	32.90	--	--	150	0.225	33.8	--	--
2006	143	0.225	32.18	--	--	143	0.225	32.2	--	--

Footnotes:

¹ From stock assessment for that year.

² Other Removals include nonguided sport, legal bycatch, personal use, and commercial wastage.

³ From 2005 stock assessment.

3. Compare the IPHC catch limit setting process which would occur if the ALFA proposal is adopted, to the current method.

The current stock assessment and catch limit setting process used by IPHC is depicted in Fig. 1 (left). In principle, the stock assessment takes as inputs several pieces of data gathered from the commercial IFQ halibut fishery and the annual IPHC setline assessment survey, and the reported harvests by all sources of removals (i.e., commercial IFQ, bycatch mortality, sport, personal use/subsistence, and wastage). The product of the assessment is an estimate of the Exploitable Biomass (ebio), which represents the abundance of halibut at the beginning of the year. Application of the harvest (or exploitation) rate results in the Total Constant Exploitation Yield (Total CEY), which is the amount of fish that can be harvested from the stock in that year. Since the goal of the IPHC process is determining a Fishery CEY as a basis for a commercial IFQ fishery catch limit, estimates of other removals are subtracted from the Total CEY to arrive at a Fishery CEY. The Commission then adopts a commercial fishery catch limit from the Fishery CEY.

Under the ALFA proposal (Fig. 2), IPHC would continue to set the commercial fishery catch limit and the guided sport harvest would be represented by the GHF but not included in the Other Removals. In the subtraction of Other Removals, only the harvest by the unguided sport sector would be included. The ALFA proposal would have the GHF in the IPHC catch limit setting process, but IPHC would not identify a specific component of the combined CEY that is available to the guided recreational sector. Because the GHF is not a strict allocation, it is very unlikely that IPHC would adopt such a plan because it lacks any assurance that the guided sport harvest will be constrained within a specified amount.

FIG. 1. IPHC STOCK ASSESSMENT AND CATCH LIMIT SETTING PROCESS

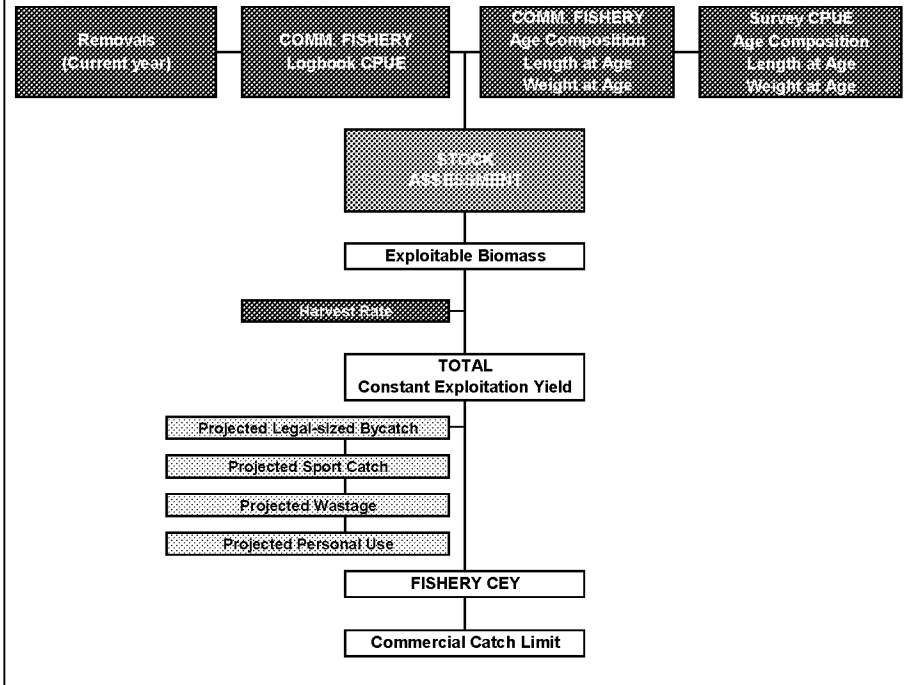
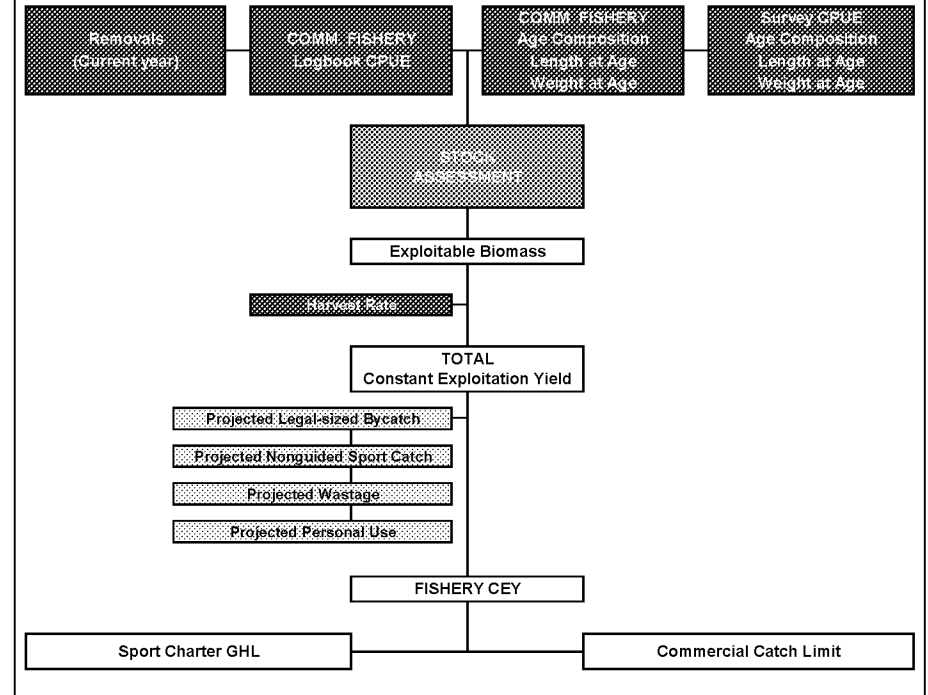


FIG. 2. ALFA PROPOSAL



4. What is the trend in Total CEY during 2007-2011, given recent projections of exploitable biomass?

Projections of biomass are made using several assumptions. Recruitment is relatively unimportant in terms of its impact on yield and biomass since animals currently six years old and older will provide the great bulk of the changes in biomass and yield over the next five years. Nevertheless, some contribution is made from younger fish at the end of the five-year projections so recruitments are also projected to fill out the population matrix. Yield is calculated with the continued use of a 0.225 harvest rate for Area 2C and 3A. The resulting projections of yield show an increase in Area 2C and a continued decrease in Area 3A. The change in Total CEY (recalculated to current Exploitable Biomass) relative to the average from 1999-2000 is also shown.

The apparent downturn in Area 3A may not be as bad as suggested. The assessment of Area 3A contains some disagreement between the analytic results and the values of some of the relative abundance indices (i.e., fishery CPUE, setline survey CPUE) typically examined. This disparity is under continued investigation by Commission staff and is not yet resolved. As such, the Area 3A assessment is still somewhat uncertain. In addition, IPHC would follow its “slow up-fast down” policy in setting commercial catch limits, which would mean that the actual catch limits adopted would not drop as much as the Total CEY. Also, annual changes occur in the amount of the Other Removals, which would affect Fishery CEY.

Area 2C

Year	Harvest rate	Expl. Bio	Recalc. Total CEY
1999	0.200	62	12.4
2000	0.200	59	11.8
2001	0.200	55	11.0
2002	0.200	61	12.2
2003	0.200	59	11.8
2004	0.250	58	14.5
2005	0.225	60	13.5
2006	0.225	61	13.7

Avg 1999-2000 Total CEY (Mlbs) = 12.1

Year	Harv Rate	Projected Ebio	Tot CEY	% Chg
2007	0.225	63.4	14.3	17.8%
2008	0.225	67.0	15.1	24.5%
2009	0.225	69.8	15.7	29.8%
2010	0.225	71.8	16.1	33.4%
2011	0.225	71.8	16.2	33.6%

Area 3A

Year	Harvest rate	Expl. Bio	Recalc. Total CEY
1999	0.200	233	46.6
2000	0.200	224	44.8
2001	0.200	216	43.2
2002	0.200	202	40.4
2003	0.200	194	38.8
2004	0.250	178	44.5
2005	0.225	150	33.8
2006	0.225	143	32.2

Avg 1999-2000 Total CEY (Mlbs) = 45.7

Year	Harv Rate	Projected Ebio	Tot CEY	% Chg
2007	0.225	135.2	30.4	-33.4%
2008	0.225	129.4	29.1	-36.3%
2009	0.225	125.5	28.2	-38.2%
2010	0.225	122.1	27.5	-39.9%
2011	0.225	118.6	26.7	-41.6%