

PACIFIC FISHERY MANAGEMENT COUNCIL REPRESENTATIVE REPORT ON
PACIFIC HALIBUT CATCH APPORTIONMENT METHODOLOGY

On October 3, 2008, a subset of the Pacific Fishery Management Council's ad hoc Halibut Managers' Workgroup met with International Pacific Halibut Commission (IPHC) staff regarding the status of the Pacific halibut stock and the apportionment of removals among the regulatory catch areas. Area 2A attendees included: Phil Anderson, Michele Culver, and Theresa Tsou (WDFW); Steve Williams and Don Bodenmiller (ODFW); Sarah McAvinchey (NMFS); Steve Joner (Makah Tribe); Joe Schumacker (Quinault Indian Nation); and Rob Jones and Bob Conrad (Northwest Indian Fisheries Commission).

Area 2A halibut managers held a conference call to identify questions for the meeting ahead of time, focusing on stock information (e.g., migration, harvest rate, survey timing, and age data) and apportionment methodology. The following is a summary of our discussion with IPHC.

Stock Information

With regard to migration, in general, the tagging information indicates a one-way migration only (i.e., east to west), and is expressed as an emigration rate relative to the area of origin. For example, 4% of halibut emigrating from Area 3A to Area 2A could represent a much higher percentage of Area 2A abundance as the abundance in Area 3A is significantly higher. Migration is estimated to be around 4-8% per year, depending on the area, and it is believed that the harvest rate has a more direct effect on the stock within an area than the migration factor.

There are very few tag recoveries in Area 2A (nine recoveries over the five-year period) in spite of the fact that IPHC and Washington Department of Fish and Wildlife staff are scanning sport, commercial and tribal landings at relatively high sample rates (i.e., 30-50%). Plausible explanations for this include: 1) the implementation of the rockfish conservation areas in 2003 likely reduced the overall halibut catch in the fixed gear fisheries; and 2) as halibut are prohibited in trawl fisheries, halibut are not scanned for tags prior to their release. In any case, there is little data from Area 2A tagging activities from which to draw conclusions relative to migration.

The harvest rate in Area 2 continues to be a concern for IPHC staff. Area 2 removals represent 32% of the total, but Area 2 comprises only 20% of the female spawning biomass. If the higher harvest rate were to continue, then fish could be removed before fisheries could realize the benefits of high recruitment events. Added to this is the reduction in the number of halibut greater than 20 years old in Area 2. With a 20% harvest rate, IPHC staff would expect to see fish greater than 20 years old comprise about 5-6% of the total in Area 2; however, the survey data indicates that only about 3% of the Area 2 stock is greater than 20 years old. This is especially concerning as more than half of the amount of fish recruiting to Area 2 comes from fish originating in Area 2.

Relative to the survey timing, Area 2A halibut managers referred to the statement from the Pacific Council's Scientific and Statistical Committee (SSC) indicating that over the past several years 60-90% of the halibut are removed from Area 2A prior to the annual survey. The percentage of removals in the Area 2A commercial fisheries prior to the survey is described in Table 1. It was noted that, while recreational removals are not included in the table, the majority

of the halibut sport fisheries have concluded prior to the survey, which typically occurs in July and August. We also did not have information relative to the timing of the halibut bycatch in the trawl fishery, but it is anticipated that it occurs primarily in the summer months when vessels are targeting flatfish on the shelf. Therefore, the percentage of removals prior to the survey is likely quite a bit higher when recreational catches and trawl bycatch are also included. Using the survey CPUE as the primary index of abundance for Area 2A could likely result in an underestimate of biomass, and using survey CPUE as the basis for apportionment would also negatively affect 2A's proportion relative to the other areas.

Table 1. Percent halibut removed in Area 2A commercial fisheries prior to IPHC survey, 2002-07.

| 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|------|------|------|------|------|------|
| 86% | 94% | 72% | 81% | 86% | 88% |

Apportionment Methodology

IPHC staff continues to support using survey catch per unit of effort (CPUE) multiplied by bottom area to apportion the halibut amongst regulatory catch areas. However, IPHC staff indicated that there were potential negative biases that could result from using this methodology relative to: 1) changing the bait used in the survey in certain regulatory areas; 2) calculating the amount of halibut habitat in each area and the need to apply a habitat correction factor in some cases; and 3) the timing of the survey relative to the timing of harvest. Area 2A halibut managers noted that all three of these factors apply to Area 2A—i.e., the type of bait used in the survey has changed, Area 2A has the highest correction factor (1.25) applied, and, as described above, the majority of the halibut in Area 2A has been removed prior to the survey—potentially adding significant negative bias, and requested that IPHC staff examine the cumulative effects of these factors in calculating the proposed apportionment for Area 2A. IPHC staff agreed to explore the sensitivity of the survey CPUE and potential biases and cumulative effects for all areas prior to the IPHC Interim Meeting scheduled for November 19-20.

Area 2A halibut managers also referenced a letter from the Alaska Department of Fish and Game to IPHC recommending the “closed area” apportionment method in the short-term until more information is available relative to survey catchability, and asked IPHC staff to describe the effects of this method on the coastwide stock. IPHC staff indicated that this method would perpetuate the problems inherent in the closed area assessments, which led IPHC staff to take a coastwide approach. It was noted that Area 2A's apportionment is slightly reduced (from 1.3% to 1.2%) using the closed area method when compared to the survey CPUE x bottom area method (IPHC staff preferred); however, the closed area method maintains the linkage between Area 2A and Area 2B (i.e., Area 2A is calculated as a percentage of 2B), whereas the Area 2A calculation is independent using the CPUE x bottom area method. IPHC staff also indicated that they plan to conduct additional research in 2010 to provide more information on survey catchability by area, which may include a trawl/setline comparison.

As next steps, some Area 2A halibut managers will be attending the Interim Meeting on November 20 in Seattle. Following that, we would recommend another meeting or conference call of the Area 2A Halibut Managers' Workgroup prior to the IPHC Annual Meeting the week of January 13, 2009, in Vancouver, B.C.