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INTERNATIONAL PACIFIC HALIBUT COMMISSION

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AND THE UNITED STATES OF AMERICA

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August 18, 2016

Mr. Charles A. Tracy
Executive Director, Pacific Fishery Management Council
7700 NE Ambassador Place, Suite 101
Portland, OR 97220-1384

Re: Council Request for Area 2A Spatial Data for Pacific Halibut

Dear Mr. Tracy:

Congratulations on your new position as Executive Director of the Pacific Fishery Management Council (Council). The International Pacific Halibut Commission (IPHC) looks forward to working with you in your new role and to continuing our strong partnership with the Council for sustainable management of the Pacific halibut resource.

Thank you for your letter, dated July 29, 2016, requesting data from the IPHC on the spatial distribution of the Pacific halibut exploitable biomass in Area 2A (IPHC's regulatory area offshore from Washington, Oregon, and California) for the June 2017 Council meeting. The IPHC staff understands that the Council may use this information to inform their consideration of allocations in the Area 2A Pacific Halibut Catch Sharing Plan (CSP). The IPHC has data that may be of some use to the Council in this exercise. This letter describes the types of data the IPHC can provide for the June 2017 Council meeting and highlights the uncertainty in and caveats to using the data for allocation.

As you know, the IPHC assesses the Pacific halibut resource as one coastwide stock ranging from the Bering Sea and Aleutian Islands to California. The extremes of the halibut resource, such as Area 2A, have much higher variability in stock abundance estimates from year to year, as well as both lower density and more localized distribution of halibut. This was described in our letter to the Council during scoping for this CSP allocation issue ([Agenda Item E.1.a, Supplemental IPHC Report, June 2016](#)). That letter also noted that estimates on smaller scales than the IPHC regulatory areas, such as by state, contain further interannual variability and uncertainty.

While the IPHC staff cautions the Council in using the IPHC setline survey data on such a small scale, we recognize that Councils have used information from various surveys to inform allocation decisions in the past. For example, the Pacific Council has used NMFS trawl survey information, in part, to determine state-specific recreational harvest guidelines for some rockfish species off the U.S. West Coast, and geographically distributed commercial harvest of sablefish. In these cases, the low rates of movement and/or strong historical fishing patterns lead to population structure that is incorporated into the assessments for rockfish and management of sablefish at much smaller spatial scales, in addition to addressing local depletion of these resources. Due to the dynamic nature of the halibut resource, this is not the case at this spatial scale for the assessment, population, or management of halibut. The IPHC addresses these issues through apportionment among IPHC regulatory areas.

For the Council's June 2017 meeting, the IPHC can provide the following information:

1. **Survey data from Area 2A organized by state boundaries** – IPHC will provide our standardized setline survey weight-per-unit-effort (WPUE) data from 2004-2016 organized by state (Washington, Oregon, and California). This will differ slightly from the information we provided in our June 2016 letter which was organized by IPHC charter region and did not directly correspond to state boundaries. To make the information provided more useful to the Council, the IPHC staff will match survey station data with state latitude boundaries to more accurately reflect survey WPUE by state.
2. **New spatial-temporal modeling** – The IPHC staff have developed new spatio-temporal models of the setline survey data to improve our estimates of WPUE by regulatory area, and to provide insights in to factors that affect changes in the spatial distribution of halibut density ([Webster 2016](#)). The modelling has undergone review through the IPHC's Scientific Review Board, and is expected to be used by the IPHC for the first time for the 2017 apportionment process. This new approach has the potential to provide estimates at smaller spatial scales than IPHC regulatory areas, along with estimates of uncertainty, including in years when a region has had no setline survey coverage. As with estimates obtained directly from the data, we note that any WPUE estimates at small spatial scales (such as for northern California) will be relatively imprecise, with uncertainty increasing as time since the last survey increases.

The IPHC looks forward to working with the Council and Council staff and to providing the best scientific information available to help inform the Council's decisions. Please let us know if you have questions on the data IPHC plans to provide for the Council's June 2017 meeting or if we can be of further assistance.

Sincerely,



Dr. Bruce Leaman
Executive Director

cc: IPHC Commissioners
Mike Burner, PFMC
Kelly Ames, PFMC

References

Webster, R.A. 2016. Space-time modelling of setline survey data using INLA. Int. Pac. Halibut Comm. Report of Assessment and Research Activities 2015: 552-568.