

**Addendum I**  
**Analysis of Proposed Regulation Changes for the Area 2C and 3A**  
**Charter Halibut Fisheries for 2020**

A Report to the North Pacific Fishery Management Council

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**1. Introduction**

An additional analysis was requested to evaluate a suite of management measures for Area 3A to include:

- Two-fish bag limit, one fish of any size and one fish with a size restriction
- No annual limit
- No day-of-week closures
- One-trip per day limit for charter vessels and for charter halibut permits

**2. Estimates**

Projected annual removals by all anglers (resident and nonresidents combined) were estimated under a two fish bag limit with one fish of any size and a range of size limits on one fish from 26 to 33 inches, no annual limit, and no day of the week closures (Table 1). Table 1 also includes the required reduction in removals necessary for the charter sector in Area 3A to remain below the 2020 allocation if the proposed regulations were implemented for the entire season for each size limit. These projections assume no change in effort due to the current travel restrictions and do not account for removals under status quo regulations until new regulations are implemented.

**3. Implementation Considerations**

There are no anticipated analytical problems associated with annual limits. It is assumed closed days in recent years eliminated charter angler effort that historically occurred on those days. If some number of charter anglers in recent years altered days fished for halibut rather than not fishing for halibut due to closed days, effort potentially displaced to other days of the week would result in an overestimate of removal in this analysis. This analysis used the 2020 projected proportion of second fish in the harvest but a change in the size limit could impact angler behavior and result in a change in harvest-per-angler-day.

**Table 1. Area 3A projected charter halibut annual removal from all anglers with a two-fish bag limit, one fish of any size and one fish with a size restriction, no annual limit, no day-of-week closures, and one-trip per day limit for charter vessels and for charter halibut permits.** Projected removals for 2020 from all charter halibut anglers in Area 3A under a two fish bag limit with one fish of any size and one fish with a maximum size limit of 26 to 33 inches, no annual limit, and no day-of-week closures, and necessary reduction in removal to remain below the 2020 Area 3A charter allocation of 1,710,000 lbs. Projections used the 2020 forecast for all days of the week open\* and applied the number of fish harvested by individual anglers in each subarea from 2014, the most recent year without annual limits\*. The average weight for the fish of any size was estimated as the corrected overall average weight in 2013, the last year without a size limit in Area 3A. The average weight for size-restricted fish was estimated as the corrected average weight of fish less than or equal to the specified size limit in 2013. Average weights were then weighted by the 2020 projected proportions of harvest made up of “first” and “second” fish in angler’s bag limits\*. Projections do not account for any changes to angler behavior due to the current pandemic or economy, or harvest under status quo regulations until new regulations are implemented. \*See Webster, S. and R. Powers 2019. *Analysis of management options for the Area 2C and 3A charter halibut fisheries for 2020: A report to the North Pacific Fishery Management Council, December 2019* and Webster, S. and R. Powers 2020. *Supplemental analysis of management options for the 3A charter halibut fishery for 2020: A report to the North Pacific Fishery Management Council, January 2020* for additional information on proportions of second fish and forecasting methods under alternative management strategies.

<b>Size Limit</b>	<b>Estimated Removal</b>	<b>Necessary Reduction</b>
<b>26</b>	2,490,234	-31.3%
<b>27</b>	2,524,074	-32.3%
<b>28</b>	2,576,408	-33.6%
<b>29</b>	2,610,156	-34.5%
<b>30</b>	2,662,016	-35.8%
<b>31</b>	2,696,399	-36.6%
<b>32</b>	2,740,521	-37.6%
<b>33</b>	2,767,588	-38.2%