

# DRAFT FOR INITIAL REVIEW

## Regulatory Amendment for a Catch Sharing Plan between the Halibut Charter and Commercial Longline Sectors in IPHC Regulatory Area 2C and Area 3A

### Environmental Assessment/Regulatory Impact Review/ Initial Regulatory Flexibility Analysis

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**Abstract:** This analysis examines a proposed change to the management of Pacific halibut charter and commercial longline fisheries in International Pacific Halibut Commission Regulatory Areas 2C and 3A in the Gulf of Alaska. The No Action alternative would maintain the current guideline harvest level program for the charter fisheries in these areas. Alternative 2 would implement a catch sharing plan for the two fisheries that would set an initial allocation to each sector (Element 1) and allow for seasonal increases in allocation by allowing individuals who hold charter halibut limited entry permits to lease commercial individual fishing quotas for use by anglers in the charter sector (Element 5). Potential catch accounting systems for IFQ leases for use in the charter sector are under consideration (Element 6). Additional policy decisions on the regulatory cycle for implementing changes to management measures to restrict the charter sectors to their allocations (Element 2), potential management measures (Element 3), and potential timelines for shortening the delay in implementing revised regulations (Element 4) would not be implemented in regulations. If approved for release in April 2008, final action will be scheduled for October 2008. If approved by the Secretary of Commerce, implementation would be expected for the 2010 or later charter halibut season.



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## ABBREVIATIONS

ABC	Allowable Biological Catch
ADF&G	Alaska Department of Fish and Game
BOF	Alaska Board of Fisheries
CEQ	Council on Environmental Quality
CEY	Constant Exploitation Yield
CFR	Code of Federal Regulations
CSP	Catch Sharing Plan
DSR	Demersal Shelf Rockfish
EA	Environmental Assessment
E.O.	Presidential Executive Order
EIS	Environmental Impact Statement
EPA	Environmental Protection Act
FMP	Fishery Management Plan
FR	Federal Register
GAF	Guided Angler Fish
GHL	Guideline Harvest Level
GOA	Gulf of Alaska
IFQ	Individual Fishing Quota
IPHC	International Pacific Halibut Commission
IRFA	Initial Regulatory Flexibility Analysis
lb	Pounds
LEP	Limited Entry Permit
M	Million
Council	North Pacific Fishery Management Council
NEI	Northern Economics, Inc
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPFMC	North Pacific Fishery Management Council
OFL	Overfishing Level
OMB	Office of Management and Budget
PSEIS	Programmatic Supplemental Environmental Impact Statement
PSR	Pelagic Shelf Rockfish
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SAFE	Stock Assessment and Fishery Evaluation
SBA	U.S. Small Business Administration
SWHS	Statewide Harvest Survey
TAC	Total Allowable Quota
USFWS	United States Fish and Wildlife Service

# EXECUTIVE SUMMARY

The analysis contained in this document examines two alternatives for managing the charter halibut fisheries in Area 2C and Area 3A in the Gulf of Alaska. Alternative 1 is the No Action Alternative. Alternative 2 would create a catch sharing plan for the two areas under which the Council would set initial allocations of halibut harvests between the charter sector and commercial IFQ sector and allow for seasonal increases in allocation by allowing individual charter halibut limited entry permit holders to lease commercial Individual Fishing Quotas for use by anglers in the charter sector.

## Environmental Assessment

The Environmental Assessment (EA) assesses the potential biological, social, and economic impacts of implementing regulations to set an initial sector allocation between the charter and commercial halibut fisheries in International Pacific Halibut Commission (IPHC) Regulatory Areas 2C and 3A.

The problem statement that was adopted by the Council reads, *“The absence of a hard allocation between the commercial longline and charter halibut sectors has resulted in conflicts between sectors and tensions in coastal communities that are dependent on the halibut resource. Unless a mechanism for transfer between sectors is established, the existing environment of instability and conflict will continue. The Council seeks to address this instability while balancing the needs of all who depend on the halibut resource for food, sport, or livelihood.”*

The purpose of the proposed actions is to (1) create a catch sharing plan that would set an initial allocation between the two sectors and tighten the timeline between an overage and a management response and (2) design a program to compensate the commercial sector for any future reallocations above the level set at initial allocation. Along with restrictive control measures that were considered by the Council separate from these proposed actions because the GHLL has been exceeded in Area 2C each year since its implementation in 2004, the proposed sector allocations are intended to stop the *de facto* reallocation from the commercial sector to the charter sector for each area. Over the past 11 years, charter halibut harvests have grown at an annualized growth rate of 6.8% in Area 2C and 4.1% in Area 3A. The number of active vessels, the total number of clients, the average number of clients per trip, and the average numbers of trips per vessel are all at their highest level in the recorded data period of 1998 through 2006. The number of clients per trip (which is one of the best measures of upward pressure on demand) has increased steadily in recent years. This increase indicates that the number of clients is rising faster than the number of trips and likely indicates healthy demand for the services provided by the charter sector.

## List of Alternatives

### *Alternative 1. Status quo*

Alternative 1 (No Action) would continue management of the charter sector under the GHLL program and annual harvest control measures. It includes current federal and state regulations that would otherwise remain unchanged. Emergency orders were issued by ADF&G in 2006 and 2007 to prohibit a sport fishing guide and sport fishing crew member on a charter vessel in Southeast Alaska from retaining fish while clients are onboard the vessel during the fishing season; similar E.O.s are expected for 2008. Current regulations include a two-fish bag limit, with one of the two fish required to be 32 inches or less [72 FR 30714]. In June 2007, the Council recommended revisions to Area 2C GHLL measures. Because the GHLL was reduced in 2008 from 1.432 M lb to 0.932 M lb, NMFS may recommend more restrictive measures that had been considered by the Council in a final rule expected to be published by April 1, 2008.



**Alternative 2. Establish a catch sharing plan that includes sector accountability**

**Element 1 – Initial allocation**

Option 1: Fixed percentage

	Area 2C	Area 3A	Based on:
a.	13.1 %	14.0%	125% of the 1995-1999 avg charter harvest (current GHF formula)
b.	17.3 %	15.4 %	125% of the 2001-2005 avg charter harvest (GHF formula updated thru 2005)
c.	11.7 %	12.7%	current GHF as percent of 2004
d.	15.1 %	12.7%	2005 charter harvest

Option 2: Fixed pounds

	Area 2C	Area 3A	Based on:
a.	1.43 MIb	3.65 MIb	125% of the 1995-1999 avg charter harvest (current GHF)
b.	1.69 MIb	4.01 MIb	125% of the 2000-2004 avg charter harvest (GHF updated thru 2004)
c.	1.90 MIb	4.15 MIb	125% of the 2001-2005 avg charter harvest (GHF updated thru 2005)

Option under a, b, and c:

Stair step up and down. The allocation in each area would be increased or reduced in stepwise increments based on a change in the total CEY. If the halibut stock were to increase or decrease from 15% to 24% from its average total CEY of the base period selected for the initial allocation at the time of final action, then the allocation would be increased or decreased by 15%. If the stock were to increase or decrease from at least 25% to 34%, then the allocation would be increased or decreased by an additional 10%. If the stock increased or decreased by at least 10% increments, the allocation would be increased or decreased by an additional 10%.

Option 3: 50% fixed/50% floating allocation

	Area 2C		Area 3A	
	50% of:	and	50% of:	50% of:
a.	13.1 %		1.43 MIb	14.1 %
b.	15.9 %		1.69 MIb	15.4 %
c.	17.3 %		1.90 MIb	15.4 %

**Element 2 – Annual regulatory cycle.**

The initial charter allocation would be a common harvest pool for all charter limited entry permit holders. It would not close the fishery when the charter allocation is exceeded. Instead, the allocation would be linked to an annual regulatory analysis of management measures (delayed feedback loop) that take into account the projected CEY for the following year and any overages by the charter industry in the past year(s). This system would work best if there is not a time lag between the overage year and the payback year. The Council would not revisit or readjust the sector split. An allocation overage would trigger the regulatory process automatically, in contrast with current GHF management. Any underages would

accrue to the benefit of the halibut biomass and would not be reallocated or paid forward. The Council assumes (and would request) that the International Pacific Halibut Commission would set a combined charter and commercial sector fishery catch limit and would apply the allocations between the two sectors that would be recommended by the Council in a type of catch sharing plan to the combined fishery catch limit.

**Element 3 – Management toolbox**

Tier 1 measures would be utilized by the Council to try to manage the charter common pool for a season of historic length and a two-fish daily harvest limit. Tier 2 measures would be utilized if Tier 1 measures are inadequate to constrain harvest by the charter common pool to its allocation. Due to the delayed feedback loop in implementation of management measures, management measures will, in general, be more restrictive to ensure that the charter sector allocation is not exceeded. In providing predictability and stability for the charter sector, it is likely that the full allocation may not be harvested.

Tier 1	Tier 2
One Trip per Vessel per Day	Annual Catch Limits
No Retention by Skipper and Crew	One Fish Bag Limit for all or a portion of the Season
Line Limits	Season Closure
Second Fish of a Minimum Size	
Second Fish at or below a Specific Length	

**Element 4 – Timeline.** The current timeline for the proposal is as described below. [Staff should discuss what would be needed to implement February Council action for June (the same year)]

Example Scenario 1: four-year feedback loop

- Charter fishery ends 2007
- October 2008: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2008: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year’s analysis with final 2007 harvest estimates.
- January 2009: IPHC adopts combined catch limits for 2009.
- February 2009: Council takes final action on management measures that would be implemented in year 2010.
- Winter 2009: NMFS publishes the rule that would be in effect for 2010.

Example Scenario 2: three-year feedback loop

- Charter fishery, with in-season monitoring, ends 2007
- October 2007: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2007: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year’s analysis with final 2007 harvest estimates.
- January 2008: IPHC adopts combined catch limits for 2008.
- February 2008: Council takes final action on management measures that would be implemented in year 2009
- Winter 2008: NMFS publishes the rule that would be in effect for 2009

**Element 5 – Supplemental, individual use of commercial IFQ** to allow limited entry permit holders to lease commercial IFQ in order to provide anglers with additional harvesting opportunities, not to exceed limits in place for unguided anglers.

Leasing commercial IFQ for conversion to Guided Angler Fish (GAF).

1. An LEP (Limited Entry Permit) holder may lease IFQ for conversion to GAF for use on the LEP.
2. Commercial halibut QS holders may lease up to 1,500 pounds or 10% (whichever is greater) of their annual IFQ to LEP holders (including themselves) for use as GAF on LEPs. A CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs.
3. LEP holder per vessel may not lease more than 200-400 fish.

Suboption: vessels with LEP w/endorsement for more than 6 clients may not lease more than 400-600 fish.

- A. LEP holders harvesting GAF while participating in the guided sport halibut fishery are exempt from landing and use restrictions associated with commercial IFQ fishery, but subject to the landing and use provisions detailed below.
- B. GAF would be issued in numbers of fish. The conversion between annual IFQ and GAF would be based on average weight of halibut landed in each region's charter halibut fishery (2C or 3A) during the previous year as determined by ADF&G. The long-term plan may require further conversion to some other form (e.g., angler days).
- C. Subleasing of GAF would be prohibited.
- D. GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.
- E. Conversion of GAF back to commercial sector
  - (1) GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.
  - (2) Unused GAF may revert back to pounds of IFQ at the end of the year and be subject to the underage provisions applicable to their underlying commercial QS.
- F. Guided angler fish derived from commercial QS may not be used to harvest fish in excess of the non-guided sport bag limit on any given day.
- G. Charter operators landing GAF on private property (e.g., lodges) and motherships would be required to allow ADF&G samplers/enforcement personnel access to the point of landing.
- H. Commercial and charter fishing may not be conducted from the same vessel on the same day.

**Element 6 – Catch accounting system**

1. The current Statewide Harvest Survey and/or logbook data would be used to determine the annual harvest.
2. A catch accounting system would need to be developed for the GAF fish landed in the charter industry.
3. As part of data collection, recommend the collection of length measurements when supplemental IFQs are leased for use and compare to the annual average length to make sure that accurate

removable poundage is accounted for and to allow length measurement information gathered to be used in the formulation of the average weight used in the conversion of IFQs to GAF.

The Council considered 10 options under Alternative 2, Element 1 for initial sector allocations in each area. These include four fixed percentage options, three fixed poundage options that include suboptions to step the allocations up or down depending on halibut biomass, and three options that match 50% of one of the fixed pound and one of the percentage options. Element 2 would define the annual regulatory cycle focusing on how the halibut charter fisheries common pool of halibut would be regulated in the current and future years. Element 3 would define the management tool box that would be available to the Council to adjust future harvest levels. Element 4 provides examples of how the timeline for management decisions and actions to adjust the charter sector's harvests, if they are needed. Element 5 defines how charter operators would acquire and use commercial IFQ to supplement the halibut that is available from their common pool. Finally, Element 6 provides a discussion of the catch accounting system that would be needed to monitor two classes of halibut that would be harvested by the charter sector under Alternative 2.

### **Effect of Alternatives**

The proposed alternatives address halibut resource allocation issues. The proposed alternative to the status quo would neither affect harvest levels and fishing practices of individuals participating in the charter halibut fishery nor the health of the halibut stock. Regardless of the amount of halibut biomass taken by a sector, no adverse impacts to the halibut resource would be expected because the IPHC factors most resource removals in the halibut stock assessment when setting annual catch limits. Therefore, none of the proposed alternatives is expected to significantly impact the halibut stock. None are expected to affect the physical environment, benthic community, marine mammals, seabirds, or non-specified groundfish species. There is insufficient data to evaluate whether groundfish stocks may be affected by the proposed alternative. There may be an effect on the human environment as there are winners and losers under any sector allocation.

### **Regulatory Impact Review**

The economic impacts of the alternatives considered in this amendment are discussed in terms of the status quo and the new options being considered by the Council. The status quo allows the charter fleet in Areas 2C and 3A to harvest up to the GHL without additional management actions being considered. The GHL is established annually for IPHC Areas 2C and 3A based on the CEY that is set by the IPHC. New options that are being considered by the Council would alter how the charter sector's allowable catch is determined. Their allocation could be based on a percentage of a combined commercial and charter catch limit that is set annually by the IPHC<sup>1</sup>, a fixed poundage allocation, or a combination of the two approaches. The Council is also considering an option that would allow the charter sector to lease IFQ from the commercial sector. The Guided Angler Fish (GAF) that result from the commercial IFQ are converted from pounds to fish using the average halibut weight set for that year. If halibut are returned to the commercial sector, the same conversion factor would be used to change fish into pounds of IFQ. GAF could be harvested under the same bag and size limits that are set for the unguided sport sector.

### **Alternative 1. Status quo**

The status quo is defined by the management measures that are currently in place or are expected to be in place in the future. Using those management measures, projected charter harvests were calculated. Projected charter harvests can then be compared to GHLS that are expected to be set based on IPHC CEY projections.

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<sup>1</sup> The IPHC currently only sets a commercial catch limit. However, their staff has indicated that they could establish an annual combined commercial and charter catch limit if they were requested to do so by the Council.

If the charter sector's harvest exceeds the GHL, NMFS would notify the Council of the overage in writing within 30 days of being advised of the overage. The Council has already considered management alternatives to implement if an overage occurs under other amendments. An appropriate combination of the management measures that have been considered could be implemented by the Secretary of Commerce to constrain charter harvests.

Status quo management measures in 2007, for IPHC Area 2C, include the GHL, the proposed moratorium, a 2-fish bag limit, a prohibition on captain and crew harvest, a requirement that one of the two halibut in the bag limit must be less than 32", and a line limit that is set equal to the number of clients on the vessel or six lines, whichever is less. The Area 2C status quo for 2008 is assumed to include the GHL, the proposed moratorium, a one-fish bag limit, a prohibition on captain and crew harvest, and a line limit that is set equal to the number of clients on the vessel or six lines, whichever is less. It is also possible that a four-fish annual limit is implemented in place of the one-fish annual limit. However, this analysis assumes the one-fish bag limit would be implemented. Changing the bag limit from two halibut to one halibut is expected to have a substantial impact on client demand and the number of halibut harvested.

Implementation of the one-fish bag limit is assumed to be necessary because of the reduction in the Area 2C CEY. The CEY was decreased from 11.4 M lb in 2007 to 6.5 M lb in 2008. Because the CEY was reduced that amount it triggered a reduction in the Area 2C GHL from 1.432 M lb to 0.931 M lb. The management measures that were in place for 2007 are not expected to limit 2008 harvest to a 0.931 M lb GHL.

The GHL remains unchanged at 3.650 M lb in Area 3A. Because the GHL remained unchanged in 2008 and is expected to remain unchanged over the time period being considered in this action, the management measures are expected to remain unchanged. A one-fish bag limit and a prohibition on skipper and crew harvests are assumed to be in place for the entire 2007–2011 time period. The charter moratorium is also assumed to be in place, but it is not expected to impact the amount of charter harvest. Client demand is assumed not to change as a result of keeping these management measures in place.

Because management measures like the one-fish bag limit are expected to impact client demand, harvest projections are included that account for that demand change. Estimates were made that include about a 40% reduction in client demand as a result of the one-fish bag limit in Area 2C. A projection was also made that assumed no change in client demand. Because of uncertainty where changes in client demand might fall within that range, the average of the two were used to calculate the point estimates used in this analysis. The harvest projections using the other demand assumptions are included in the analysis, but for simplicity are not directly compared to the allocation options.

Charter harvest projections were provided by the Northern Economics, Inc (NEI) staff for the years 1995–2011. Harvest projections were made using an ARIMA model. Estimates included 95% confidence intervals around the harvest point estimates. The reader is cautioned that the standard errors and the resulting 95% confidence intervals may be too small. If they are too small, the reader cannot be 95% confident that the actual charter harvest would fall within the projected range.

Projections for the years 2007–2011 are used to compare projected charter harvest to various charter allotments (Table ES-1). Comparing the Area 2C harvest projections and the GHL estimates, provided by the IPHC, indicates that the charter sector would stay within their allocation from 2008–2011. The GHLs from 2007–2010 fall within the 95% confidence intervals estimated for those years. Charter harvest for 2011 is projected to be less than the 2011 GHL. Therefore, implementing a one-fish bag limit in Area 2C is expected to keep the charter sector within the GHL over the time period being considered. If the halibut CEY continues to increase after 2011, the one-fish bag limit may be too restrictive to allow the charter sector to harvest their GHL.

Harvest projections for Area 3A indicate the charter sector would stay within their 3.65 M lb GHL every year, during 2007–2011. Charter harvests are projected to increase every year from 2007–2011. During 2007, the charter sector is projected to harvest about 3.2 M lb. Their harvest is projected to increase to about 3.5 M lb. Based on those projections, additional charter harvest restrictions would not be required to keep the fleet within their GHL. However, because of the trend that indicates the charter harvest is increasing the charter fleet may exceed their GHL in the future.

**Table ES-1 Projected charter harvest and GHL under the status quo, 2007–2011**

Year	IPHC Area 2C				IPHC Area 3A			
	Projected Harvest (M lb)	Lower 95% CI (M lb)	Upper 95% CI (M lb)	GHL (M lb)	Projected Harvest (M lb)	Lower 95% CI (M lb)	Upper 95% CI (M lb)	GHL (M lb)
2007	1.459	1.370	1.548	1.432	3.172	3.075	3.270	3.65
2008	0.999	0.899	1.100	0.931	3.264	3.153	3.375	3.65
2009	1.041	0.929	1.154	1.074	3.379	3.254	3.504	3.65
2010	1.082	0.957	1.206	1.217	3.431	3.292	3.570	3.65
2011	1.123	0.987	1.260	1.432	3.471	3.318	3.624	3.65

Source: IPHC estimates of GHL and NEI estimates of charter harvest.

## **Alternative 2. Establish a catch sharing plan that includes sector accountability**

### **Element 1 – Initial Allocation**

Element 1 would revise the halibut regulations to create a catch sharing plan for the charter and commercial IFQ sectors in Area 2C and 3A. Common pool allocations would be set for harvest by charter clients of licensed charter businesses; the remainder from a combined charter and commercial IFQ catch limit that would be set by the IPHC each year would be allocated to the commercial sector. If the charter sector allocation is exceeded by the charter sector’s harvest, the fishery would not be closed in-season. Instead, when an overage occurs, additional management measures would be applied future years to constrain harvests to the allocation. The timeline of how long it would take to determine when an overage has occurred and when new management measures would be implemented are discussed in Element 2. The system would work best if there is not a time lag between the overage and when the new management measures are implemented. However, it is anticipated that a one or two year lag may occur. The Council has also stated that its intent is to keep the charter sector within their common pool allocation over a five-year rolling average. Clients must abide by any annual, bag, or size limits that are in place for the halibut charter sector in an area when harvesting from the common pool. GAF may allow charter clients to harvest halibut under the same regulations as the unguided halibut sector. Any halibut harvested outside of the charter fishery regulations must be identified as GAF.

**Staff requests that additional direction from the Council be provided to determine how the five-year rolling average should be calculated for the first four years of the program.**

The Council is considering three basic methods to determine the size of common pool from which all charter LEP holders may allow their clients to harvest. The first method has four options that would allocate the charter sector a fixed percentage of a combined commercial and charter catch limit. The percentages are determined by using formulas based on historic charter harvest. A combined commercial

and charter catch limit is not currently established by the IPHC. However, IPHC staff has indicated that they could generate that estimate if the Council and NMFS requested it. The second method has three options that would allocate the charter sector a fixed number of pounds. A suboption is included under these options that would cause the fixed pounds to vary in steps associated with predefined changes in the Total CEY. The suboption causes the fixed pound allocation to behave more like a percentage based allocation that changes the amount of halibut assigned to the charter sector in predefined steps. The third set of options uses half of the result from the fixed pound allocation and half the result of the fixed percentage option for the same base time period.

Charter harvest estimates were compared to each charter sector allocation to show which allocations would fund the common pool without the need to impose different management measures. Option 1a is calculated using 125% of the 1995–1999 average charter harvest (current GHF formula). That option results in the charter sector being allocated 13.1% of the combined commercial and charter catch limit in Area 2C and 14.0% in Area 3A. IPHC staff has provided estimates of projected commercial and charter catch limits for the years 2007–2011 (Table ES-2). The catch limits incorporate the slow up fast down methodology that is used by the IPHC.

**Table ES-2 Combined commercial and charter catch limit using slow up-fast down**

Year	2C	3A
2007	10.57	30.38
2008	7.67	32.09
2009	6.68	33.05
2010	6.63	33.13
2011	6.87	34.37

Source: IPHC

The projected poundage allocations that result during 2007-2008 are within the 95% confidence intervals of projected harvest in Area 2C. During 2009–2011 the allocation is not projected to cover charter harvests. On average, over the five-year period, the charter sector is projected to exceed their allocation by 0.13 M lb per year. The allocation in Area 3A is projected to exceed the charter harvest by an average of 1.25 M lb per year.

Option 1b (125% of the 2001–2005 average charter harvest - GHF formula updated through 2005) results in the charter sector being allocated 17.3% of the combined commercial and charter catch limit in Area 2C and 15.4% in Area 3A. The Area 2C allocation is projected to exceed charter harvest during 2007 and 2008. During 2009-2011 the charter allocation is projected to fall within the 95% confidence intervals for charter harvest. Over the five-year average, the charter sector is projected to be under their allocation by an average of 0.18 M lb. In Area 3A, the charter sector allocation is projected to exceed their allocation every year during 2007-2011. Over that five-year period the charter would exceed their allocation by 1.68 M lb per year.

Option 1c (current GHF as percent of 2004) results in the charter sector being allocated 11.7% of the combined commercial and charter catch limit in Area 2C and 12.7% in Area 3A. The Area 2C allocation is projected to be less than the charter sector's harvest each year, except 2008. During 2008, the charter allocation is projected to be within the 95% confidence intervals for harvest. Over the five-year period, the charter sector is projected to exceed their allocation by an average of 0.24 M lb per year. In Area 3A the charter allocation is projected to exceed their harvest each year. They are projected to harvest an average of 0.8 M lb less than they would have been allocated from 2007–2011.

Option 1d (2005 charter harvest) would yield an allocation of 15.1% of the combined commercial and charter catch limit in Area 2C and 12.7% in Area 3A. The Area 2C allocation is projected to exceed charter harvest during 2007 and 2008. During 2009-2011 the charter allocation is projected to fall within the 95% confidence intervals for charter harvest. Over the five-year average, the charter sector is projected to be under their allocation by an average of just 0.03 M lb. In Area 3A the charter sector allocation is projected to exceed their allocation every year during 2007–2011. Over that five-year period the charter would exceed their allocation by 0.8 M lb per year. The Area 3A allocation is the same under both Options 1c and 1d.

The allocations under Option 2 issue the charter sector a fixed number of pounds every year. Option2a would allocate the Area 2C charter sector 1.43 M lb per year and the Area 3A charter sector 3.65 M lb per year. Option2b would allocate the Area 2C charter sector 1.69 M lb per year and the Area 3A charter sector 4.01 M lb per year. Option2c would allocate the Area 2C charter sector 1.90 M lb per year and the Area 3A charter sector 4.15 M lb per year. Allocations of that magnitude are projected to exceed the charter sectors harvest almost every year. The only year that it would not is in Area 2C during 2007. That year the allocation falls within the 95% confidence intervals for harvest. In Area 2C, the charter sector's allocation is projected to exceed its harvest by an average of 0.29 M lb (Option 2a), 0.55 M lb (Option 2b), and 0.76 M lb (Option 2c) over the 2007–2011 time period. In Area 3A, they are projected to exceed their harvest by an average of 0.31 M lb (Option 2a), 0.67 M lb (Option 2b), and 0.81 M lb (Option 2c) over that same time period.

The suboption that would implement a stair step up and stair step down that adjusts the charter allocation when the total CEY changes a predefined amount. It should be noted that the starting point from which changes are measured needs to be defined. Until that is defined, it is not possible to provide the actual future CEYs that would trigger the changes.

If Option 2a were selected, no changes occur to the charter allocation when the CEY increases or decreases less than 15% from the baseline amount. Increases greater than that amount would trigger changes in the charter allocation. The first step changes the initial allocation by 15%. Each additional 10% change in the CEY triggers an additional 10% change in the charter sector's allocation. In Area 2C, the first step is triggered by a 15% change in the CEY and results in the allocation increasing or decreasing 0.21 M lb. In Area 3A the allocation is changed by 0.55 M lb. Each additional 10% change in the CEY results in the charter sector's allocation increasing or decreasing 0.14 M lb in Area 2C and 0.36 M lb in Area 3A.

Because the initial allocation is larger, under Option 2b, the changes in the allocation at each step are also larger. In area 2C, the initial 15% increase or decrease in the allocation increases or decreases the amount by 0.25 M lb. Each additional 10% increase (or decrease) increases (or decreases) the allocation by 0.17 M lb. In Area 3A, the initial change is 0.60 M lb, and each additional 10% change moves the allocation by 0.40 M lb.

Since the initial allocation is larger under Option 2c than either of the other two options, the changes in the allocation, at each step, are also larger. In area 2C, the initial 15% increase (or decrease) in the allocation increases (or decreases) the amount by 0.28 M lb. Each additional 10% increase (or decrease) increases (or decreases) the allocation by 0.19 M lb. In Area 3A, the initial change is 0.62 M lb, and each additional 10% change moves the allocation by 0.41 M lb.

Option 3 allocations are based on 50% of the percentage allocation and 50% of the fixed pound allocation. Because the allocations are based in part on fixed pounds, the charter sector is given a floor allocation. Their allocation would never drop below that amount unless there are resource conservation dictates a reduction. Option 3a uses the years 1995–1999. It results in an Area 2C allocation that is projected to be within the 95% confidence interval of harvest during 2007, 2009, 2010, and 2011. During 2008 the allocation is projected to exceed charter harvest. Over the five-year period, on average, the charter sector's allocation is projected to be 0.07M lb more than harvest. In Area 3A the allocation is



projected to exceed harvest every year. Over the five-year period, on average, the charter sector's allocation is projected to be 0.80 M lb over its allocation.

Option 3b is based on the years 2000–2004. Because those years were not an alternative under Option 1, the percentage was calculated for Option 3 using the same formula used in Options 1a and 1b. Option 3c is based on the years 2001–2005. Both Options 3b and 3c are projected to yield allocations that are larger than the charter sector's projected harvest, every year from 2007–2011. In Area 2C the allocations, on average, are projected to exceed the Option 3b harvest by 0.25 M lb and the Option 3c harvest by 0.39 M lb. In Area 3A the allocations, on average, are projected to exceed the Option 3b harvest by 1.27 M lb and the Option 3c harvest by 1.24 M lb.

Given the above discussion, the only allocations that would exceed the status quo harvest projections are Options 1a and Option 1c in Area 2C. All other allocation options are projected to exceed status quo charter harvest during the 2007–2011 time period. Many of the Area 3A options are not projected to be binding in the near future.

The percent options do not match (corrected) historical records. The Council can choose to correct the percentages to the 1/10<sup>th</sup> of a percent or maintain the current options as adopted in October 2007; however, the discrepancies are minor. The analysis would need to address why the Council might choose to not correct its options to match the historical records.

## **Element 2 – Annual regulatory cycle**

The Council has announced its policy that the charter halibut season would not be closed when its allocation has been reached. The Council would not revisit or readjust the sector split if an overage(s) occur. Any underages would accrue to the benefit of the halibut biomass and would not be reallocated or paid forward to the charter sector. No regulations would be generated as a result of Element 2.

Management of the charter halibut sector to its allocation would be achieved through an annual regulatory analysis of management measures (delayed feedback loop) that takes into account the projected CEY for the following year and any overages by the charter industry in the past year(s). Under Element 4, the Council requested that staff identify potential timelines that would reduce the time between a charter allocation overage and implementation of regulations to eliminate the overage. Staff identified a number of scenarios that would reduce the delay 1) an allocation set in a pounds would not be dependent on IPHC action, however, a two-prong preferred alternative timed with IPHC action could be used with a floating or hybrid initial allocation; 2) if an overage is identified in October, final action could be scheduled, as needed, each December (foregoing the 4-week advance release of the public review document and scheduling SSC review at the same meeting as final action); 3) tiering off a previous analysis and proceeding straight to final action; or 4) the Council could take action on only a (2-3 page) supplemental analysis, with a complete, revised EA/RIR/IRFA prepared for Secretarial review. These are discussed in more detail under Element 4.

## **Element 3 – Management toolbox**

No regulations would be generated as a result of Element 3. The estimated effects of potential management measures are provided to illustrate how the Council's preferred policy may be implemented in the future. Element 3 would establish a Council policy for the management toolbox to be used if the charter industry exceeds its allocation (Table ES-3). The Council would select the tool (or tools) that allow it to reduce charter harvest by an amount that is likely to allow the industry to "pay back" the halibut biomass that amount of the overage(s) in the preceding year(s). Element 3 would establish two tiers of measures that the Council can utilize to manage the charter common pool. Tier 1 measures would be utilized by the Council to try to manage the charter common pool for a season of historic length and a two-fish daily harvest limit. Tier 2 measures would be utilized if Tier 1 measures are inadequate to constrain harvest by the charter common pool to its allocation. Due to the delayed feedback loop in implementation of regulations, management measures may be more restrictive to ensure that the charter

sector allocation is not exceeded. In providing predictability and stability for the charter sector, the full allocation may not be harvested.

**Table ES-3 Proposed Management Measures by Tier**

Tier 1	Tier 2
One Trip per Vessel per Day	Annual Catch Limits
No Retention by Skipper and Crew	One Fish Bag Limit for all or a portion of the Season
Line Limits	Season Closure
Second Fish of a Minimum Size	
Second Fish at or below a Specific Length	

If the Council is to meet the regulatory cycle discussed in Element 2, it may have to rely on estimates from past GHL analyses (NPFMC, 2007b and NPFMC, 2007c) to estimate the effect of each management measure on the charter industry’s harvest. Table ES-4 shows the estimated effect of each management measure by sub-option as analyzed and reported by NPFMC (2007b) and NPFMC (2007c). Note that the analyses did not look at the same sub-options for each management area, as the Council tailored the sub-options to fit each area’s individual management needs.

The approach provided by this element provides a rapid, “back of the envelope” method of estimating the effect of management measures to reduce charter industry halibut harvest. However, there are limitations to the approach that should be recognized, including the effect of changing average weights, the effect of changing harvest composition, and the difficulty of accounting for the interaction effects associated with utilizing several management measures at the same time.

**Element 4 – Timeline**

No regulations would be generated as a result of Element 4. The estimated effects of potential timelines are provided to illustrate how the Council’s preferred policy may be implemented in the future.

Element 4 is linked to the discussion of an annual regulatory cycle under Element 2. Three to four years may elapse between the year in which (1) an overage occurs; (2) the year in which ADF&G data report that an overage has occurred; (3) the year in which the Council selects a preferred alternative to address the overage; and (4) the year in which new regulations are in effect. Element 4 outlines two scenarios for the timing of regulatory action for a response to an overage. The primary difference between the two proposed scenarios is when an estimate of charter harvests is available (step 2).

Staff identified that there are no potential time savings in the year in which an overage occurs. Interagency staff identified that a year in the feedback loop could be eliminated by using halibut harvest tags<sup>2</sup> (or some other mechanism) as the measure of charter harvest rather than waiting for the subsequent October for the SWHS (step 2), but the use of harvest tags to monitor the common pool is not supported by agency staff or representatives of the charter fleet.

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<sup>2</sup> Preliminary design considerations for a harvest tag program and electronic reporting in an interagency staff report were provided to the Council in December 2007.

**Table ES-4 Estimated Effect of Management Measures**

Tier	Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
			Area 2C	Area 3A <sup>1</sup>
Tier 1	One Trip per Vessel per Day	None	1.8% – 2.4%	5.5 – 6.3%
	No Retention by Skipper and Crew	None	4.3% – 4.7%	10.4%
	Line Limits <sup>2</sup>	None	Not Analyzed	Not Analyzed
	Second Fish of a Minimum Size <sup>3</sup>	45"	18.8% – 27.0%	32.5% – 39.3%
		50"	23.1% – 30.8%	36.9% – 43.3%
	Second Fish at or below a Length Limit <sup>4</sup>	32 Inches	19.7% – 26.1%	18.2% – 24.5%
		34 Inches	Not Analyzed	15.2% – 21.1%
		36 Inches	Not Analyzed	12.1% – 18.3%
	Annual Catch Limits	Four Fish	16.4%	6.5%
		Five Fish	9.3%	4.1%
Six Fish		4.3%	2.1%	
Tier 2	One Fish Bag Limit for All or a Portion of the Season <sup>5</sup>	Full Season	39.7% – 57.8%	47.1% – 62.9%
		May	1.8% – 2.6%	5.0% – 6.6%
		June	10.0% – 14.6%	12.4% – 16.5%
		July	14.5% – 21.1%	17.8% – 23.8%
		August	12.0% – 17.5%	9.9% – 13.2%
		September	1.4% – 2.0%	1.8% – 2.9%
		Season Closure <sup>6</sup>	Full Season	100.0%
May	5.2%		10.5%	
June	25.7%		26.0%	
July	35.4%		37.7%	
August	29.9%		21.2%	
September	3.7%		4.0%	

1. Numbers for Area 3A reflect the analysis for NPFMC (2007c) updated with ADF&G's final 2006 harvest estimates.

2. Neither NPFMC (2007b) nor NPFMC (2007c) analyzed line limits as an individual option.

3. Upper estimates include an assumption of a 10% reduction in the demand for halibut charter trips.

4. Upper estimate assumes that anglers catch the average fish below the length limit based on biomass. Lower estimate assumes that anglers are able to high-grade by one two-inch size class.

5. Upper estimates include an assumption of a 30% reduction in the demand for halibut charter trips. The analysis did not make any adjustments for anglers rescheduling their trips to other parts of the season which do not include the one-fish bag limit.

6. Estimates based on ADF&G data provided for NPFMC (2007b) and NPFMC (2007c). Estimates do not include the effect of anglers migrating to other months or otherwise adapting to the closure.

Source: NPFMC (2007b) and NPFMC (2007c).

## Element 4 – Timeline

No regulations would be generated as a result of Element 4. The estimated effects of potential timelines are provided to illustrate how the Council's preferred policy may be implemented in the future.

Element 4 is linked to the discussion of an annual regulatory cycle under Element 2. Three to four years may elapse between the year in which (1) an overage occurs; (2) the year in which ADF&G data report that an overage has occurred; (3) the year in which the Council selects a preferred alternative to address the overage; and (4) the year in which new regulations are in effect. Element 4 outlines two scenarios for

the timing of regulatory action for a response to an overage. The primary difference between the two proposed scenarios is when an estimate of charter harvests is available (step 2).

Staff identified that there are no potential time savings in the year in which an overage occurs. Interagency staff identified that a year in the feedback loop could be eliminated by using halibut harvest tags<sup>3</sup> (or some other mechanism) as the measure of charter harvest rather than waiting for the subsequent October for the SWHS (step 2), but the use of harvest tags to monitor the common pool is not supported by agency staff or representatives of the charter fleet.

Depending on the initial allocation and amount of IFQ leasing that occurs in each of the regulatory areas, from none to two CSP analyses could be submitted each year or they could be combined into a single analysis and rulemaking. Some streamlining during regional review may occur as these analyses become annual updates of previously reviewed documents, as compared with wholly new analyses. No resolution to a bottleneck is foreseen in which CSP analyses compete with other higher priority analyses for review.

Staff identified alternate methods for streamlining the preparation of a final rule in response to a charter halibut allocation overage. The Council could adopt one or more of the following proposals as its policy for preparing the documents necessary for rulemaking.

- The Council could save one meeting cycle by basing its new analysis on the previous, final analysis and proceeding straight to final action; it would not schedule initial review, which is not a federal requirement). The analysis would add the most recent year of data and undergo a routine update.
- Assuming notification by ADF&G Sport Fish Division of an overage in October, the Council could take final action in December (it may have to forego its four-week advance release of the public review document and prior SSC review (or it could schedule SSC review at the same time as final action and assume that the analysis conforms with analytical methodology previously approved by the SSC)). It could adopt a preferred alternative under a fixed poundage allocation or could adopt a two-prong preferred alternative. A proposed rule would be published prior to IPHC action and solicit comments on both preferred alternatives or the proposed rule could be published after IPHC action and solicit comments on the remaining preferred alternative.
- Since an EA/RIR/IRFA is required for Secretarial action (and technically not required for Council action), the Council could take action on only a supplemental analysis (to its previous year's EA/RIR/IRFA) similar to the supplemental analysis (2-3 pages provided to the Council in October 2007 on its previously released EA/RIR/IRFA for Area 2C GHL measures [[http://www.fakr.noaa.gov/npfmc/current\\_issues/halibut\\_issues/Area2CGHL\\_Sup1007.pdf](http://www.fakr.noaa.gov/npfmc/current_issues/halibut_issues/Area2CGHL_Sup1007.pdf)]. A complete, revised EA/RIR/IRFA would be prepared by Council staff immediately after final action and submitted to the Secretary (timing of proposed rulemaking would occur depending on whether allocation was in pounds or percent (and therefore dependent on IPHC action)).
- The Council could schedule final action sooner under a poundage charter sector allocation compared with a floating allocation because Council action would not be dependent on IPHC action to apply a Council CSP allocation split of a combined charter and commercial catch limit.

Interagency staff identified that a new type of accounting system should be developed for monitoring commercial halibut IFQs that would be leased to charter halibut operators to use in excess of the charter common pool allocation under Alternative 2. It would require in-season monitoring of halibut harvested using leased IFQs as distinct from those fished against the charter common pool allocation. Not requiring timely reporting of those halibut harvested under IFQs would result in further delay.

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<sup>3</sup> Preliminary design considerations for a harvest tag program and electronic reporting in an interagency staff report were provided to the Council in December 2007.

**The Council may wish to comment on whether any of these policy scenarios for future analyses are acceptable.**

## **Element 5 – Supplemental, individual use of Guided Angler Fish**

Element 5 would revise commercial halibut IFQ regulations to allow limited entry permit (LEP) holders to lease commercial IFQ from individual commercial IFQ holders to provide guided anglers with additional harvesting opportunities in excess of the annual charter allocation. The LEP holder would ask NMFS to convert the leased IFQ into Guided Angler Fish (GAF). The LEP could then use the GAF to provide guided anglers with additional harvesting opportunities with the provision that the individual guided angler's harvesting opportunities never exceed the daily bag and size limits in place for unguided anglers.

The most important implications under Element 5 include the following.

- Under Provision A-2 the analysis indicates that the proposed leasing levels should provide adequate GAF to preserve historic harvest opportunities and allow charter sector growth in the future;
- Under Provision A-2 there is little data to suggest what price LEP holders might pay for leasing GAF;
- Under Provision A-3 the data suggest that different leasing allowances would be needed to maintain the same level of access to historic harvest opportunities. The analysis found that under either 400-GAF or 600-GAF leasing allowance certain vessels in Area 3A could be deprived of their historical harvesting opportunities if the Area were subject to a one-fish daily bag limit for charter anglers. For example, at the 600-GAF limit 26.5% of the vessels in the larger endorsement class would be unable to offer their historic opportunities under certain conditions. While Area 3A does not exhibit the same GHL overage as found in Area 2C and there are currently no differences in the harvest regulations for guided and unguided anglers, **the Council may wish to consider higher GAF-leasing limits in Area 3A to provide equivalent preservation of historic fishing opportunities;**
- Under Provision C the analysis and discussions with ADF&G staff indicate that:
  - The current system of calculating average harvest weights from the previous year would not be available for IFQ conversion until the end of the following season. For example, the final estimate of average weight for 2007 would not be available until September 2008;
  - If there is a change in the average weight from year to year, it would become apparent the following year that the charter operator paid either too much or too little for GAF. Since the conversion is a linear function of the average weight, the percentage error in the amount of IFQ converted would equal the percentage difference in the average weights from year to year. These differences would likely cancel out only for charter operators and IFQ holders who convert on a regular basis over an extended number of years;
  - The delay in estimation of average weight may also affect catch accounting. It is assumed that GAF harvest is tallied as commercial catch, since it is converted from IFQs. Because the conversion of IFQ to GAF would likely be based on preliminary estimates of average weight from the previous year, the accurate accounting of GAF removals could not be obtained until the final estimates of harvest are available the following year. The degree to which this accounting error becomes an issue depends on the magnitude of GAF

conversion. If the amount of IFQ converted to GAF is a small proportion of the commercial catch limit, the error may not be worth addressing;

- Perhaps a more important consideration is whether the average weight of the sport charter harvest (common pool) should be used to convert IFQ for GAF, or whether the average weight of GAF should be used. The average weight of GAF may be higher than the average weight of all charter halibut under certain conditions. In addition, the average weight of GAF would be dependent on the distribution of harvest among subareas of Area 2C or Area 3A. Average weight currently varies quite a bit from port to port. If a high proportion of GAF are harvested from areas with larger fish, that would result in a higher average weight;
- Under certain conditions that average weight of GAF may not exceed that of common pool fish. For example, if the charter fishery is restricted by a one-fish bag limit then common pool fish may have a higher average weight than GAF due to high-grading. Under a one-fish limit, some anglers would try to harvest the largest fish possible;
- Under Provision D an LEP holder could be prevented from leasing to another LEP holder if the first lease holder was unable to fish the GAF (e.g., unavoidable circumstances including long term illness, injury, boat loss). However, LEP holders may be quick to recognize this limitation and adapt their lease agreements to include a reversion clause in the case that the LEP holder is unable to fish the GAF.

#### **Requests for clarification**

Staff seeks Council clarification on the rationale for the following proposed limits.

Provision A-2. Commercial halibut QS holders may lease up to 1,500 pounds or 10% (whichever is greater) of their annual IFQ to LEP holders (including themselves) for use as GAF on LEPs. A CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs.

Provision A-3. LEP holder per vessel may not lease more than 200-400 fish.

Suboption: vessels with LEP w/endorsement for more than 6 clients may not lease more than 400-600 fish.

- **Under Provision E(2), the Council's motion on conversion of GAF back to the commercial sector lacked guidance on how and when those transfers would be allowed. RAM Division staff has suggested that transfers could be conducted automatically or only upon request. RAM staff recommends that a combination of both options with the same cut-off date could be implemented. That is, any unused GAFs that were not requested previously to be returned to the lessor by a date certain would be automatically returned by NMFS on a certain date. Three scenarios have been identified for these requests: 1) by the GAF holder; 2) by the IFQ holder; or 3) either. GAF holders may request the transfer back to the IFQ leaseholder at any time during the season (although they have limited incentive if the value of unused GAFs are not somehow rebated, unless they are (also) the original commercial IFQ holders and therefore eligible to fish them commercially) or *all* unused GAFs would automatically revert back to the IFQ holder (assumed without compensation to the GAF holder) on a date certain (proposed to be October 1 by staff). Scenarios under which an IFQ holder reclaimed unused GAFs before a GAF holder wished to relinquish them would be problematic. Staff discussions assumed that unused GAFs that return to the IFQ holder would not be rebated but this issue is primarily contractual; an unrebated return would diminish the incentive for GAF holders to request their return but would provide incentive to only lease what the LEP holder needs to meet client demand during the season. Staff seeks clarification on the details of how the Council intends these transfers to be conducted.**

**Under any scenario, these two-way transfers require a real-time reporting system for the management of these GAFs for accurate in-season accounting of their balances.**

- **Under Provisions E(1) and E(2), the Council’s intent for its motion regarding the prudence of obtaining size data from both the common pool and GAFs is unclear. Is this intended as a request for additional data gathering by ADF&G or NMFS or is it intended to be a regulatory requirement for determining the appropriate conversion factor for calculating GAFS and back to IFQ pounds? and**

## **Element 6 – Catch Accounting System**

Element 6 encompasses the record keeping and reporting requirements to implement the Council’s preferred alternative. At final action, the Council would identify its preference for a catch accounting system to be implemented to monitor IFQ leases that would be used in the charter sector (as proposed under Element 5). NMFS, in cooperation with ADF&G, would advise the Council in October 2008 of the data collection and monitoring requirements. During interagency staff meetings, agency staff noted that a more defined alternative is needed before the data collection program can be fully developed. Staff have identified that the charter sector would be required to provide real time data for GAF harvests for NMFS to adequately monitor the leases. A real time data collection program for GAFs may include some form of electronic reporting. While the Council offered three suggestions for NMFS to consider for implementing the proposed catch sharing plan, **additional guidance on Council intent for administration, implementation, and enforcement is needed for the agency to provide estimates of costs for implementation.**

**It is not clear what the proposed Council action would be as a result of its provision under Element 6 that “Given the uncertainty regarding differences in the size of GAF and common pool fish, it would be prudent to obtain size data from both groups of fish, especially in the early years of the program.”** Is this a recommendation to NMFS or ADF&G to develop such data collection program?

## **Economic Impacts of the Alternatives**

The analysis assumes that the proposed charter sector allocation would be a common pool of fish that clients of charter LEP holders would be allowed to harvest. When the charter allocation limit is reached, charter clients would continue to be allowed to retain halibut for the remainder of the year. Exceeding the common pool allocation would result in more stringent management measures being implemented to reduce harvest in future years. The leasing of commercial IFQ may also be allowed under this amendment. Leasing of IFQ would allow individual charter operators that hold GAF, to use those fish to exceed charter harvest regulations when they are below the limits set for the unguided sport fishery.

This analysis does not provide quantitative estimates or confidence intervals for the magnitude of net national benefits under each option. Nor are those quantitative estimates provided for regional economic impacts of the alternatives considered in this analysis. Because those estimates cannot be provided given the information available, the analysis does not identify an optimal allocation. To provide these data, information on the contribution to national welfare of all commercial removals would be needed. That information is currently unavailable for the commercial sector and an analysis to estimate those impacts is outside the scope of what can be completed as part of this document.

Determining which allocation would maximize net national benefits would require detailed information on costs and expenditures in both the commercial and charter sectors. In addition to cost information, ex-vessel demand for charter trips and angler willingness-to-pay for trips would also be required. Collecting that information would be expensive and time consuming. Even if these data were available, changes in the halibut biomass will impact the optimal sustainable yield and the optimal allocation of halibut. Because of these ongoing changes to the resource, any allocation that is optimal when it is made would be suboptimal in the future. To maintain an optimal allocation, the allocation must be adjusted whenever

economic or biological conditions change (Criddle 2006). It is unreasonable to assume that overall net economic benefits could be sustained over time by a management agency altering the allocation.

## **Charter Sector**

The charter sector is comprised of business operators who are licensed by the State of Alaska to provide guided sport trips. It is not possible to provide estimates of the charter sector's net revenue. Additional information on both the revenues generated by the charter sector and the costs associated with providing those trips would be needed. There is not a complete set of data on the prices charged for a charter trip in Areas 2C and 3A. General information on trips prices is reported in the RIR, but those estimates are only intended to provide a small sample of trip prices derived from the business advertising. Those samples are not intended to represent the mean trip prices in a given area. Information is available from ADF&G saltwater logbooks on the number of trips taken in each area. However, because we do not have the prices associate with those trips, generating estimates of charter gross revenue is not possible.

Net revenues in the charter sector cannot be provided. Area-wide data are not available for either gross revenues or costs of operating the charter business. Both of these pieces of information are needed to estimate net revenues. The cost and time required to collect these data makes producing these estimates outside the scope of this analysis.

Criddle (2004, 2006) described four types of management combinations for a halibut fishery shared by a commercial and charter sector. One combination provided an example of when the commercial fishery was managed under an IFQ-based system and the charter sector was managed under a regulated open access sport fishery. Under the regulated open access system, it is assumed that the charter sector harvests are controlled by some combination of management measures. Criddle concluded that when a sportfishing charter fleet is comprised of small homogeneous charter businesses, an increase in demand for trips would result in an increase in trip prices, in the short-run. Long-run effects depend on the types of management measures used to constrain charter harvests. Size limits, bag limits, annual harvest limits, line limits, and prohibition on captain and crew harvests, if some of the fish went to the clients, could reduce the angler or operator surpluses generated from the trips. Seasonal closures, restrictions on where fish is allowed, or limits on the number of clients are examples of management measures that could increase the costs of providing trips. It is anticipated that all rents in the charter fleet would be dissipated under the limited entry program.

If management measures restrict charter harvests to their allocation over a five-year rolling average, increased demand for charter trips would be offset by more restrictive management measures. Therefore, increases in demand for charter trips are not expected to impact the commercial sector. The commercial sector would only be impacted if the charter sector is not constrained to its allocation by additional management measures or if the charter sector is able to convince the Council and the Secretary to increase its allocation.

The Council is also considering allowing charter LEP holders to lease GAF from the commercial sector. We can not predict the magnitude of halibut that would be transferred if leasing is allowed. However, commercial harvesters must agree to the transfer for it to occur. Charter businesses must pay a sufficient amount for the IFQs to offset the forgone value of commercial net revenues (Criddle 2006). Because the charter LEP holders do not benefit from consumer surplus and commercial harvesters do not benefit from postharvest surplus, they are not considered by the participants when determining whether to transfer IFQ.

Charter businesses that purchase GAF from the commercial sector would realize increased costs. Those costs would be passed on to charter clients through higher trip prices. The increased costs and prices are expected to allow charter businesses to earn normal profits in the long run.



## Commercial Halibut Fishery

Impacts of moderate fluctuations in stock abundance would lead to changes in the commercial quota under a fixed or percentage based charter allocation. Changes in the amount of halibut harvested by the commercial sector would impact exvessel prices, commercial net revenue, and post harvest surplus. Given research conducted by Herrmann et al. (1999) on the price flexibility of Alaska halibut, the changes in exvessel price that results from increasing or decreasing the amount of commercial harvest in Areas 2C and 3A as a result of this proposed amendment are expected to be very small. An allocation to the charter sector that decreases the commercial allocation is expected to result in a small increase in exvessel price, but an overall decline in the net revenue of commercial harvesters. Post harvest surplus is directly related to the quantity of halibut on the market, so a decrease in commercial harvests would lead to a decrease in post harvest surplus (Criddle 2006). If the allocation to the charter sector is set at a level that reduces its harvest during periods when the combined commercial and charter catch limit is steady, the commercial harvest would be increased and post harvest surplus would increase.

Stock fluctuations may impact the asset value of QS held by commercial harvesters. If the changes to halibut stocks in Areas 2C and 3A occur frequently and are relatively small, they are not expected to impact QS values. However, if the stock size is expected to increase or decrease for a longer period of time it would impact QS asset values. In that situation, a decrease in stock size would reduce QS values and an increase in stock size would increase QS values. Redistributing the amount of halibut that is assigned to the charter sector could have a similar impact on QS values.

Because the QS are expected to generate lower net revenues over the next six years (based on IPHC CEY projections), the asset value of Area 2C QS is also expected to decline. Persons that are forced to sell their QS and those that willingly sell their QS would be expected to receive less for their QS. Persons that are unable to weather the financial downturn would be bought out by persons that are in a better financial position that feel stock abundance would increase over the long-term and constraints on charter harvests would help preserve their portion of the combined commercial and charter catch limit. As a result, Area 2C QS holdings would be further concentrated.

The Area 2C commercial allocation is projected to always be less (during the years considered in this amendment) under the fixed poundage allocations relative to the percentage based allocations. This is because the CEY is smaller during those years relative to the base years used to determine the allocations.

Because the commercial allocations in Area 3A are projected to be at or above historic levels in the near future, the QS values are not expected to decline as a result of short near-term decline in net revenue. If the trend of higher than historic average allocations is anticipated, the QS values may increase.

Increased demand for charter trips does not affect participants in the commercial fishery when the charter sector is constrained (Criddle 2006). The proposed harvest limits are assumed to constrain the amount of halibut the charter sector can harvest over a five-year period (the charter sector harvest is required to be less than or equal to their allocation over a five-year rolling average), so the commercial allocation would not be reduced by increased charter harvests. It is also important to note that unless there are stock conservation concerns, charter overages would have a minor impact on future combined commercial and charter catch limits.

The commercial sector, however, would be directly impacted by a charter allocation that is larger than the charter sector would harvest under the status quo. That scenario would allow the charter sector to increase its harvest, as client demand increases, until they reach the allocation. From that point forward, the allocation would constrain the charter client harvests and the commercial sector would not be impacted by further increases in client demand.

If the amount of halibut projected to go unused at the beginning of the year is not reassigned to the commercial sector, any excess allocation to the charter sector would reduce the commercial allocation more than is necessary. Forgoing that harvest would reduce postharvest surplus.

Leasing of GAF would allow commercial QS holders to lease IFQ to the charter sector. They are only expected to lease IFQ to the charter sector if they receive sufficient compensation to offset the net revenue they would derive from harvesting the fish themselves. Because individual commercial harvesters generate different amounts of net revenue from their allocation, the commercial operations that generate the lowest marginal net revenue would be most likely to lease halibut. Charter operations that have the highest net revenue per fish are expected to be the most willing buyers, if their net revenue per fish is greater than or equal to the lease cost per fish.

## **Charter Clients**

Charter client trips would not be constrained by the amount of halibut available to its sector in-season under the status quo or the allocation options being considered. However, demand for charter trips could decline as more restrictive management measures are imposed (e.g., a one-fish bag limit in Area 2C) to keep the sector's harvest within its allocation. Because of the excess capacity that is expected to exist under the moratorium, at least in the short term, charter clients are expected to pay prices for trips that would allow the charter operators to earn normal profits (NPFMC 2006a).

Differential trip prices could result if clients wanted to use GAF to relax their harvest restrictions. For example, if a client wanted to harvest two fish in Area 2C, they may need to compensate the charter operator for the additional cost associated with the lease of the GAF. It is not possible to know how charter operators would develop price structures for various types of trips. However, the use of GAF would increase trip costs and those costs are expected to be passed on to the client.

Status quo regulations are expected to be more restrictive in Area 2C than in Area 3A. After 2007, we have assumed that a one-fish bag limit would be in place in Area 2C. Those management measures are expected to reduce both consumer demand and consumer surplus relative to regulations in place for Area 3A. In Area 3A the charter clients would remain under a 2-fish bag limit and a possession limit of 4-fish. The numbers of halibut that may be harvested by a client during the year are not further regulated. Because of the different management measures in place for the two areas, clients that have the opportunity may choose to take a trip in Area 3A instead of Area 2C. This behavior would shift demand from Area 2C to Area 3A. If non-residents increase the percentage of trips they take in Area 3A, it may increase overall consumer surplus relative to what it would be if participation patterns remained static.

We assume that the (pending) limited entry program would not be a constraint to persons booking a trip. Competition for clients is expected to keep trip prices at a level that allows charter operators to only earn normal profits. All else being equal, the price of trips should not increase as a result of the status quo management measures. Seasonal discounts may continue to be offered, especially in Area 3A, as charter operators attempt to attract clients during the non-peak seasons. Discounted trips have historically been available before mid-June and after mid-August.

## **Consumers of Commercial Halibut**

Decreases in the amount of halibut available to consumers would result in increases in halibut prices, all else being equal. As stated earlier, the ex-vessel price increases as a result of decreased supply are expected to be modest given the price-flexibility of halibut. Even though the price increases are expected to be relatively small, the combination of increased prices and reduced availability would decrease postharvest surplus (Criddle 2006). The decrease in postharvest surplus cannot be estimated for the various common pool allocation options and is outside the scope of this analysis. However, the options that generate the smallest charter allocation would result in the largest postharvest surplus.

Allowing the charter sector to lease commercial IFQ would decrease consumer surplus if transfers occur. The leases would reduce the amount of halibut available to halibut consumers. Because of the direct relationship between postharvest surplus and quantity supplied, benefits to consumers of commercial halibut would be reduced.

## **Communities**

Economic activity resulting from the charter and commercial halibut fisheries generates income for residents of the communities where the expenditures occur. Employment is also created in communities that provide goods and services to the fishing sectors.

The regional economic benefits under the status quo would likely differ from those under an allocation to the charter sector that imposes additional management measures in future years. However, changes in regional economic benefits generally do not cause changes in net national benefits.

Under the status quo, the amount of personal income and jobs generated by the charter sector is expected to increase in Area 3A in the long-run. In Area 2C the sector would experience declines in the short-term, as a result of stricter management measures imposed to keep the sector within its GHL. If the CEY increases to higher levels in the future the charter sector would be expected to increase the amount of personal income and jobs they create above the 2008 levels.

No options are being considered that limit the harvest of the charter sector within a fishing season. However, the management measures that are expected to be imposed on the Area 2C charter fleet starting in 2008 are expected to reduce client demand for trips (e.g., a one-fish bag limit). When the number of trips taken is reduced by more restrictive management measures, the charter sector would need fewer supplies and it would reduce expenditures within the communities that supply those goods. When they purchase fewer goods and services within the community, it has a negative impact on their economy and employment, if the reductions are not offset by increased purchases by the commercial sector.

The allocations considered in this amendment would shift the amount of halibut available to the commercial sector and charter sectors, the overall near-term CEY reductions are likely to have a larger impact on the Area 2C regional economies than shifting the available halibut among sectors. However, shifts in the commercial/charter allocations would impact individuals within those communities are more than the regional economy, because spending by the two sectors would to some extent offset each other.

The total reduction in trips by community cannot be estimated. Information on the expenditures by charter operators by community is also unavailable. Collecting that information would be both expensive and time consuming, and is outside the scope of this amendment.

## **Self-guided anglers and subsistence harvesters**

Continuation of the status quo is not expected to impose costs or provide additional benefits to self-guided anglers or subsistence harvesters. Because halibut removals by those two groups are unrestricted and deducted from the CEY prior to determination of the proposed combined commercial and charter catch limit, the amount of halibut harvested by the commercial and charter sectors do not impact the halibut available to these groups.

Imposing a limit on the amount of halibut charter clients may harvest or reducing their bag limit could result in some individuals that have access to a private boat fishing for halibut without a guide, when they would have used a guide service all else being equal. Increasing effort in the non-guided sector is more likely to occur in Area 3A where the percentage of clients from Alaska is greater than in Area 2C. Public comments for this action and prior Council actions have included concerns about an increase in unguided or “bareboat” rentals. “Bareboat” rental companies provide tourists vessels without crew, but with other equipment required for a successful fishing trips such as maps, GPS locators, and fishing equipment. The public comments raised both safety and enforcement concerns about the effect of these businesses. The safety concerns focus on inexperienced boaters navigating in Alaska’s challenging marine environment. Enforcement concerns have focused on the suggestion that some businesses would claim that a boat rental is unguided, but then provide a guide who would not identify himself as such if intercepted by enforcement staff.

# 1 ENVIRONMENTAL ASSESSMENT

## 1.1 Introduction

This Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) provides an analysis of alternatives for implementing Federal regulations for a catch sharing plan (CSP) for the commercial Individual Fishing Quota (IFQ) and charter halibut fisheries. The proposed CSP would set an initial allocation between the two sectors and allow charter limited entry permit holders to lease commercial halibut IFQs for use by anglers in the charter sector, thereby compensating the commercial sector for seasonal increases in the charter sector allocation. The National Environmental Policy Act (NEPA), Executive Order 12866, and the Regulatory Flexibility Act require a description of the purpose and need for the proposed action, as well as a description of alternative actions that may address the problem.

- The purpose and need are addressed in Section 1.1;
- Chapter 2.0 describes the alternatives considered for analysis;
- Chapter 3.0 describes the affected environment;
- Chapter 4.0 discusses the approach taken to evaluate the biological and environmental impacts of the alternatives as required by NEPA, as well as impacts on endangered species and marine mammals;
- Chapters 5.0 and 6.0 provide the NEPA analysis;
- Chapter 7.0 presents the Regulatory Impact Review (RIR), which describes potential economic impacts from the alternatives; and
- Chapter 8.0 presents the Initial Regulatory Flexibility Analysis (IRFA), which evaluates the impacts on directly regulated small entities.

This Environmental Assessment (EA) assesses the potential biological, social, and economic impacts of implementing regulations to revise management of the charter halibut fisheries in International Pacific Halibut Commission (IPHC) Regulatory Areas 2C and 3A. This analysis considers regulatory changes to (1) set a sector allocation between the charter and commercial IFQ halibut fisheries through a catch sharing plan (CSP), and (2) allow charter halibut limited entry permit (LEP) holders<sup>4</sup> to lease commercial halibut IFQ to increase opportunities for harvesting halibut by anglers in the charter sector.

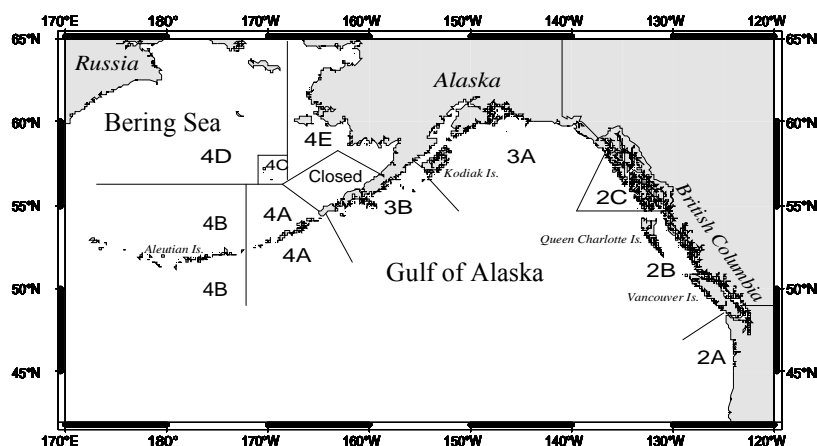


Figure 1 IPHC regulatory areas in the northern Pacific Ocean and Bering Sea

<sup>4</sup> A proposed charter halibut limited entry permit program is under Secretarial review.

## 1.2 Background

The IPHC promulgates regulations governing the Pacific halibut (*Hippoglossus stenolepis*) fishery in compliance with the terms of the Convention between the United States and Canada for the Preservation of the halibut fishery of the North Pacific Ocean and Bering Sea, signed at Washington D.C., on March 29, 1979. The IPHC promulgates regulations on an annual basis that are approved by the Secretary of State of the United States under Section 4 of the Northern Pacific Halibut Act (Halibut Act, 16.U.S.C. 773–773k). Pursuant to regulations at 50 CFR 300.62, the approved IPHC regulations are published in the *Federal Register* to inform persons subject to the regulation.

Additional management regulations that are not in conflict with those adopted by the IPHC are implemented by the Secretary of Commerce and may be developed by the Regional Fishery Management Council to allocate harvest privileges among U.S. fishermen. The halibut fishery in waters off Alaska (0–200 miles) is under the jurisdiction of the Secretary of Commerce, represented by the National Marine Fisheries Service (NMFS), and advised by the North Pacific Fishery Management Council (Council). These waters comprise IPHC regulatory Areas 2C (Southeast Alaska), 3 (Southcentral Alaska), and 4 (Bering Sea/Aleutian Islands).

Each year, using a combination of harvest data from the commercial, recreational, and subsistence fisheries and information collected during scientific surveys, the IPHC determines the abundance of halibut in each area (exploitable biomass). The biological target level for total removals in a regulatory area is the product of a fixed harvest rate and the estimate of exploitable biomass. This is called the “total constant exploitation yield” (Total CEY) and is the target level for total removals (in net pounds) for an area in the coming year. In Area 2C, the IPHC subtracts from the Total CEY estimates of the total “non-commercial” removals for the up coming year. These removals include recreational harvest, subsistence harvest, wastage, and bycatch mortality. The portion of the Total CEY remaining after these removals are subtracted is the CEY available for the commercial longline fishery, the “Fishery CEY.”<sup>5</sup> The actual commercial longline catch limit is set with reference to this Fishery CEY.

With the exception of the guided recreational fishery and a small increase in subsistence harvest, other removals have remained stable. However, the increase in growth for the guided recreational fishery has resulted in an increase in harvest. As the guided recreational fishery removals increase, its harvests reduce the pounds available for the commercial halibut fishery. The fishery catch limit is allocated between quota share holders in Area 2C. Each quota share holder receives a percentage of the total poundage available for commercial harvest within a year. This poundage comprises an individual fishing quota.

In 1995, the Council adopted a problem statement recognizing that the increasing amount of harvest in the guided recreational fishery may change the stability, economic viability, and diversity of the halibut industry, the quality of the recreational experience, access for subsistence users, and the socioeconomic well-being of the coastal communities dependent on the halibut resource. This policy statement led to the development of a guideline harvest level (GHL) policy to address the allocative issues between the commercial and the guided recreational sectors.

### 1.2.1 The Guideline Harvest Level

Since 1993, the Council has discussed the expansion of the charter halibut sector. The issue gained prominence in 1993 when some small Alaskan communities, such as Sitka, expressed concerns about local depletion of the halibut resource and the potential reallocation of greater percentage of the Total CEY from the IFQ fishery to the charter fishery. In response to these concerns, the Council developed a GHL policy to control halibut harvested in the guided recreational sector. In September 2007, the Council took final action on two management actions affecting the halibut fishery: (1) approval of recordkeeping

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<sup>5</sup> The IPHC does not currently account for mortality resulting from the release of fish in the sport fishery.

and reporting requirements for the charter fishery, which was subsequently implemented by Alaska Department of Fish and Game (ADF&G) and (2) recommendation of GHGs for Areas 2C and 3A.

On January 28, 2002, the National Marine Fisheries Service (NMFS) published a proposed rule (67 FR 3867) in the *Federal Register* that specified GHGs and a system of harvest reduction measures that would be used to maintain the guided recreational halibut harvest in Areas 2C and 3A at or below the GHGs. The GHGs established an estimated amount of halibut harvest that may be taken annually in the guided recreational fishery for Areas 2C and 3A.

The proposed rule also described management measures that would be implemented by NMFS to take effect the year following an overage of a GHG. However, the harvest measures as described in the proposed rule could not be implemented. On April 2, 2002, NMFS informed the Council through a letter that the measures could not be implemented in the year following a GHG overage because of the time lag associated with receiving recreational harvest data from ADF&G and requirement for a notice and comment period under the Administrative Procedures Act (APA), including an Environmental Analysis, Regulatory Impact Review, and Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) of the harvest control measure.

The final rule implementing the GHG was promulgated by NMFS on August 8, 2003 (68 FR 47256). The rule removed the problematic harvest control measures described in the proposed rule because of the timeline associated with meeting the legal requirements of the APA. The final rule established the GHGs as a level of acceptable annual harvests for the guided recreational halibut fishery in Areas 2C and 3A. The GHGs equal 1,432,000 lb net weight in Area 2C, and 3,650,000 lb net weight in Area 3A. In 2004, charter harvest exceeded the GHG in Area 2C and charter harvests in both areas has continued to grow since then. Final harvest estimates for the 2006 charter fishing season indicate the GHG was exceeded by 26% (372,000 lb) in Area 2C and <1% (14,000 lb) in Area 3A. In 2007, the GHG in Area 2C was exceeded by 19% (269,000 lb); charter harvests in Area 3A were under the GHG by 246,000 lb).

Charter halibut harvest is effectively unrestricted, because the GHG is not a “hard” cap. The commercial allocation is a hard cap calculated after deducting estimates of other harvests, including charter harvest. Therefore, as the charter fishery expands, its harvests reduce the allocation to the commercial halibut fishery, and the amount of IFQ available for harvest is reduced.

While commercial quotas fluctuate directly with stock abundance, the fixed GHGs for Areas 2C and 3A are established annually in pounds and only respond to a decline in stock abundance. Regulations at 50 CFR 300.65 define GHG levels in relation to halibut stock abundance (total CEY). The GHGs are reduced if the area-specific total CEY declines by at least 15% below the average 1999-2000 total CEY, as determined by the IPHC. For example, if the total CEY in Area 2C were to fall between 15% and 24% below its 1999-2000 average, then the GHG would be reduced to 1,217,200 lb. If the total CEY declined by 25% to 34%, then the GHG would be reduced to 1,095,480 lb. If the total CEY continued to decline by at least 10%, the GHG would be reduced by an additional 10% until it reached a baseline level of 708,000 lb. The GHG could be increased to its initial level, but not higher, if the biomass increased.

The GHG formula allowed for a 25% increase above past charter harvests. The charter sector requested that a fixed allocation be provided to enhance predictability for bookings for the next summer’s fishing season. The overall intent was to maintain a stable charter fishing season of historic length, using area-specific measures to control harvests to the GHG. The GHG in Area 3A has never been reduced. The Area 2C GHG was reduced in 2008 to 931,000 lb (<http://www.fakr.noaa.gov/notice/73fr6709.pdf>), as charter halibut harvests in Area 2C have continued to grow. The GHG was exceeded for the first time in its first year of implementation in 2004 and has been exceeded in each successive year by increasing amounts (Table 5).

**Table 5 Area 2C and 3A charter catch of Pacific halibut. All pounds are net weight.**

Area 2C	Guided Harvest	Guided Harvest
Year	(M lb)	(percent of GHL)
1995	0.986	67
1996	1.187	83
1997	1.034	72
1998	1.584	110
1999	0.938	66
2000	1.132	79
2001	1.202	84
2002	1.275	89
2003	1.412	99
2004	1.750	122
2005	1.952	136
2006	1.804	126
2007	1.701	119
Area 3A	Guided Harvest	Guided Harvest
Year	(M lb)	(percent of GHL)
1995	2.845	78
1996	2.822	77
1997	3.413	94
1998	2.985	82
1999	2.533	69
2000	3.140	86
2001	3.132	86
2002	2.724	75
2003	3.382	93
2004	3.668	100
2005	3.689	101
2006	3.664	100
2007	3.404	93

### 1.3 Purpose and Need

The Council is concerned about its ability to maintain the stability, economic viability, and diversity of the halibut industry, the quality of the recreational experience, the access of subsistence users, and the socioeconomic well-being of the coastal communities dependent on the halibut resource. Specifically, the Council noted the need for reliable harvest data would increase as the magnitude of harvest expands in the charter sector and the following areas of concern with respect to the recent growth of halibut charter operations.

- Pressure by charter operations may be contributing to localized depletion in several areas.
- The recent growth of charter operations may be contributing to overcrowding of productive grounds and declining harvests for historic sport and subsistence fishermen in some areas.
- As there is currently no limit on the annual harvest of halibut by charter operations, an open-ended reallocation from the commercial IFQ sector to the charter industry is occurring. This reallocation may increase if the projected growth of the charter industry occurs. The economic and social impact on the commercial IFQ fleet of this open-ended reallocation may be substantial and could be magnified by the IFQ program.

- In some areas, community stability may be affected as traditional sport, subsistence, and commercial IFQ fishermen are displaced by charter operators. The uncertainty associated with the present situation and the conflicts that are occurring between the various user groups may also be impacting community stability.
- Information is lacking on the socioeconomic composition of the current charter industry. Information is needed that tracks: (a) the effort and harvest of individual charter operations; and (b) changes in business patterns.

The Council adopted the following management objectives for this proposed action in December 2007.

*In establishing this catch sharing plan for the commercial and sport charter halibut sectors, the Council intends to create a management regime that provides separate accountability for each sector. The management of the commercial sector remains unchanged under the plan, and new management measures are provided for the sport charter sector.*

*These new measures for the sport charter sector are designed to address the specific need of the sport charter sector for advance notice and predictability with respect to the management tools and length of season that will be used to achieve the allocation allotted to that sector under the plan. In order to achieve the allocation, it is the Council's intent that management tools and season length would be established during the year prior to the year in which they would take effect, and that the tools selected and season length would not be changed in season.*

*The Council will evaluate its success in achieving the sport charter sector allocation, and specific needs for predictability, advance notice, and season length each year, and will adjust its management tools as needed. In designing this regime for the sport charter sector the Council recognizes that providing advance notice and predictability may result in a charter harvest that does not precisely meet the sector allocation for that particular year. Therefore, the Council intends to adjust its management measures as needed to ensure that the sport charter sector is held at or below its allocation on average over a rolling five-year period. In meeting its conservation mandate while accommodating the charter industry's need for predictability and stability, the Council will necessarily err on the side of conservation in the selection of management tools and season length, with the result that the sport charter sector may not be able to harvest its entire allocation.*

The Council adopted the following Problem Statement in June 2007 and reaffirmed the language in October and December 2007.

*The absence of a hard allocation between the longline and the charter halibut sectors has resulted in conflicts between sectors and tensions in coastal communities dependent on the halibut resource. Unless a mechanism for transfer between sectors is established, the existing environment of instability and conflict will continue. The Council seeks to address this instability while balancing the needs of all who depend on the halibut resource for food, sport, or livelihood.*

## **1.4 Action Area**

The action considered in the analysis would occur in IPHC regulatory Area 2C and Area 3A. These alternatives are permanent and would be in place for the entire fishing season.

## **1.5 Relationship of this action to Federal law**

While NEPA and the RFA are the primary laws directing the preparation of this document, a variety of other Federal laws and policies require environmental, economic, and socio-economic analysis of proposed Federal actions. This document contains the required analysis of the proposed Federal action to ensure that the action complies with these additional Federal laws and executive orders (EOs):



- Convention between the United States and Canada for the Preservation of the halibut fishery of the North Pacific Ocean and Bering Sea (Convention). Northern Pacific Halibut Act (Halibut Act, 16 U.S.C. 773-773k);
- Endangered Species Act;
- Marine Mammal Protection Act;
- Administrative Procedure Act; and
- Information Quality Act.

## 1.6 Related NEPA Documents

The NEPA documents listed below have detailed information on the halibut fishery, groundfish fisheries with halibut bycatch, and on the natural resources, the economic and social activities, and communities affected by those fisheries:

- Groundfish Programmatic Supplemental Environmental Impact Statement (PSEIS) (NMFS 2004);
- Essential Fish Habitat Environmental Impact Statement (EIS) (NMFS 2005b);
- The Harvest Specifications Environmental Impact Statement (EIS)(NMFS 2007);
- Guideline Harvest Level Environmental Assessment (EA, Council 2003);
- Draft EA for measures to reduce charter harvest in Area 2C to the GHL (Council 2007b); and
- EA regulatory amendment to define subsistence halibut fishing in Convention Waters (Council 2003b).

## 1.7 Description of the Alternatives

Two alternatives for establishing a catch sharing plan for the halibut charter and commercial longline fisheries are considered:

### **Alternative 1. No action**

### **Alternative 2. Establish a catch sharing plan that includes sector accountability**

#### **Element 1 – Initial allocation**

Option 1: Fixed percentage of combined charter harvest and commercial catch limit for period

	Area 2C	Area 3A	Based on:
a.	13.1 %	14.0%	125% of the 1995-1999 avg charter harvest (current GHL formula)
b.	17.3 %	15.4 %	125% of the 2001-2005 avg charter harvest (GHL formula updated thru 2005)
c.	11.7 %	12.7%	current GHL as percent of 2004
d.	15.1 %	12.7%	2005 charter harvest

Option 2: Fixed pounds

	Area 2C	Area 3A	Based on:
a.	1.43 Mlb	3.65 Mlb	125% of the 1995-1999 avg charter harvest (current GHL)
b.	1.69 Mlb	4.01 Mlb	125% of the 2000-2004 avg charter harvest (GHL updated thru 2004)
c.	1.90 Mlb	4.15 Mlb	125% of the 2001-2005 avg charter harvest (GHL updated thru 2005)

Option under a, b, and c:

Stair step up and down. The allocation in each area would be increased or reduced in stepwise increments based on a change in the total CEY. If the halibut stock were to increase or decrease from 15% to 24% from its average total CEY of the base period selected for the initial allocation at the time of final action, then the allocation would be increased or decreased by 15%. If the stock were to increase or decrease from at least 25% to 34%, then the allocation would be

increased or decreased by an additional 10%. If the stock increased or decreased by at least 10% increments, the allocation would be increased or decreased by an additional 10%.

Option 3: 50% fixed / 50% floating allocation

	Area 2C		Area 3A			
	50% of:	and	50% of:	50% of:	and	50% of:
a.	13.1 %		1.43 MIb	14.1 %		3.65 MIb
b.	15.9 %		1.69 MIb	15.4 %		4.01 MIb
c.	17.3 %		1.90 MIb	15.4 %		4.15 MIb

**Element 2 – Annual regulatory cycle**

The initial charter allocation would be a common harvest pool for all charter limited entry permit holders. It would not close the fishery when the charter allocation is exceeded. Instead, the allocation would be linked to an annual regulatory analysis of management measures (delayed feedback loop) that take into account the projected CEY for the following year and any overages by the charter industry in the past year(s). This system would work best if there is not a time lag between the overage year and the payback year. The Council would not revisit or readjust the sector split. An allocation overage would trigger the regulatory process automatically, in contrast with current GHM management. Any underages would accrue to the benefit of the halibut biomass and would not be reallocated or paid forward. The Council assumes (and would request) that the International Pacific Halibut Commission would set a combined charter and commercial sector fishery catch limit and would apply the allocations between the two sectors that would be recommended by the Council in a type of catch sharing plan to the combined fishery catch limit.

**Element 3 – Management toolbox**

Tier 1 measures would be utilized by the Council to try to manage the charter common pool for a season of historic length and a two-fish daily harvest limit. Tier 2 measures would be utilized if Tier 1 measures are inadequate to constrain harvest by the charter common pool to its allocation. Due to the delayed feedback loop in implementation of management measures, management measures will, in general, be more restrictive to ensure that the charter sector allocation is not exceeded. In providing predictability and stability for the charter sector, it is likely that the full allocation may not be harvested.

Tier 1	Tier 2
One Trip per Vessel per Day	Annual Catch Limits
No Retention by Skipper and Crew	One Fish Bag Limit for all or a portion of the Season
Line Limits	Season Closure
Second Fish of a Minimum Size	
Second Fish at or below a Specific Length	

**Element 4 – Timeline.** The current timeline for the proposal is as described below. [Staff should discuss what would be needed to implement February Council action for June (the same year)]

Example Scenario 1: four-year feedback loop

- Charter fishery ends 2007
- October 2008: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.

- December 2008: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2009: IPHC adopts combined catch limits for 2009.
- February 2009: Council takes final action on management measures that would be implemented in year 2010.
- Winter 2009: NMFS publishes the rule that would be in effect for 2010.

Example Scenario 2: three-year feedback loop

- Charter fishery, with in-season monitoring, ends 2007
- October 2007: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2007: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2008: IPHC adopts combined catch limits for 2008.
- February 2008: Council takes final action on management measures that would be implemented in year 2009
- Winter 2008: NMFS publishes the rule that would be in effect for 2009

**Element 5 – Supplemental, individual use of commercial IFQ** to allow limited entry permit holders to lease commercial IFQ in order to provide anglers with additional harvesting opportunities, not to exceed limits in place for unguided anglers.

Leasing commercial IFQ for conversion to Guided Angler Fish (GAF).

1. An LEP (Limited Entry Permit) holder may lease IFQ for conversion to GAF for use on the LEP.
2. Commercial halibut QS holders may lease up to 1,500 pounds or 10% (whichever is greater) of their annual IFQ to LEP holders (including themselves) for use as GAF on LEPs. A CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs.
3. LEP holder per vessel may not lease more than 200-400 fish.

Suboption: vessels with LEP w/endorsement for more than 6 clients may not lease more than 400-600 fish.

A. LEP holders harvesting GAF while participating in the guided sport halibut fishery are exempt from landing and use restrictions associated with commercial IFQ fishery, but subject to the landing and use provisions detailed below.

B. GAF would be issued in numbers of fish. The conversion between annual IFQ and GAF would be based on average weight of halibut landed in each region's charter halibut fishery (2C or 3A) during the previous year as determined by ADF&G. The long-term plan may require further conversion to some other form (e.g., angler days).

C. Subleasing of GAF would be prohibited.

D. GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.

E. Conversion of GAF back to commercial sector

1. GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.

2. Unused GAF may revert back to pounds of IFQ at the end of the year and be subject to the underage provisions applicable to their underlying commercial QS.

F. Guided angler fish derived from commercial QS may not be used to harvest fish in excess of the non-guided sport bag limit on any given day.

G. Charter operators landing GAF on private property (e.g., lodges) and motherships would be required to allow ADF&G samplers/enforcement personnel access to the point of landing.

H. Commercial and charter fishing may not be conducted from the same vessel on the same day.

#### **Element 6 – Catch accounting system**

1. The current Statewide Harvest Survey and/or logbook data would be used to determine the annual harvest.
2. A catch accounting system would need to be developed for the GAF fish landed in the charter industry.
3. As part of data collection, recommend the collection of length measurements when supplemental IFQs are leased for use and compare to the annual average length to make sure that accurate removable poundage is accounted for and to allow length measurement information gathered to be used in the formulation of the average weight used in the conversion of IFQs to GAF.

**Alternative 1** is the No Action Alternative. The Guideline Harvest Level (GHL) Program set a fixed allocation in pounds to the charter sector in Area 2C and Area 3A in 2004, which included step-wise reductions as the halibut biomass decreased. Since then, the GHL has been exceeded each year in Area 2C but has never been exceeded in Area 3A. The delay between the year in which an overage occurs and when a management response is implemented by NMFS has been referred to as a “delayed feedback loop.” For instance, the GHL overage in 2004 was not identified by management agencies until September 2005. The Council initiated an analysis to implement restrictive management measures in October 2005. The Council selected an annual limit of five fish as its preferred alternative for Area 2C in April 2006 (NPFMC 2006). The Council rescinded this preferred alternative in October 2006, upon request of NMFS because of high implementation and enforcement costs. At that same meeting, ADF&G reported that charter halibut harvests in 2005 and 2006 exceeded the Area 2C GHL by increasing levels in those two years. The Council added several management options to Alternative 2, which resulted in a revised analysis in April 2007 and selection of a new preferred alternative in June 2007 for implementation for the 2008 charter season. Because the Council action could not be implemented in time for the 2007 charter season, NMFS initiated its own analysis of alternatives to be implemented for the 2007 charter season. NMFS implemented its preferred alternative of a season-long two halibut daily bag limit, with a maximum size limit of 32 inches for one of the two halibut on June 1, 2007. In summary, the delayed feedback resulted in restrictive action in 2007 for an overage in 2004.

Fundamentally, there is little difference between the GHLs and the proposed allocation to the charter sector. The No Action Alternative would not create a catch sharing plan between the charter and commercial halibut sectors and would not set an annual cycle intended to reduce the delayed feedback between an overage and when restrictive management measures may be implemented. Status quo also includes state regulations. Prior to state actions in 2006 and federal action in 2007, charter halibut harvests had been effectively unrestricted because the GHL is not a “hard” cap.<sup>7</sup>

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<sup>6</sup> Emergency orders were issued by ADF&G to prohibit sport fishing guides and crew members on a charter vessel from retaining fish while clients are onboard the vessel during the fishing season in 2006 and 2007 for Area 2C and in 2007 for Area 3A. State regulations for Southeast Alaska also limit the number of lines in the water to the number of paying clients, with a maximum of six.

<sup>7</sup> The fishery is not closed when the GHL is reached.

Taking no action would continue management under GHGs in Areas 2C and 3A. It may require annual regulatory adjustments to optimally match charter halibut harvests to the respective GHGs. The Council has acknowledged the inefficiency of managing the charter sector under the GHGs by its initiation of this analysis and is considering a separate analysis of share-based allocation systems for a “permanent solution.”

**Alternative 2** would set a CSP for an initial allocation of halibut harvests between the charter sector and commercial IFQ sector in Area 2C and Area 3A and allow charter halibut LEP holders to lease commercial halibut IFQ to increase their share of the allocation within a fishing season. It also affirms a policy under which the Council commits to annually consider changes to federal regulations (as needed) to limit charter halibut harvests to its allocation.

The Council is considering ten options under Alternative 2 for an initial sector allocation in each area to the charter halibut fishery; the remainder would be allocated to the commercial sector in a CSP. These options include four fixed percentage options, three fixed poundage options, and three options that combine (on an equal proportion) fixed percentage and fixed poundage options. The fixed poundage options (and not the combination percentage/pounds options) include suboptions to step the allocations up and down depending on halibut biomass. The proposed CSP would identify a management framework to expedite the selection of a preferred alternative and implementation of a regulatory amendment prior to the start of each season.

The Council’s December 2007 motion also addressed some recordkeeping and reporting methods, but deferred to the recommendations by NMFS for the determination of appropriate and necessary recordkeeping tools. These are discussed in the Regulatory Impact Review (RIR).

**Other alternatives.** The Council previously considered and rejected an alternative that would have allowed compensated reallocation shifts between the halibut commercial IFQ and charter sectors. Options considered allowing the development of a common pool management system and/or the development of an individual private management system. Three suboptions included potential common pool management systems: (1) Federal Common Pool; (2) State Common Pool; or (3) Regional Non-Profit Association Common Pool. Each common pool suboption would require federal and/or State of Alaska legislation, plus a regulatory amendment to the commercial halibut individual fishing quota program. Legislative authorization places portions of the final program outside the Council process. The individual management option would require only a regulatory amendment. The analysis identified numerous overarching issues that likely would have affected the implementation of both types of systems. The Council rejected the compensated reallocation alternative in October 2007 because a draft analysis identified a number of hurdles to its successful and timely implementation. These hurdles include: (1) the need for both federal and state legislation to authorize the proposed actions; (2) the need for funding the purchase of commercial QS; (3) controversy regarding the proposed pro rata reduction of the value of commercial halibut QS; and (4) the additional time required to allow various facets of the proposed program to be implemented (NPFMC 2007c). The Council replaced the compensated reallocation alternative with Alternative 2. That alternative is a simpler, more limited approach that would allow voluntary, in-season leasing of commercial halibut IFQs to individual charter halibut LEP holders while the Council considers a permanent management solution.

## 1.8 Affected Environment

The NEPA documents listed below contain extensive information on the fishery management areas, marine resources, ecosystem, social and economic parameters of these fisheries, and the annual harvest specifications. Rather than duplicate an affected environment description here, readers are referred to those documents. All of these public documents are readily available in printed form or over the Internet at links given in the references. Because this action is limited in area and scope, the description of the affected environment is incorporated by reference from the following documents:

Groundfish Programmatic EIS. The Alaska Groundfish Fisheries Final Programmatic Supplemental Environmental Impact Statement (PSEIS) evaluates the fishery management policies embedded in the GOA and BSAI groundfish FMPs against policy level alternatives and the setting of TACs, allowable biological catch (ABC), and overfishing level (OFL) at various levels (NMFS 2004). The PSEIS is available at <http://www.fakr.noaa.gov/sustainablefisheries/default.htm>. The following sections of this document are particularly relevant:

- Section 3.3 contains a description of the physical oceanographic environment for BSAI and GOA waters.
- Section 3.5.2 contains descriptions of prohibited species management, life history characteristics, trophic interactions, past and present effects analysis, comparative baseline and cumulative effects analysis.
- Section 3.5.3 contains descriptions of target groundfish species management, life history characteristics, trophic interactions, past and present effects analysis, comparative baseline and cumulative effects analysis.
- Section 3.9.2.4 contains socio-economic information on fishing sectors, including the hook and line sectors.

Harvest Specification EIS. The EIS analyzed the Council's harvest strategy for the GOA fisheries (NMFS 2007). The EIS included ecosystem considerations section of the Stock Assessment and Fishery Evaluation (SAFE) reports. The EIS also contains a detailed discussion of the prohibited species catch limits, which include a discussion on the management of halibut bycatch. <http://www.fakr.noaa.gov/analyses/specs/eis/default.htm>.

Essential Fish Habitat Identification and Conservation in Alaska EIS. (NMFS 2005b) This EIS reexamines the effects of fishing on EFH in waters off Alaska, presents a wider range of alternatives, and provides a thorough analysis of potential impacts on EFH caused by the groundfish fishery. The analysis provides a description of managed groundfish species, marine mammals, and the socioeconomic environment in the Central GOA trawl fishery. The analysis indicates that there are long-term effects of fishing on benthic habitat features off Alaska and acknowledges that considerable scientific uncertainty remains regarding the consequences of such habitat changes for the sustained productivity of managed species. The EIS is found at <http://www.fakr.noaa.gov/habitat/seis/efheis.htm>.

Steller Sea Lion Protection Measures Final Supplemental Environmental Impact Statement (SEIS). (NMFS 2001) The SEIS evaluates alternatives to mitigate potential adverse effects as a result of competition for fish between Steller sea lions under a no action alternative as well as other alternatives that would substantially reconfigure the GOA and BSAI groundfish fishery. Impacts are disclosed, both significantly positive and significantly negative as required by NEPA. A biological opinion prepared according to the Endangered Species Act is included for the preferred alternative. This document also describes the life history characteristics of Steller sea lions and potential interactions with the groundfish fishery. For more information see <http://www.fakr.noaa.gov/sustainablefisheries/seis/sslpm/default.htm>.

For those groundfish stocks where information is available, none are considered overfished or approaching an overfished condition and all are managed within the annual harvest specifications. The ABC, OFL, and TAC amounts for each target species or species group for 2006 is specified in the *Federal Register* (71 FR 10870, March 3, 2006). The status of each target species category, biomass estimates, and acceptable biological catch specifications are presented both in summary and in detail in the annual SAFE reports. The SAFE report also updated the economic status of the groundfish fisheries off Alaska and presented the ecosystem considerations relevant to the GOA. This EA incorporates by reference stock status information in the SAFE reports (Council 2007 a and b).

The IPHC annually publishes a summary of current management, research, and harvest recommendations for its annually meeting. This document may be found on the IPHC’s website at <http://www.iphc.washington.edu/halcom/default.htm>.

## 1.9 Potential environmental impacts

The proposed catch sharing plan for Area 2C and Area 3A is limited in scope and would not likely affect all environmental components within that Area. Table 6 shows the three potentially affected components: groundfish, halibut stocks, and the socioeconomic environment. The potential effects of the alternatives on the resource could be caused by changes to the amount of incidental catch of groundfish species (principally rockfishes) and halibut mortality.

Negative impacts on non-halibut prohibited species, including salmon are not expected, because current ADF&G and federal management closely monitors stock health and allocation, and restricts harvest from all sectors to biological management goals. The alternatives would not significantly change the amount of these species harvested, fishing methodology, areas fished, seasons fished, or fishing intensity. Salmon is the primary prohibited species other than halibut targeted in the sport fishery. Information is not available to predict small changes in harvest patterns due to the alternatives; however, given the magnitude of the charter fishery, angler preferences, specialized gear to target halibut, and current regulations to control sport harvest, any increase in salmon removals is likely to be small and would be regulated within biological limits.

**Table 6 Resource components potentially affected by the proposed alternatives.**

Alternatives	Potentially Affected Component							
	Physical Environment	Benthic Community	Groundfish	Marine Mammals	Seabirds	Non specified Species	Halibut	Socio-economic
Alt 1	NA	NA	NA	NA	NA	NA	NA	NA
Alt 2	N	N	<u>Y</u>	N	N	N	N	<u>Y</u>

N = no impact beyond status quo anticipated by the option on the component.

Y = an impact beyond status quo is possible if the option is implemented.

The socioeconomic environment may be affected through changes in the amount of halibut available for harvest by anglers under various allocation options. The socioeconomic environment for the charter and commercial sectors may also be affected by allocation conflicts for fully utilized species such as halibut, rockfish, and salmon. A detailed discussion of potential socioeconomic impacts is provided in chapter 7.0.

No effects are expected on the physical environment, benthic community, non-specified and forage species, marine mammals, and sea bird components of the environment. No effect is expected for these components because none of the alternatives would change current fishing practices (e.g., season and gear types) harvest limits, or regulations protecting habitat and important breeding areas as described in previous NEPA documents (Section 3.0). No effects are expected for marine mammals because neither existing protection measures nor allowable harvest amounts for important prey species would be changed. None of the alternatives would change total TAC amounts, methods, season closure dates, or areas closed to fishing.

The significance ratings are significantly beneficial, significantly adverse, insignificant, and unknown. Where sufficient information on direct and indirect effects is available, rating criteria are quantitative in nature. In other instances, where less information is available, the discussions and rating criteria are qualitative. Instances where no criteria exist to determine an aspect of significance (significant adverse, insignificant, or significant beneficial) are termed “not applicable” in the criteria tables.

Differences between direct and indirect effects are primarily linked to the time and place of impact. Direct effects are caused by the action and occur at the same time and place. Indirect effects occur later in time and/or are further removed in distance from the direct effects (40 CFR 1508.27). For example, the direct effects of an alternative which lowers the harvest level of a target fish in each sector could include a beneficial impact to the targeted stock of fish, a neutral impact on the ecosystem, and an adverse impact on net revenues to fishermen, while the indirect effects of that same alternative could include beneficial impacts on the ability of Steller sea lions to forage for prey, neutral impacts on incidental levels of PSC, and adverse impacts in the form of economic distribution effects, for example, reducing employment and tax revenues to coastal fishing communities.

## **1.10 Potential Impacts on Resource Components**

### **1.10.1 The Pacific halibut stock**

The IPHC sets area catch limits for the commercial fishery in proportion to halibut abundance. This harvest philosophy protects against overharvest of what may be separate, but unknown, genetic populations, and spreads fishing effort over the entire range to prevent regional depletion. Small scale local depletion does not have a significant biological effect on the resource as a whole. The IPHC considers the halibut resource to be a single population. Egg and larval drift and subsequent counter migration by young halibut cause significant mixing within the population. Ultimately, counter migration and local movement tend to fill in areas with low halibut density, although continued high exploitation would maintain local depletion. However, estimates of local biomass and information about immigration and migration rates on a high geographical resolution are not available to manage small areas.

The annual exploitable biomass was estimated in 2008 using the following steps (B. Clark, pers. commun.).

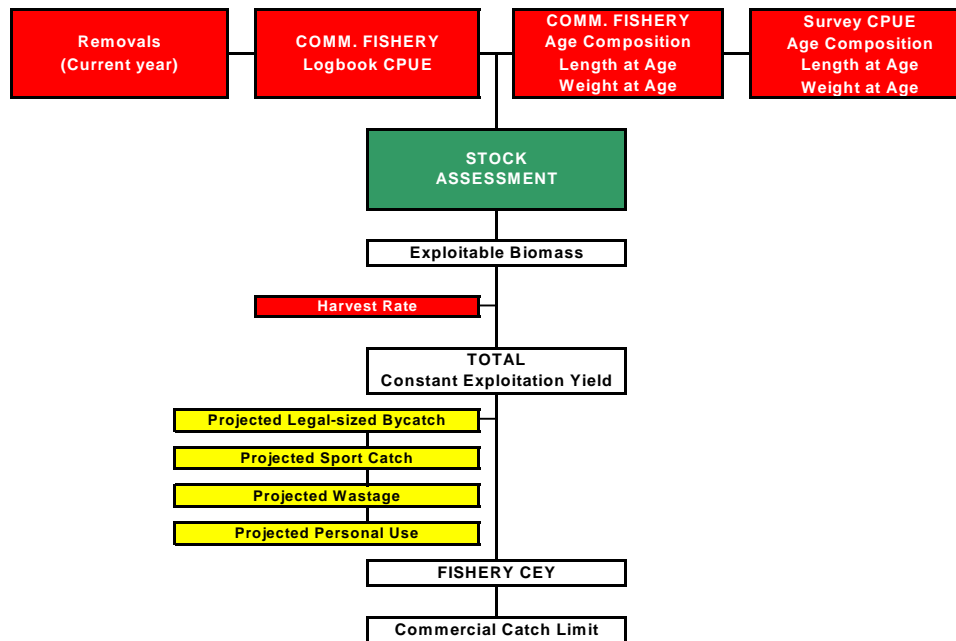
1. Estimate the coastwide exploitable biomass;
2. Estimate exploitable biomass in each regulatory area by applying the survey estimates of relative abundance to the coastwide total;
3. Calculate total CEY in each area by applying an area-specific target harvest rate (20% in Areas 2, 3 and 4A; 15% in Areas 4B and 4CDE); and
4. Calculate fishery CEY in each area.

The commercial catch limit is set based on the Fishery CEY. In setting the commercial catch limits, the IPHC considers area-specific harvest policy objectives and also applies its Slow Up/Fast Down<sup>8</sup> policy in setting commercial halibut fishery catch limits. Thus, the commercial catch limits may be greater than or less than, and do not necessarily equal, the Fishery CEY. The commercial catch limit is currently only set for commercial fisheries for hook and line gear. Therefore, changes in the charter harvest have a delayed effect on the commercial catch limits and not an immediate, pound-for-pound effect.

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<sup>8</sup> The IPHC can recommend a Fishery CEY that is responsive to rapid changes in halibut abundance. For example, if the halibut stock is rapidly declining, the Commission may recommend a lower Fishery CEY incremented over several years to dampen the effects of the stock decline. Conversely, if the stock is in rapid increase, the Fishery CEY may be increased over number of years rather than one large, annual increase.





**Figure 2 The IPHC’s stock assessment and catch limit setting process.**

As reported in an IPHC news release<sup>9</sup>, the 2007 Pacific halibut stock assessment implemented a coastwide estimation of biomass, compared with previous assessments which assessed stock biomass for each individual IPHC regulatory area. This approach was introduced for the 2006 stock assessment but was not endorsed by the Commission at its 2007 Annual Meeting. Following a June 2007 stock assessment workshop and external peer review of the assessment<sup>10</sup>, the Commission and its advisory bodies endorsed the coastwide approach to the assessment of halibut stock abundance at the 2008 Annual Meeting. While the staff’s catch limit recommendations, arising from IPHC survey-based apportionment of the coastwide biomass, were accepted for most areas, the Commission requested additional investigation of apportionment methods during 2008. For 2008, the Commission recommended a 20% harvest rate in Areas 2A and 3A. The IPHC recommended a 2008 harvest level of 6.21 M lb for Area 2C and 24.22 M lb for Area 3A. The biomass estimate for 2008 was 13% lower due to a different production model used in the stock assessment and lower CPUE in 2007. The Total CEY was 17% lower for 2008 due to the lower biomass estimate and adoption of a standard 20% harvest rate in Area 2 (compared with 25% in 2007). Therefore, the 2007 catch limit was nearly twice the fishery CEY using the coastwide assessment. The CEY in Area 3A was lower using the coastwide assessment in 2008 because of a lower coastwide biomass estimate and lower survey apportionment to this area. The 2007 catch limit was in line with the CEY using the coastwide assessment.

The IPHC reported the following concerns about setting catch limits based on the coastwide model in 2008 (B. Leaman, pers. commun., IPHC):

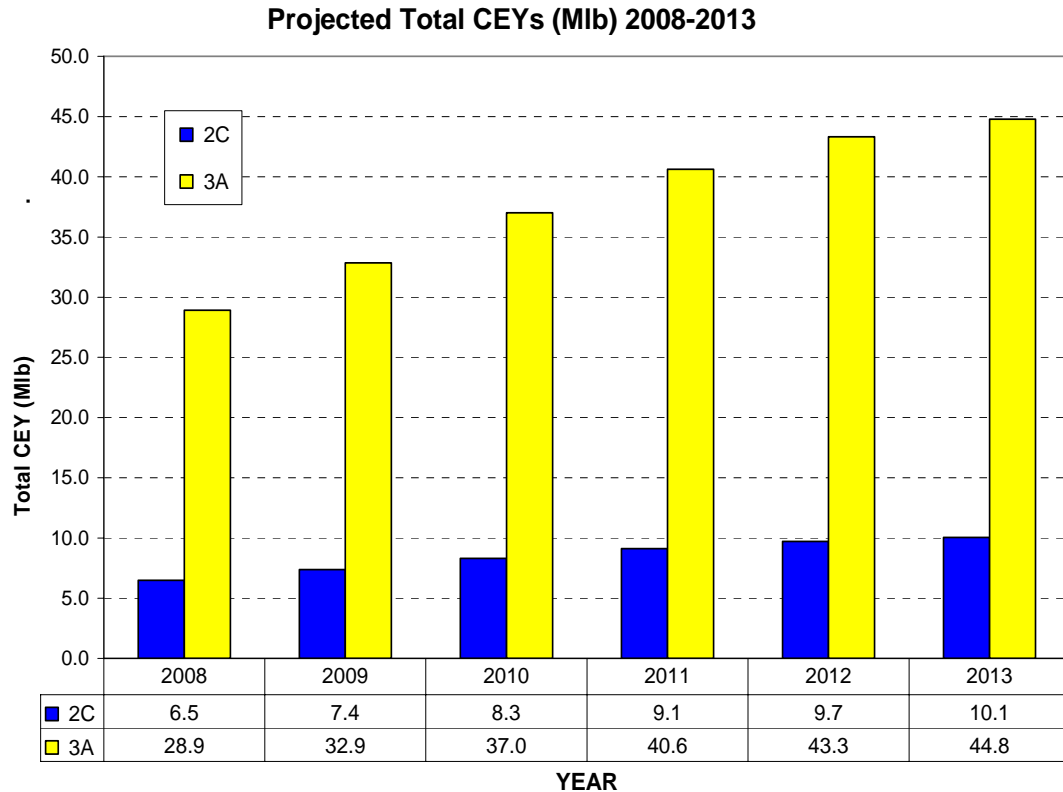
- Application of uniform harvest rate in Gulf of Alaska;
- Changes in Total CEY triggered decreases in the GHL in Area 2C; and
- The charter fishery exceeded the GHL in Area 2C since 2004.

The IPHC staff presented CEY projections for Areas 2C and 3A for 2008-2013 during the February 2008 Council meeting. Stock projections appear favorable in both areas, with the following caveats and assumptions (B. Leaman, pers. commun., IPHC):

<sup>9</sup> <http://www.iphc.washington.edu/halcom/newsrel/2008/nr20080122.htm>

<sup>10</sup> <http://www.iphc.washington.edu/halcom/meetings/workshop2007/wrkshpreview.htm>

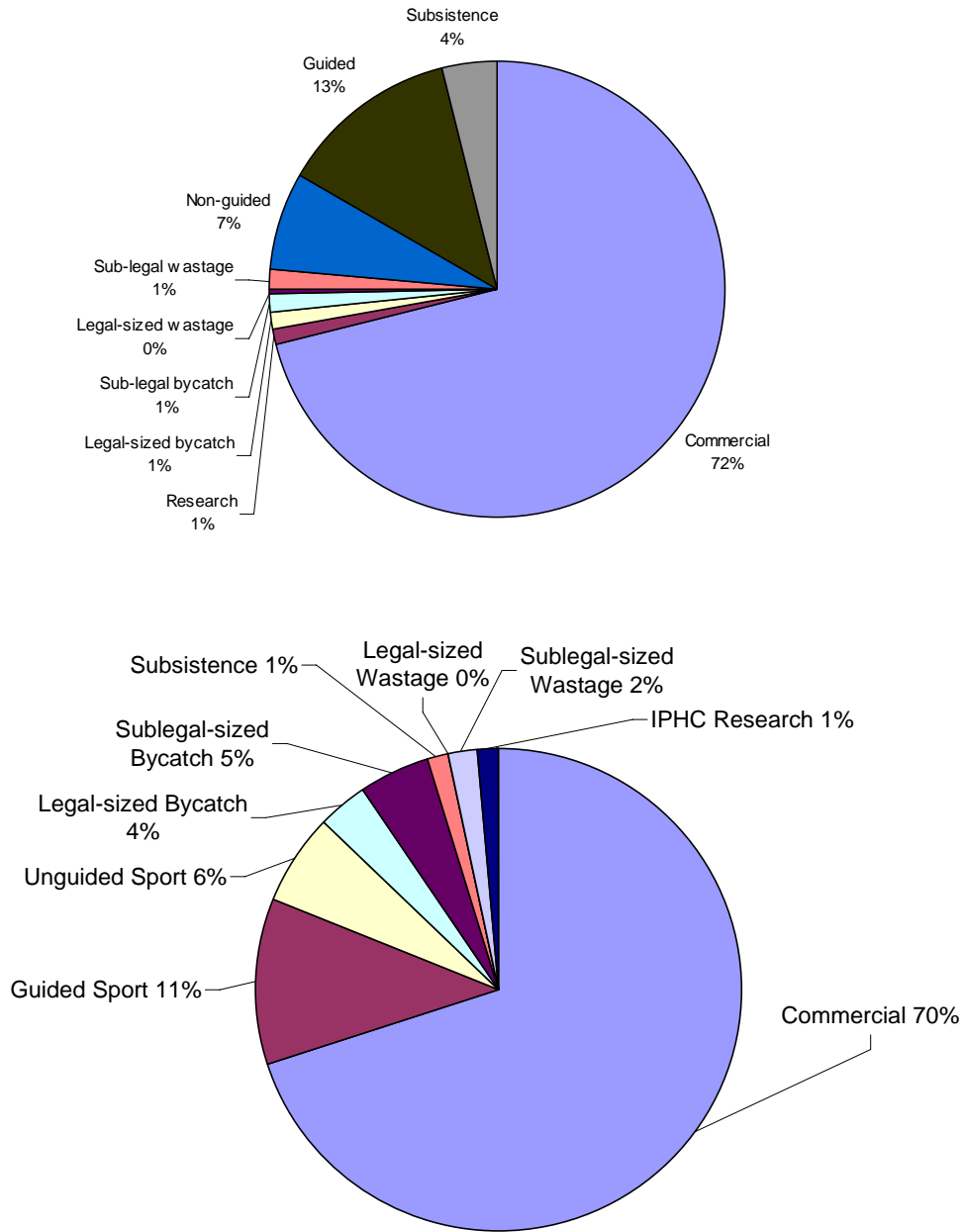
- Apportionments to respective areas remain unchanged;
  - Probably unlikely although annual changes would likely be small; and
- Annual area removals are held to specified levels;
  - 20% harvest rate.



**Figure 3 IPHC CEY Projections for Areas 2C & 3A, 2008-2013 (Source: IPHC 2008)**

Additional detailed descriptions of surveys, stock assessments, and research on halibut can be found in the 2007 Report of Assessment and Research Activities (IPHC 2008). The management, production history, and life history of halibut are further described in Section 3.7.2 of the SEIS (NMFS 1998) and the 2005 IPHC annual report (IPHC 2005).

Pacific halibut is fully utilized in Area 2C and Area 3A. Three major categories of use occur in Alaska for halibut: commercial, sport, and subsistence (Figure 5). Commercial harvests account for the largest portion of total use in Area 2C, comprising approximately 72% of the removals, not including approximately 5% of bycatch and wastage. Sport users are divided into two subcategories: guided (charter) and non-guided. Approximately 13% of the total removals come from the charter sector and 7% from the non-guided sector. Subsistence (also called personal use) comprises the smallest portion at 4% of the total removals. Wastage removals represent the mortality of legal-sized halibut due to lost or abandoned gear, and of sublegal-sized halibut discarded in the halibut fishery. Since the implementation of the quota share fisheries in the 1990s, the total mortality of legal-sized halibut from lost gear in all areas has remained under 0.5 M lb annually. Bycatch mortality accounts for halibut that die from being caught in other fisheries. The 2006 bycatch mortality estimate of 0.16 M lb in Area 2C is the lowest since 1987 but similar to the estimates for the last several years (Table 7).



**Figure 4 Five-year average (2002–2006) proportion halibut removed by category in Area 2C (top) and Area 3A (bottom).**

Removals totalled approximately 14.73 M lb. The bycatch categories in Table 7 include legal and sub-legal mortalities. The legal mortality category is composed of halibut caught in the non-halibut commercial fishery that are discarded, but are of at least 32 inches in length. Sub-legal halibut are those discarded in the commercial that are less than 32 inches in length.

**Table 7 Five-year summary of removals by category for Area 2C and Area 3A in millions of pounds.**

Year	Commercial		Research Fish		Bycatch mortality		Wastage		Non-guided Charter Subsistence		
	Quota	Removals	Removals	Legal	Sub-legal	Legal	Sub-legal	Removals	Removals	Removals	
<b>2C</b>											
2003	8.50	8.41	0.12	0.17	0.17	0.03	0.10	0.85	1.41	0.63	
2004	10.50	10.30	0.12	0.15	0.21	0.03	0.28	1.19	1.75	0.68	
2005	10.93	10.63	0.14	0.14	0.20	0.03	0.23	0.85	1.95	0.60	
2006	10.63	10.49	0.10	0.22	0.20	0.02	0.28	1.00	1.80	0.60	
2007	8.51	8.49	0.15	0.21	0.13	0.17	0.27	0.84	1.70	.580	
<b>3A</b>											
2003	22.63	22.75	0.42	1.36	1.43	0.07	0.61	2.05	3.38	0.28	
2004	25.06	25.05	0.45	1.52	2.08	0.08	0.67	1.94	3.67	0.40	
2005	25.47	26.03	0.81	1.32	1.81	0.16	0.57	1.98	3.69	0.43	
2006	25.20	25.71	0.47	1.43	1.62	0.05	0.70	2.14	3.66	0.38	
2007	26.20	26.31	0.35	0.99	1.78	0.05	0.92	1.64	3.40	0.38	

### 1.10.1.1 Commercial removals

The original groundfish fishery management plan for the Gulf of Alaska designated Pacific halibut as a prohibited species to any new commercial development due to its historical usage by the longline (or setline) fishery. The commercial halibut fishing fleet is diverse, using various types of longline gear and strategies. An individual fishing quota program was implemented in 1995 (50 CFR 300.60 through 300.65). The IFQ program enabled an eligible vessel to fish any time between March 5 and November 15 in 2006. Total setline CEY for Alaska waters is estimated to be high, at 69 M lb in 2008, which indicates the halibut resource is very robust. In Area 2C, the fishery CEY has ranged from 8.5 M lb to 10.93 M lb during the last five years. The fishery CEY has ranged from 22.6 M lb to 26.2 M lb in Area 3A during the same period.

Halibut begin recruiting to longline gear at approximately 60 cm in length, but the commercial minimum size limit is 32 inches (82 cm). The fishery ranges from shallow inshore waters to as deep as 275 meters along the continental shelf. The directed catch consists of individuals chiefly from 7 kg to 121 kg. The average size in the commercial catch in 1996 was between 9 kg and 20 kg depending on the area caught; the average age was 12 years (Forsberg, J., Unpub 1997).

The IFQ program has kept catches within harvest limits, reduced the amount of lost gear and wastage due to “ghost fishing,” and allowed the commercial fishery to operate during a long period which has had the ancillary effect of increasing safety. The annual amount of IFQ for the commercial hook-and-line fisheries is established annually by the Secretary of Commerce, based on recommendations from the IPHC.

Harvest from the commercial fishery is tracked by NMFS using a catch accounting system that deducts harvest from an IFQ holder’s account. This information is also used to enforce the total annual quota, as well as individual IFQ accounts. Thus, since the IFQ program, annual harvest limits have not been exceeded by a significant margin. The IFQ program has an overage/underage provision that balances an IFQ holder’s account, year to year. This regulation results in a long-term balance of harvest at the catch limit and allows IFQ holders to move small amounts of halibut between years.

Halibut bycatch and wastage occurs in the groundfish and salmon fisheries operating in waters off Alaska. The effects of these fisheries on halibut are primarily managed by conservation measures developed and recommended by the Council over the entire history of the federal Fishery Management Plan for

Groundfish in the Gulf of Alaska (GOA) and implemented by Federal regulation. These measures can be found at 50 CFR 679.21 and include catch limitations on a year-round and seasonal basis. These management measures are discussed further in the following documents:

- Sections 3.6.1 and 3.6.2 of the GOA Groundfish FMP (Council 2005) cover management of the bycatch of halibut in the groundfish fisheries. The FMPs are available at <http://www.fakr.noaa.gov/npfmc/default.htm>;
- Section 3.5 of the PSEIS (NMFS 2004) reviews the effects of the groundfish fishery on halibut. The PSEIS is available at <http://www.fakr.noaa.gov/sustainablefisheries.seis/intro.htm>; and
- Charter 7 of the Alaska Groundfish Harvest Specification EIS (NMFS 2007) provides an overview of prohibition species catch management, including halibut bycatch.

The annual amount of halibut bycatch and wastage is treated as a hard cap in groundfish fisheries. Fisheries are often closed to directed fishing when halibut bycatch allotments are taken. As a result, fishing mortality has remained relatively constant; with the total amounts depending on the type of fisheries being prosecuted and total effort. Bycatch and wastage have accounted for approximately 4% of the total removals in Area 2C and 11% of the total removals in Area 3A.

The catch limit for the commercial longline fishery is set once all other removals are deducted from the available yield. The increase in charter removals results in a reduction of the commercial sector harvest over an extended period of time. In a given year, non-commercial removals are not necessarily deducted on a pound-for-pound basis. For example, harvest quota for the commercial fishery set in 2007 includes historical sport harvest from 2006, but the 2007 sport harvest is unknown. Thus, an increase of sport harvest above the level predicted in 2006 is accounted for in future commercial quotas. In 2008, The IPHC used the GHF as an estimate of charter halibut harvest removals. Over the long-term, this overage is balanced, resulting in a loss of commercial quota share. This same relationship would occur if any other non-commercial removals increased rapidly (and unpredictably) from year to year. Of the non-commercial removals accounted for by the IPHC, the charter harvest has increased at a rapid rate, whereas other removals have remained relatively constant. The relationship between the charter and commercial sectors has resulted in consideration of numerous actions to control charter halibut removals, including the proposed action to set an allocation for each sector.

#### **1.10.1.2 Sport fishing removals**

Sport fishing for halibut in Southeast Alaska is an important recreational activity for resident and non-resident anglers. Sport harvests rapidly increased in the late 1980s to mid-1990s as indicated by a continued increase in targeted effort (Tersteeg and Jaenicke 2005). A portion of the marine sport fishing effort is directed at halibut and state-managed groundfishes, including rockfishes, lingcod, and sharks. Fishing effort is mostly concentrated around Juneau, Ketchikan, Sitka, Wrangell, and Petersburg. However, substantial effort is reported near remote fishing lodges and smaller communities throughout the region, such as Craig, Gustavus, and Yakutat (Tersteeg and Jaenicke 2005). These remote communities offer charter and bareboat services. Bareboat services allow anglers to rent a vessel that is unguided. These anglers are generally provided with instruction from a lodge about good fishing locations and technique.

As reported in IPHC (2005), Alaska sport harvest estimates are derived from a statewide postal survey in conjunction with creel surveys at points of landing. Final estimates lag by one year and are derived from a combination of linear projections of halibut harvested in the previous five years, current average weights, and current in-season data. Charter halibut harvests between 1995 and 2005 nearly doubled in Area 2C (from 986,000 to 1,950,000 lb) and account for approximately 13% of the average halibut removals during the last five years.

Regulations by both federal and state agencies affect the halibut fishery. Federal sportfishing regulations are found at 50 CFR 300.62. The 2006 annual measures for halibut fisheries were published at 71 FR 10850, Part 24. The GHF regulations are published at 50 CFR 300.65.

Federal regulations require the following:

- The daily bag limit is two halibut with four in possession;
- The sport fishing season is from February 1 to December 31;
- No person shall fillet, mutilate, or otherwise disfigure a halibut in any manner that prevents the determination of minimum size or the number of fish caught while onboard the catcher vessel.
- No halibut caught for sport harvest shall be offered for sale, bartered, or traded;
- No halibut caught while sport fishing shall be possessed on board a vessel when other fish or shellfish aboard the said vessel for destined for commercial use, sale, trade, or barter; and
- The operator of a charter vessel shall be liable for any violations of these regulations committed by a passenger aboard said vessel.

State of Alaska fishing seasons and reporting requirements for the charter fishery are listed below.

- Anglers must have a current year's Alaska sport fishing license, with three exceptions:
  - Resident and non-resident anglers younger than 16 do not need a sport fishing license;
  - Alaska resident anglers 60 and older must have a free ADF&G Permanent ID Card; or
  - Alaska resident disabled veterans (50% or greater) must have a free ADF&G Disabled Veteran's Permanent ID Card.
- When a fish is landed and killed it becomes part of the bag limit of the person originally hooking it. Once you have attained your bag limit, you are not allowed to catch and keep halibut for anyone else on the vessel that same day.

The sport fishery has a certain level of catch-and-release mortality, which results from physiological injury, stress, or handling. The mortality rate may be cumulative in some high-use fisheries because fish may be released multiple times. The level of mortality depends on several factors, including the hooking location, handling time, type of gear used, environmental characteristics (e.g., warm water), and a species physiology. Meyer (2007) provides a brief discussion of release mortality as it relates to Pacific halibut. This discussion was provided in Appendix A to NMFS (2007). Meyer (2007) estimated that the release mortality rate for Pacific halibut was approximately 5% in Area 2C, which means approximately 5% of halibut caught and released die soon after being caught.

#### **1.10.1.3 Subsistence removals**

The distinctions between sport and subsistence are clouded by differing legal and cultural interpretations by both resource managers and users, although current gear restrictions may be used post facto to assign a user category to a landing. The IPHC did not have a formal regulatory definition of subsistence prior to 2002; however, it did attempt to track subsistence harvest taken under a personal use category, leaving only sport harvests under the sportfishing category. In 2002, the IPHC adopted regulatory language defining subsistence ("Customary and Traditional Fishing in Alaska"). Federal regulations now recognize and define a legal subsistence fishery for halibut in Alaska (70 FR 16742, April 1, 2005). Subsistence removals totaled 1.13 M lb (net weight) in 2006 (Fall et al. 2007) from 14,300 permit holders. Subsistence harvest is tracked by ADF&G using survey respondent methods, including public outreach, mailed household surveys, and community visits. Fall et al. (2007) provides a detailed description of the survey methods and response rates. Subsistence/personal use harvest has remained relatively stable during the last three years (Table 7). Subsistence fishery regulations are found at 50 CFR 300.60–300.66.

**Effect of alternatives:** The proposed alternatives address resource allocation issues. The proposed alternative to the status quo would neither affect harvest levels and fishing practices of individuals participating in the charter halibut fishery nor the health of the halibut stock. Regardless of the amount of

halibut biomass taken by a sector, no adverse impacts to the halibut resource would be expected because the IPHC factors most resource removals in the halibut stock assessment when setting annual catch limits. Therefore, none of the proposed alternatives is expected to significantly impact the halibut stock.

### **1.10.2 Groundfish**

In the charter fishery, anglers may switch to target species other than halibut if halibut fishing is poor. The charter operator wants to satisfy the client and may do so by landing any species (Scott Meyer, pers. comm., ADF&G Sportfish Division). Thus, a regulatory constraint on halibut may influence the amount of other groundfish species caught in the charter fishery. The harvest of State-managed groundfish observed in the ADF&G port sampling program is usually inversely related to halibut harvest, but it is unknown if anglers switch target species when halibut fishing is poor or expend more effort to target other species. No in-depth analysis of these data has been conducted, and it may be impossible given the lack of information. It is likely that harvest of State-managed species would increase if the halibut stock declines in abundance or if the charter halibut allocation is less than demand.

A regulatory measure to restrict halibut harvest to either the GHL, under the No Action Alternative, or under any of the proposed allocation options under Alternative 2 would have the same effect as a decline in abundance. For certain anglers, halibut fishing may become less desirable the more difficult it is to optimize the poundage of fish harvested or to harvest two fish. The decision process for anglers is complex, and data are not available to predict removals from the groundfish fishery that may occur under the options under Alternative 2.

The primary groundfish bycatch taken in the halibut charter fishery includes limited amounts of Pacific cod and rockfishes (primarily yelloweye and black), with lesser amounts of spiny dogfish, salmon shark, and lingcod. These species may be recorded in ADF&G data as having been caught on a halibut targeted trip, but they may become the target species during the trip because the halibut bag limit has been reached or fishing is poor. Some halibut trips may catch rockfish incidentally. State regulations require rockfish to be retained up to the bag limit; however, incidentally caught rockfish beyond an individual's bag limit must be released. Assessment of these released rockfish and associated bycatch mortality is difficult. Identification of rockfish species that are similar in appearance is difficult, and calculation of a mortality rate is dependent on the depth that rockfish was caught, handling and release techniques, etc.

The 2007 SAFE (NMFS 2007) summarized an action taken by the State of Alaska Board of Fisheries (BOF) in February 2006. The BOF allocated the demersal shelf rockfish complex (DSR) in the Southeast Outside management area between the sport fishery and commercial fishery in 2006. A daily bag limit of three non-pelagic rockfish, of which only one could be a yelloweye rockfish, with a possession limit of six fish of which only two may be a yelloweye rockfish, was established for both resident and nonresident anglers in Southeast Alaska. All non-pelagic rockfish caught had to be retained until the bag limit was reached. Non-resident anglers also had an annual limit of three yelloweye rockfish. Charter operators and crew members could not retain non-pelagic rockfish while clients were on board the vessel. The 2008 OFL for DSR is 650 mt, and the ABC and TAC are 410 mt. Under the BOF decision, 84% of the TAC (344 mt) was allocated to the commercial fishery and the remaining 16% (66 mt) was allocated to sport fishermen.

The 2006 SAFE report (NMFS 2006) indicated that a directed DSR commercial fishery did not occur in 2006 because of concerns about exceeding the ABC and TAC. Instead, commercial fishermen took an incidental catch of 215 mt of DSR. Approximately 64 mt of DSR was harvested in the guided and unguided sport fishery, with 7 mt released. It exceeded its allocation by about 5.5 mt, while the commercial fishery took significantly less than its allocation. Combined, the two fisheries removed approximately 287 mt of DSR, which was 70% of the 410 mt combined TAC..

Recreational anglers also catch pelagic shelf rockfish (PSR) including dusky, yellowtail, and black rockfish. Sport fishing for these species is managed under ADF&G fishing regulations. Commercial

harvest amounts for this species group is under their respective OFL and ABC in 2006. The ABC for the assemblage in the western Yakutat region and Eastern Alaska/Southeast Outside district was 736 mt in 2006 and 751 mt in 2007. The commercial catch totaled 174 mt in 2006, which was below the ABC which is set equal to the TAC. The OFL was 6,662 mt for the GOA, with 2,498 mt of commercial catch for the entire GOA. Harvest in the sport fishery is not at a level high enough to cause PSR to exceed the OFL. In 2004, the total harvest of all rockfish in the sport fishery (including non-pelagic rockfish species) was 22.7 mt, which when added to the commercial catch would not have exceeded the ABC or OFL. An increase in sport harvest may constrain the commercial fishery; however, rockfish stocks would still be managed within their biological benchmarks. For the previously described reasons, the impact of the preferred alternative is likely to be insignificant for PSR stocks.

The impacts of the alternatives on rockfish removals are difficult to project, because behavioral changes under a new restrictive halibut harvest policy are unknown. Due to lack of data, it is unknown whether a shift in halibut removals between the commercial and charter sectors under the proposed alternative would result in a proportionate shift in rockfish or ling cod removals. Small increases in rockfish removals would increase sport harvest beyond its TAC; however, given the overall joint commercial and sport harvest, it is unlikely these removals would be of a magnitude to exceed the OFL or ABC. A future directed commercial fishery would be managed under the OFL. For this reason, the impacts on rockfish from the alternatives are not expected to be significant.

Lingcod is also a commercial and sport fishery target species. Harvest levels in recent years have remained constant under strict sport fishery slot limit regulations and seasons, and commercial quota limits (Table 8). A harvest increase in the sport sector resulting from the alternatives would likely be small given the existing regulatory constraints.

**Table 8 Estimated rockfish and lingcod harvest (number of fish) by charter anglers by area and year.**

Year	Area 2C		Area 3A	
	Number of charter harvested rockfish	Number of charter-harvested lingcod	Number of charter harvested rockfish	Number of charter-harvested lingcod
1996	14,591	10,588	17,640	5,137
1997	13,077	9,355	17,036	6,737
1998	15,516	11,690	16,884	5,070
1999	24,815	11,264	18,756	5,150
2000	26,292	11,805	25,690	7,609
2001	29,509	8,961	28,273	6,813
2002	25,346	5,749	30,946	5,830
2003	27,991	6,551	28,415	7,836
2004	45,908	9,549	41,400	9,576
2005	57,381	16,281	38,722	11,047
2006	51,847	12,237	40,306	13,542

Source: ADF&G, Statewide Harvest Survey data.

**Effect of alternatives:** Demersal shelf rockfish (DSR, e.g., yelloweye rockfish), pelagic shelf, and lingcod are species commonly harvested in the sport fishery. Commercial and sport catch limit limits are set for these species and none of the catches of these species exceeded their respective ABC or OFL in 2007. DSR and pelagic shelf rockfish harvest in 2007 was well under the OFL, ABC, and TAC for the commercial and sport fisheries combined.

Harvest levels for lingcod in recent years have remained constant under strict sport fishery slot limit and season regulations, and commercial quota limits. A small increase in lingcod harvest would have an insignificant impact on the stock, because of ADF&G regulations for the sport and commercial sectors. For these reasons, the impact of the alternatives on these species is expected to be insignificant.

The interaction of halibut catch and harvest of other groundfish species is poorly documented and not well understood. Any discussion of impacts from the proposed alternatives would be highly speculative.



Other species taken incidentally in sport charter halibut fisheries include sculpin, arrowtooth flounder and several other flatfishes, spiny dogfish, sleeper shark, salmon shark, and greenling. No sport fish harvest estimates are available for these species for Area 2C. However, the commercial catch limit is set for these species, and none of the catches of these species has historically exceeded their respective OFL. The impact of the alternatives on these species is expected to be insignificant.

### **1.10.3 Impacts on Endangered or Threatened Species**

The Endangered Species Act of 1973 as amended [16 U.S.C. 1531 et seq; ESA], provides for the conservation of endangered and threatened species of fish, wildlife, and plants. It is administered jointly by NMFS for most marine mammal species, marine and anadromous fish species, and marine plants species and by the U.S. Fish and Wildlife Service (USFWS) for bird species, and terrestrial and freshwater wildlife and plant species.

The designation of an ESA listed species is based on the biological health of that species. The status determination is either threatened or endangered. Threatened species are those likely to become endangered in the foreseeable future [16 U.S.C. § 1532(20)]. Endangered species are those in danger of becoming extinct throughout all or a significant portion of their range [16 U.S.C. § 1532(20)]. Species can be listed as endangered without first being listed as threatened. The Secretary of Commerce, acting through NMFS, is authorized to list marine fish, plants, and mammals (except for walrus and sea otter) and anadromous fish species. The Secretary of the Interior, acting through the U.S. Fish and Wildlife Service (USFWS), is authorized to list walrus and sea otter, seabirds, terrestrial plants and wildlife, and freshwater fish and plant species.

In addition to listing species under the ESA, the critical habitat of a newly listed species must be designated concurrent with its listing to the “maximum extent prudent and determinable” [16 U.S.C. § 1533(b)(1)(A)]. The ESA defines critical habitat as those specific areas that are essential to the conservation of a listed species and that may be in need of special consideration. Federal agencies are prohibited from undertaking actions that destroy or adversely modify designated critical habitat. Some species, primarily the cetaceans, that were listed in 1969 under the Endangered Species Conservation Act and carried forward as endangered under the ESA have not received critical habitat designations.

After reviewing the current status of the listed species, designated critical habitat, and the potential effects of the halibut fisheries, NMFS Sustainable Fisheries concludes that this fishery off Alaska (which uses gear unlikely to generate bycatch of finfish, seabirds or marine mammals) would not affect ESA-listed species or designated critical habitat, pursuant to Section 7 of the Endangered Species Act. Therefore, the ESA does not require a consultation for this fishery. Halibut do not interact with any listed species and do not comprise a measurable portion of the diet of any listed species nor do any of the species compose a measurable portion of their diet. No interactions between the charter halibut fisheries and any listed species have been reported. Table 9 identifies the species listed as endangered and threatened under the ESA.

**Table 9 ESA listed and candidate species that range into the BSAI and GOA groundfish management areas.**

Common Name	Scientific Name	ESA Status
Blue Whale	<i>Balaenoptera musculus</i>	Endangered
Bowhead Whale	<i>Balaena mysticetus</i>	Endangered
Fin Whale	<i>Balaenoptera physalus</i>	Endangered
Humpback Whale	<i>Megaptera novaeangliae</i>	Endangered
Right Whale <sup>1</sup>	<i>Balaena glacialis</i>	Endangered
Sei Whale	<i>Balaenoptera borealis</i>	Endangered
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered
Steller Sea Lion (Western Population)	<i>Eumetopias jubatus</i>	Endangered
Steller Sea Lion (Eastern Population)	<i>Eumetopias jubatus</i>	Threatened
Chinook Salmon (Lower Columbia R.)	<i>Oncorhynchus tshawytscha</i>	Threatened
Chinook Salmon (Upper Columbia R. Spring)	<i>Oncorhynchus tshawytscha</i>	Endangered
Chinook Salmon (Upper Willamette)	<i>Oncorhynchus tshawytscha</i>	Threatened
Chinook Salmon (Snake River spring/summer)	<i>Oncorhynchus tshawytscha</i>	Threatened
Chum Salmon (Hood Canal Summer run)	<i>Oncorhynchus keta</i>	Threatened
Coho Salmon (Lower Columbia R.)	<i>Oncorhynchus kisutch</i>	Threatened
Steelhead (Snake River Basin)	<i>Oncorhynchus mykiss</i>	Threatened
Steller's Eider <sup>2</sup>	<i>Polysticta stelleri</i>	Threatened
Short-tailed Albatross <sup>2</sup>	<i>Phoebastria albatrus</i>	Endangered
Spectacled Eider <sup>2</sup>	<i>Somateria fishcheri</i>	Threatened
Kittlitz's Murrelet <sup>2</sup>	<i>Brachyramphus brevirostris</i>	Candidate
Northern Sea Otter	<i>Enhydra lutris</i>	Threatened
Olive Ridley turtle	<i>Lepidochelys olivacea</i>	Threatened/Endangered
Loggerhead turtle	<i>Caretta caretta</i>	Threatened
Green turtle	<i>Chelonia mydas</i>	Threatened/Endangered
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered

<sup>1</sup>NMFS designated critical habitat for the northern right whale on July 6, 2006 (71 FR 38277).  
<sup>2</sup> The Steller's eider, short-tailed albatross, spectacled eider, and Northern sea otter are species under the jurisdiction of the USFWS. For the bird species, critical habitat has been established for the Steller's eider (66 FR 8850, February 2, 2001) and for the spectacled eider (66 FR 9146, February 6, 2001). The Kittlitz's murrelet has been proposed as a candidate species by the USFWS (69 FR 24875, May 4, 2004).

#### 1.10.4 Impacts on Seabirds

Because halibut fisheries are federally regulated activities, any negative effects of the fisheries on listed species or critical habitat and any takings<sup>11</sup> that may occur are subject to ESA Section 7 consultation. NOAA Fisheries Service initiates the consultation and the resulting biological opinions are issued to NOAA Fisheries Service. The Council may be invited to participate in the compilation, review, and analysis of data used in the consultations. The determination of whether the action “is likely to jeopardize the continued existence of” endangered or threatened species or to result in the destruction or modification of critical habitat is the responsibility of the appropriate agency (NMFS or USFWS). If the action is determined to result in jeopardy, the opinion includes reasonable and prudent measures that are necessary to alter the action so that jeopardy is avoided. If an incidental take of a listed species is

<sup>11</sup> The term “take” under the ESA means “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct” (16 U.S.C. '1538(a)(1)(B)).

expected to occur under normal promulgation of the action, an incidental take statement is appended to the biological opinion.

In addition to those species listed under the ESA, other seabirds occur in Alaskan waters which may indicate a potential for interaction with halibut fisheries. The most numerous seabirds in Alaska are northern fulmars, storm petrels, kittiwakes, murre, auklets, and puffins. These groups, and others, represent 38 species of seabirds that breed in Alaska. Eight species of Alaska seabirds breed only in Alaska and in Siberia. Populations of five other species are concentrated in Alaska but range throughout the North Pacific region. Marine waters off Alaska provide critical feeding grounds for these species as well as others that do not breed in Alaska but migrate to Alaska during summer, and for other species that breed in Canada or Eurasia and overwinter in Alaska. Additional discussion about seabird life history, predator-prey relationships, and interactions with commercial fisheries can be found in the 2004 FPSEIS. Since charter halibut gear are typically rod-and-reel with a maximum of two hooks, interactions with seabirds are unlikely. There are no known reported takes of seabirds in charter fisheries off Alaska, based on best available information.

None of the alternatives under consideration would affect the prosecution of the halibut fisheries in a way not previously considered in consultations. The proposed alternatives to the status quo would limit charter halibut removals and any associated bycatch, although seabirds are not a known incidental harvest in this fishery. A likely result of the proposed alternatives is that commercial halibut harvests may increase; this fishery is subject to strict seabird avoidance requirements (<http://www.fakr.noaa.gov/protectedresources/seabirds/guide.htm>). None of the alternatives would affect takes of listed species and therefore, none of the alternatives are expected to have a significant impact on endangered or threatened species.

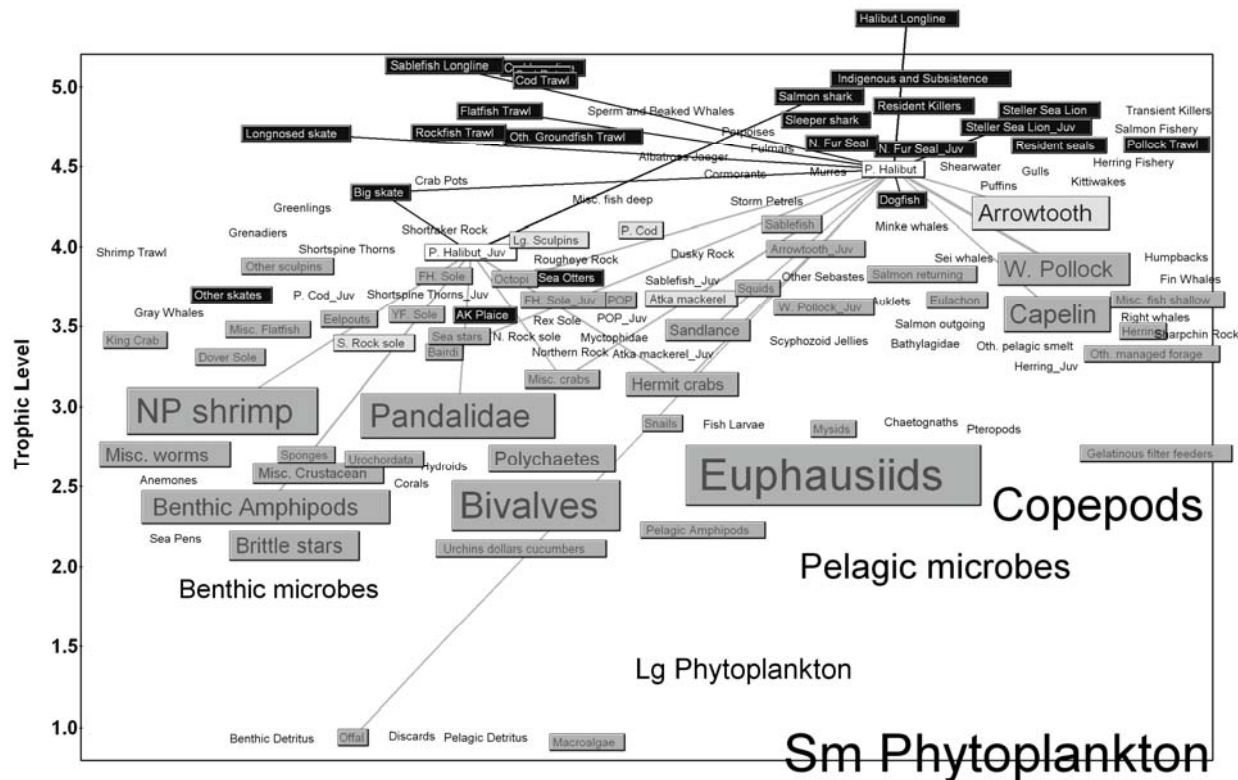
**Short-tailed albatross.** In 1997, NOAA Fisheries Service initiated a Section 7 consultation with USFWS on the effects of the halibut fishery off Alaska on the short-tailed albatross. USFWS issued a Biological Opinion in 1998 that concluded that the halibut fishery off Alaska was not likely to jeopardize the continued existence of the short-tailed albatross (USFWS 1998). USFWS also issued an Incidental Take Statement of two short-tailed albatross in two years (1998 and 1999), reflecting what the agency anticipated the incidental take could be from the fishery action. No other seabirds interact with the halibut fisheries. Under the authority of ESA, USFWS identified non-discretionary reasonable and prudent measures that NOAA Fisheries Service must implement to minimize the impacts of any incidental take.

### **1.10.5 Impacts on Marine Mammals**

The charter halibut fishery in the EEZ of Alaska is classified under the Marine Mammal Protection Act as a Category III fishery, that is, one that interacts only with non-strategic stocks and whose level of take has insignificant impact on the stocks. No takes of marine mammals by the charter halibut fishery off Alaska have been reported; therefore, none of the alternatives is expected to have a significant impact on marine mammals.

### **1.10.6 Impacts on Biodiversity and the Ecosystem**

Halibut is one of four groundfish, in terms of biomass as measured by the trawl surveys, that dominate the Gulf of Alaska ecosystem (S. Gaichas pers. comm.). The others include arrowtooth flounder, walleye pollock, and Pacific cod (in order of importance). Halibut is an apex predator in the GOA and appears to be dependent on pollock stocks, as pollock comprised over half of adult halibut's diet composition measured in the early 1990s. Most mortality on halibut comes from fishing because they have few natural predators, especially as adults (Figure 5).



**Figure 5** Food web that depicts halibut in white boxes (on left for juvenile halibut and on right for adult halibut), their predators and fisheries in black (above halibut), their prey in dark grey (below halibut) and species that are both predators and prey in light grey (in proximity to halibut). The sizes of the boxes represents the relative biomass of species/groups.

Halibut harvests by the charter fishery, as well as all other fishery harvests, removes predators, prey, or competitors and thus could conceivably alter predator-prey relationships *relative to an unfished system*. Studies from other ecosystems have been conducted to determine whether predators were controlling prey populations and whether fishing-down predators produced a corresponding increase in prey. Similarly, the examination of fishing effects on prey populations has been conducted to evaluate impacts on predators. Finally, fishing-down of competitors has the potential to produce species replacements in trophic guilds. Evidence from other ecosystems presents mixed results about the possible importance of fishing in causing population changes of the fished species' prey, predators, or competitors. Some studies showed a relationship, while others showed that the changes were more likely due to direct environmental influences on the prey, predator, or competitor species rather than a food web effect. Fishing does have the potential to impact food webs, but each ecosystem must be examined to determine how important it is for that ecosystem.

Little research has been conducted on the specific trophic interactions of halibut. With trophic interactions and inter-specific competition so poorly understood, it is not possible to clearly specify the effects to the ecosystem of the charter halibut fishery. However, given the nature of the action, the presumed effects of the alternatives on the ecosystem are insignificant.

### 1.10.7 Impacts on the Social and Economic Environment

A description of the charter halibut fishery and detailed discussions of the socioeconomic impacts of the alternatives may be found in the RIR in Chapter 7. Chapter 8 contains the IRFA, conducted to evaluate

the impacts of the suite of potential alternatives being considered, including the preferred alternatives, on small entities, in accordance with the provisions of the RFA.

## **1.11 Cumulative Effects**

Effects of an action can be direct or indirect. According to the definition in the Council on Environmental Quality (CEQ) regulations (40 CFR 1500.1) providing guidance on NEPA, direct effects are caused by the action and occur at the same time and place, while indirect effects are those caused by the action and occur later in time or farther removed in distance, but are still reasonably foreseeable. Although the CEQ regulations draw this distinction between direct and indirect effects, legally both must be considered equally in determining significance. In practice, “the distinction between a reasonably foreseeable effect and a remote and speculative effect is more important than the question of whether an impact is considered direct or indirect” (Bass et al. 2001, p. 55).

The alternatives under consideration in this analysis are designed to limit halibut harvests in the charter fishery. Any direct effects or reasonably foreseeable indirect environmental effects from the action would be minor, as explained in the EA. The action itself would not entail changes in stock levels, and any environmental effects, such as the removal of halibut biomass from the ecosystem, are so minor as to make it difficult to reasonably predict further indirect effects of those changes.

Possible future actions currently under consideration by the Council include a wide range of changes to the GHL policy, limited entry, and the development of a share-based allocation program to individual charter operators. ADF&G is currently reviewing possible change to state regulations affecting all state guide operations to limit the lines being fished on a charter vessel to the number of paying clients (already in effect in Southeast Alaska) and prohibiting retention of halibut by skippers and crew while charter fishing. The State of Alaska is also considering more sweeping limitations on the charter sector and is exploring opportunities for delegation of authority to the State to manage halibut.

Cumulative effects are linked to incremental policy changes that individually may have small outcomes, but that in the aggregate and in combination with other factors can result in major resource trends. This action would not interact synergistically with other actions or with natural trends to significantly affect the halibut resource of the Gulf of Alaska. Measures intended to regulate the harvests of halibut under a Council preferred alternative would be delayed to a future action. A future Council action may supersede the preferred alternative in this analysis; however the nature of future Council action is speculative. Thus, no reasonably foreseeable future actions would have impacts that would cause significant cumulative effects when combined with the effects from this action.

## 2 Regulatory Impact Review

### 2.1 Introduction

Since the early 1990s the Council has been developing proposals to set an allocation between the halibut charter and commercial IFQ fisheries to establish a timely and accountable management regime for the charter fishery. Measures considered by the Council and those that have been implemented by the Secretary are well documented and are summarized in the EA. The management measures currently in place or under Secretarial review are not expected to sufficiently limit charter harvests to maintain a division of halibut between the commercial IFQ sector and the charter sector. In an effort to address this concern the Council has developed this proposed amendment to the halibut management regulations. In the following problem statement, the Council addresses the need to resolve the conflicts between sectors and the resulting instability:

*The absence of a hard allocation between the longline and the charter halibut sectors has resulted in conflicts between sectors and tensions in coastal communities dependent on the halibut resource. Unless a mechanism for transfer between sectors is established, the existing environment of instability and conflict will continue. The Council seeks to address this instability while balancing the needs of all who depend on the halibut resource for the food, sport, or livelihood.*

The Council's problem statement also contains a statement of management objectives. The complete statement of management objectives is included in the EA. In general it states that the Council's intent is to establish a catch sharing plan for the commercial and charter sectors. Their intent is to consider the charter sector's need to have a stable in-season regulatory environment, while at the same time allocating the available halibut resource in IPHC Areas 2C and 3A among the commercial and charter sectors. The charter sector's allocation would be managed to ensure that, on average, they stay within their allocation. The halibut IFQ program constrains commercial harvests. The IFQ program could be modified to allow the charter sector to lease commercial IFQ. Management of the charter sector would be done to ensure that they are given advance notice and predictability with respect to management tools and season length. To achieve these goals, management measures would be adjusted during the soonest year after the overage as possible. The Council also stated their intent to review whether the charter sector is staying within their allocation over a five-year rolling average, and that they would tend to err on the side of more restrictive management measures.

The Council is considering three basic approaches for setting a halibut allocation for the charter sector. Option 1 would allocate the charter sector a percentage of the halibut available to the combined charter and commercial sectors. Option 2 would allocate a fixed number of pounds to the charter sector. If the suboption for a stair-step up and down is selected under Option 2, the charter sector would not be allocated a fixed amount of halibut. Instead, the amount allocated would change with the CEY, so the outcome more closely resembles a percentage-based allocation that is tied to the CEY in predefined steps. Option 3 would combine the two previous options and use a formula to allocate one-half the allocation from both a percentage and fixed allotment.

### 2.2 Alternatives Considered

In part because of the uncertainties regarding charter halibut harvests that could result from current management measures and because of the time lag in implementing new regulations, the Council is focusing on defining an acceptable charter harvest level and management measures that would be

implemented in future years if the charter sector exceeded its allocation in an area. The common pool allocation is defined in Element 1 of the Council's motion. It defines the allocation formula and historic catch years that would be used to allocate halibut to the charter sector. Element 2 defines the annual regulatory cycle, focusing on how the halibut charter fisheries' common pool of halibut would be regulated if the common pool is over-harvested. If the charter sector's allotment is under-harvested, charter management measures could be relaxed to allow the sector to harvest their full allocation. Element 3 defines the management tools that would be available to the Council to adjust future harvest levels. Element 4 provides examples of time lines for management decisions and actions, if needed to adjust the charter sector's harvests. Element 5 defines how charter operators may acquire and use commercial IFQ to supplement the halibut available in the common pool. Element 5 defines the management structure for the allocation and harvest guided angler fish (GAF). Finally, Element 6 provides a discussion of the catch accounting system needed to monitor common pool harvests and GAFs that were purchased from the commercial sector. It is anticipated that a different catch accounting system would be used for the halibut harvested under the common pool and the GAF programs.

## 2.2.1 Alternative 1. Status quo

The current management program that has been implemented by the Secretary of Commerce or that is expected to be implemented comprise the status quo. The charter sector is currently operating under a GHl. The Area 2C GHl for 2008 was set at 0.931 M lb. It has been reduced from the 1.432 M lb in 2007. The Area 3A GHl has been set at 3.65 M lb every year the GHl has been in place. In IPHC Area 3A the status quo charter fishery includes a two fish bag limit, a four fish possession limit, and skippers and crew are prohibited from retaining halibut. In Area 2C, the charter sector regulations include those management measures in addition to a line limit. It is anticipated that a one fish bag limit would be implemented in 2008 to keep the charter sector within their GHl.

The status quo does not allow the charter sector to lease halibut from the commercial sector. IFQ regulations prohibit commercial QS holders from leasing IFQ to other persons that can legally hold QS, unless they are Class A shares. Other classes of QS cannot be leased to other commercial harvesters. No IFQ can currently be leased to anyone outside of the commercial sector.

## 2.2.2 Alternative 2. Sector Allocations

### 2.2.2.1 Element 1 – Initial Allocation

Option 1: Fixed percentage

	Area 2C	Area 3A	Based on:
a.	13.1 %	14.0%	125% of the 1995-1999 avg charter harvest (current GHl formula)
b.	17.3 %	15.4 %	125% of the 2001-2005 avg charter harvest (GHl formula updated thru 2005)
c.	11.7 %	12.7%	current GHl as percent of 2004
d.	15.1 %	12.7%	2005 charter harvest

Option 2: Fixed pounds

	Area 2C	Area 3A	Based on:
a.	1.43 Mlb	3.65 Mlb	125% of the 1995-1999 avg charter harvest (current GHl)
b.	1.69 Mlb	4.01 Mlb	125% of the 2000-2004 avg charter harvest (GHl updated thru 2004)
c.	1.90 Mlb	4.15 Mlb	125% of the 2001-2005 avg charter harvest (GHl updated thru 2005)

Option under a, b, and c:

Stair step up and down. The allocation in each area would be increased or reduced in stepwise increments based on a change in the total CEY. If the halibut stock were to increase or decrease from 15% to 24% from its average total CEY of the base period selected for the initial allocation at the time of final action, then the allocation would be increased or decreased by 15%. If the stock were to increase or decrease from at least 25% to 34%, then the allocation would be increased or decreased by an additional 10%. If the stock increased or decreased by at least 10% increments, the allocation would be increased or decreased by an additional 10%.

**Option 3: 50% fixed/50% floating allocation**

	Area 2C		Area 3A			
	50% of:	and	50% of:	50% of:	and	50% of:
a.	13.1 %		1.43 MIb	14.1 %		3.65 MIb
b.	15.9 %		1.69 MIb	15.4 %		4.01 MIb
c.	17.3 %		1.90 MIb	15.4 %		4.15 MIb

Because this analysis considers the impacts of each option separately, it is assumed that the Council could select different methods or years for determining the allocation in each area. If one option yields a result that is acceptable for one area and a different option yields an acceptable result for the other area, the Council would have the latitude to select the option that is best for each area.

**2.2.2.2 Element 2 – Annual regulatory cycle**

The initial charter allocation would be a common harvest pool for all charter limited entry permit holders. The charter fishery would not close when the charter allocation is exceeded. Instead, the allocation would be linked to an annual regulatory analysis of management measures (delayed feedback loop) that takes into account the projected CEY for the following year and any overages by the charter industry in the past year(s). This system would work best if there is not a time lag between the overage year and the payback year. An allocation overage would trigger the regulatory process automatically, in contrast with current GHM management. Any underages would accrue to the benefit of the halibut biomass and would not be reallocated or paid forward. The Council would not revisit or readjust the sector split. The Council assumes (and would request) that the International Pacific Halibut Commission set a combined charter and commercial sector fishery catch limit and would apply the allocations between the two sectors that would be recommended by the Council's catch sharing plan.

**2.2.2.3 Element 3 – Management tools**

Tier 1 measures would be used by the Council to try to manage the charter common pool for a season of historic length and a two-fish daily harvest limit. Tier 2 measures would be used if Tier 1 measures are inadequate to constrain harvest by the charter common pool to its allocation. Due to the delayed feedback loop in implementation of management measures, management measures will, in general, be more restrictive to ensure that the charter sector allocation is not exceeded. In providing predictability and stability for the charter sector, it is possible that charter fish may be left in the water.

<b>Tier 1</b>	<b>Tier 2</b>
One Trip per Vessel per Day	Annual Catch Limits
No Retention by Skipper and Crew	One Fish Bag Limit for all or a portion of the Season
Line Limits	Season Closure
Second Fish of a Minimum Size	
Second Fish at or below a Specific Length	



#### 2.2.2.4 Element 4 – Timeline

The current timeline for the proposal is as described below. [Staff should discuss what would be needed to implement February Council action for June (the same year)]

Example Scenario 1: four-year feedback loop

- Charter fishery ends 2007
- October 2008: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2008: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2009: IPHC adopts combined catch limits for 2009.
- February 2009: Council takes final action on management measures that would be implemented in year 2010.
- Winter 2009: NMFS publishes the rule that would be in effect for 2010.

Example Scenario 2: three-year feedback loop

- Charter fishery, with in-season monitoring, ends 2007
- October 2007: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2007: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2008: IPHC adopts combined catch limits for 2008.
- February 2008: Council takes final action on management measures that would be implemented in year 2009
- Winter 2008: NMFS publishes the rule that would be in effect for 2009

#### 2.2.2.5 Element 5 – Supplemental individual use of GAF

Element 5 defines a program for supplemental individual use of commercial IFQ to allow limited entry permit holders to lease commercial IFQ in order to provide anglers with additional harvesting opportunities, not to exceed limits in place for unguided anglers

A. Leasing commercial IFQ for conversion to Guided Angler Fish (GAF).

1. A LEP (Limited Entry Permit) holder may lease IFQ for conversion to GAF for use on the LEP.
2. Commercial halibut QS holders may lease up to 1500 pounds or 10% (whichever is greater) of their annual IFQ to LEP holders (including themselves) for use as GAF on LEPs. A CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs.
3. LEP holder per vessel may not lease more than 200-400 fish.

Suboption: vessels with LEP w/endorsement for more than 6 clients may not lease more than 400-600 fish.

- A. LEP holders harvesting GAF while participating in the guided sport halibut fishery are exempt from landing and use restrictions associated with commercial IFQ fishery, but subject to the landing and use provisions detailed below.

- B. GAF would be issued in numbers of fish. The conversion between annual IFQ and GAF would be based on average weight of halibut landed in each region's charter halibut fishery (2C or 3A) during the previous year as determined by ADF&G. The long-term plan may require further conversion to some other form (e.g., angler days).
- C. Subleasing of GAF would be prohibited.
- D. GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.
- E. Conversion of GAF back to commercial sector
  - (1) GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.
  - (2) Unused GAF may revert back to pounds of IFQ at the end of the year and be subject to the underage provisions applicable to their underlying commercial QS.
- F. Guided angler fish derived from commercial QS may not be used to harvest fish in excess of the non-guided sport bag limit on any given day.
- G. Charter operators landing GAF on private property (e.g., lodges) and motherships would be required to allow ADF&G samplers/enforcement personnel access to the point of landing.
- H. Commercial and charter fishing may not be conducted from the same vessel on the same day.

#### 2.2.2.6 Element 6 – Catch accounting system

A catch accounting system must be developed for both the common pool allocation and fish that are harvested as GAF. The options being considered include:

1. The current Statewide Harvest Survey and/or logbook data would be used to determine the annual harvest.
2. A catch accounting system would need to be developed for the GAF fish landed in the charter industry.
3. As part of data collection, recommend the collection of length measurements when supplemental IFQs are leased for use and compare to the annual average length to make sure that accurate removable poundage is accounted for and to allow length measurement information gathered to be used in the formulation of the average weight used in the conversion of IFQs to GAF.

The Council adopted the language (above) as part of its intent for catch accounting systems for the charter sector. There are two types of charter fish to monitor and enforce: common pool and GAFs. The Council has stated its intent to monitor the common pool using ADF&G data. **Staff requests clarification of whether any additional clarification on using the SHWS and/or logbook data is forthcoming as a result of an ADF&G analysis of the two data collection programs that will be reviewed by the SSC in April 2008, or whether the identification of a preferred data collection system for monitoring and enforcing the common pool allocation would be deferred to the agencies.** The Council added a third statement regarding its intent that length measurements of GAFs be collected for accurate accounting.

The Council also adopted the following language (see box) as its intent for the development of a catch accounting system for GAFs. It specifically did not adopt these three proposed options for analysis that were recommended by its Halibut Stakeholder Committee in December 2007. It adopted them for NMFS to consider in its development of an implementation plan for the Council's preferred alternative. **Staff**

requests that the Council clarify its intent for preferred features of a catch accounting system for monitoring and enforcing GAFs. Such clarification will assist NMFS in its development of a discussion of potential alternate catch accounting systems; this discussion will be included in the next draft of this analysis. NMFS and ADF&G will be better able to estimate costs for data collection and monitoring requirements after the implementation options have been better identified by the Council. At final action, the Council may choose to select a preferred GAF catch accounting system or defer that decision to the agencies.

**Recordkeeping and Reporting** *One of the critical issues for successful implementation of a successful interim management regime for charter halibut operators is to shorten the feedback loop for collection of data regarding charter harvests. The Council has requested that staff include in their report a discussion of options for shortening the feedback loop.*

*It is also the intent of the Council in proposing these options that the real time collection of data should not be used for in-season management changes or in-season closures; rather it is the intent of the Council that these options be used to shorten the data collection feedback loop to facilitate the timely advance adoption of management tools designed to achieve the charter sector allocation without in-season changes or in-season closures in order to maintain, to the extent possible, a season of historic length with a minimum two fish bag limit.*

*Option 1. Electronic Reporting. Each GSM permit holder would be assigned a unique reporting number and would use that number to electronically report the number of halibut caught by clients that day on a daily basis. The electronic reporting would be done either through an Internet website or a dial-in telephone system. As additional verification each client would sign the mandatory logbook next to the entry containing their name, license number, number and type of fish caught, and any other required information. Logbooks would continue to be submitted weekly.*

*Option 2. Harvest Tag. Uniquely numbered harvest tags would be distributed to each GSM permit holder at the beginning of the season and additional tags would be available throughout the season if needed. The number of harvest tags would be greater than the number of fish allocated to the charter sector for that year (i.e., the tags are not a management tool for restricting or closing charter fishing in-season). When a halibut is landed the harvest tag would be required to be inserted in the jaw and the harvest tag number recorded in the log book entry for the angler license number of the person who caught the fish. When the fish is processed the tag would be removed and mailed in using pre-addressed, stamped envelopes supplied for that purpose. GSM operators would pay a fee to cover the cost of the envelopes and tags. Harvest tags would preferably be bar coded to enable machine reading, with peel off bar code stickers for placement in the log book.*

*Option 3. Punch Cards. Each GSM permit holder would be issued a supply of uniquely numbered punch cards with punch outs equal to any daily bag limit for that year or six halibut (whichever is fewer). The cards would be issued at the beginning of the season and additional cards would be available as needed (i.e., the cards are not a management tool for restricting or closing charter fishing in-season). Each day every client angler would be assigned a punch card and that punch card number would be entered in the log book next to the license number. As each halibut is landed by a client their respective card would be punched, and at the end of the day the client would sign the punch card in the space provided. The punch card would then be sealed in a supplied stamped and addressed envelope, which would be mailed by the permit holder. GSM permit holders would pay a fee to cover the cost of the punch cards and mailing envelopes. Any log book entry for which a signed punch card is not received would be corrected to read the maximum number of fish printed on a punch card (i.e., the daily bag limit or six fish).*

The Council may wish to consider the following conclusions from the background section provided below.

1. better estimates of implementation costs will be generated if the Council refines its management objectives for catch accounting;
2. real time data likely will be required for managing individual GAF accounts;
3. a simpler system to collect real time data would be better (cost, effectiveness, acceptance) than a complicated system;
4. real time data may be collected under an electronic reporting system;
5. harvest tags are not necessary to monitor and enforce GAFs, but could meet another management goal of streamlining the delay between an overage and revising regulations;
6. costs associated with transferring IFQs to and from the charter sector would be borne by the commercial sector under the cost recovery program; and
7. transferring unused GAFs back to the commercial IFQ holder will accrue more costs than one-way transfers.

**Background** This following summary is provided to inform the reader of information that will be considered by the agencies in developing the monitoring and enforcement program to implement the Council's preferred alternative. It is provided to assist the Council in providing the requested clarifications on preferred features to implement the GAF program. It summarizes current management tools and previous reports on monitoring and enforcement aspects of previously proposed charter halibut management programs, as discussed by the Enforcement Committee and an interagency work group.

In February 2008 the Enforcement Committee discussed accounting of the use of commercial halibut IFQs in the charter fishery. Staff from the Office of Law Enforcement (OLE) provided the following observations on potential enforcement tools for an initial allocation and accounting commercial IFQs used in the charter halibut fishery. *These comments are presented for discussion purposes only; they are part of the decision making process for designing the implementation plan.*

- a. There are two opportunities to check for compliance; at-sea and dockside. There are limited benefits to tracking a sport caught halibut once it leaves the dock. If it enters the commercial stream, enforcement staff would pursue a violation of commercial regulations.
- b. Either dockside or at-sea, enforcement staff can count halibut on board and compare the count to the paper logbook. They can also verify catch limits.
- c. The use of tags may not be appropriate in the charter halibut fishery. Tags may create a new bureaucracy; they will be redundant to a logbook; and give the industry another regulation with which to comply.
- d. Application Period - Some people may falsify their applications. Applications for quota could potentially result in fraudulent claims.
  - i. Qualifying information
  - ii. Ownership information
  - iii. Historical catch
- e. Logbooks - A federal logbook, as designed by Wostmann and Associates, would be very helpful. A paper logbook that was originally proposed to implement a charter halibut IFQ program would have required the captain of the vessel to enter halibut into the log immediately after catch, and also require the sport fisherman who caught it to sign their name and sport fish license number.

Logbooks would be mailed in at the end of the season. Logbooks could also be used as an audit tool to compare with electronic reports.

- f. Electronic reporting - Operators would be given the option to report via internet or using telephone interactive voice response (IVR) reporting (voice recognition or touch-tone keypad input).
- g. Charter vs Sport fishing - Changing the definition to one that identifies a charter vessel as one which is licensed as such with ADF&G, then that will assist enforcement greatly. This has been a problem in the past for enforcement to prove a vessel was "for hire" before applying charter regulations to a vessel.
- h. Halibut sold commercially - A problem with sport caught halibut from charter vessels being sold commercially will continue. It is unclear how or whether new regulations would affect that.

The Enforcement Committee discussed the above enforcement issues and made the following observations in its February 2008 minutes.

*“The summary included an overview of the different accounting tools available, which include electronic reporting, logbooks, harvest tags, and punch cards. It was noted during the discussion that the individuals working on the accounting of commercial halibut IFQs have not found any fatal flaws that would make enforcement and monitoring of the IFQs unachievable. It was also noted that the level of complexity with regards to enforcement of the commercial halibut IFQs increases as leasing flexibility for IFQs increases. In addition, having separate pools of halibut that would accommodate leased IFQ in the charter fishery or guided angler fish (GAF) and common pool charter halibut fish also increases the level of complexity in accounting of halibut harvest in the charter vessel fishery. The Committee agreed that in designing and analyzing the accounting of GAF, the enforcement cost associated with each of the different accounting tools should be very apparent since enforcement cost will likely influence what accounting tools will be used. Also, the complexity of the regulations will have some effect on compliance and enforceability (i.e. the simpler the regulations are to understand, the easier they will be understood by the industry and enforcement personnel). In summary, the Committee is optimistic that the agencies working on the accounting of GAF will provide an analysis of the enforcement issues in time for the April 2008 meeting. At that time, the Enforcement Committee would be in a better position to provide specific recommendations to the Council.”*

Current management measures include GHGs for Area 2C and 3A that have been set to define a target for charter harvests. The GHG is not a binding (or “hard”) cap and does not trigger any in-season restrictions on charter harvests when it is reached. Other management measures intended to slow the charter harvest have also been implemented. Those management measures include a prohibition on skipper and crew harvests of halibut in Areas 2C and 3A and a maximum size limit of 32” on the one of the two halibut a person may retain as part of their daily bag limit in Area 2C; a one-fish bag limit may be proposed to correspond to the reduced GHG in Area 2C for 2008. Management measures may be considered for Area 3A in late 2008 if data indicate that the 2007 GHG was exceeded.

Management of the charter sector does not include a limit on the amount of halibut the charter sector may harvest, so it is not critical that timely and accurate in-season harvest estimates are generated. The halibut that remains after deducting the needs of all other sectors from the total available determines the commercial catch limit. The IPHC used the GHGs in Area 2C and Area 3A in its determination of the commercial fishery CEY for the first time in 2007, after it was assured that the Council and NMFS would implement management measures to keep the charter fisheries to those limits. Even under Alternative 2,

the allocation to the charter sector is not a hard cap. Instead current data collection programs focus on providing annual post-season charter harvest estimates

Measures that restrict the size of halibut retained or the persons that may harvest halibut are difficult to design to constrain total harvests over time. For example, limiting skipper and crew halibut harvests is expected to reduce the amount of halibut being harvested, but increased client demand will result in continued growth in charter harvests by anglers. So, while implementing a limit on skipper and crew harvests reduces the total amount of halibut harvested by the sector, it is not expected to constrain client harvest as client demand increases. Because of the problems associated with determining potential harvests that are associated with specific proposed restrictions, it will be difficult to craft a suite of measures that are precise enough to limit the charter sector harvest to a desired level without placing undue burdens on the sector (i.e., being more restrictive than might have been necessary). The Council has acknowledged that more restrictive measures may be implemented to assure that the charter sector does not exceed its allocation.

The proposed action, which along with a Council recommendation for separate accountability by each sector, is anticipated to better limit charter harvests. The commercial IFQ program holds each QS holder accountable for his/her individual allocation at the end of each year (with overage and underage allowances). The entire charter fleet (soon expected to be limited to a known pool of businesses that hold charter halibut limited entry permits) would be held accountable for overages of the sector allocation over multiple years. The Council's policy for the proposed action states, **“Therefore, the Council intends to adjust its management measures as needed to ensure that the sport charter sector is held at or below its allocation on average over a rolling five-year period.”** *But it is unclear from the Council's record how it wishes to have this proposed recommendation for a rolling five-year average implemented. Staff requests that the Council identify its intent. The Council may mean that it would not respond to individual seasonal overages but only when a seasonal overage exceeds the average of five year's harvests in relation to the initial allocation, as harvests in some years may be below the allocations and could be used to balance out an overage from another year within the rolling five year period.* Additional issues such as whether this policy would be applied only five years after the allocations are implemented since there is no history to roll into an average prior to its implementation are discussed in more detail under Element 1 of the RIR. **Staff seeks clarification on how to apply the rolling five-year period.**

The Council has identified its intent to regulate the charter sector post-season. Consideration of future management action(s) would be automatically triggered and scheduled for action after any charter sector allocation overage (except as clarified by the Council's policy of applying a rolling five-year average). Any new regulations would be implemented two to three years after an allocation has been exceeded (or more than five depending on the requested clarification by the Council). The Council has also identified the possibility that overly constraining measures could be implemented so as to avoid future allocation overages.

A data collection program to implement the proposed alternative must be able to account for charter halibut harvests against the common pool allocations and to monitor (in-season) commercial IFQs that are leased by charter limited entry permit holders for use in the charter sector. *Note that two data collection programs are needed; only one to monitor the use of commercial halibut IFQs in the charter sector would be a new program.*

Current Data Collection Program The Alaska Department of Fish and Game Sport Fish Division (ADF&G-SF) is the only management agency that currently collects comprehensive harvest information from the halibut charter operators. ADF&G-Sport Fish Division began requiring charter operators to submit saltwater logbook reports to their agency that specifically reports halibut harvests on a weekly basis starting in 2006. Those logbooks provide halibut specific information, unlike logbooks in previous

years that only collected data for “bottom fish.” The April 10, 2006 statewide news release from ADF&G-SF describes the reporting requirements and states the following.

*“Saltwater sport fish charter businesses are required by law to maintain a logbook for each vessel that carries clients. Logbooks must be filled out on a daily basis for each charter trip. Logbook sheets must be returned to ADF&G on a weekly basis, while there is activity. Weeks of no activity do not have to be returned...”*

*...It is the responsibility of the licensed sport fish charter business owner to ensure that all data for fishing activities in 2006 is submitted to ADF&G in the manner described in the logbook. It is the responsibility of the guide to ensure that daily trip activity is accurately recorded as described in the logbook.”*

A sample page from the 2008 ADF&G-SF logbook is shown below. One logbook report must be completed and returned for each trip fished. If the trip covers multiple days the logbook identifies which day of the trip that logbook page covers. The business and vessel section of the logbook identifies the guide business owner, the guide, and the vessel used to carry clients. The trip information section requires that the date of offload, the port of offload, the number of clients on the trip, the area fished, the number of rods fished, and the number of hours spent fishing be reported. Catch and harvest information is collected for each individual angler. Their sport fish license number is used to identify anglers in the logbook. The number of each species harvested or released is also recorded in the logbook. The angler’s license information was first required in 2007. Before a trip begins, the guide must record 1) the 2008 sport fishing license number, permanent identification number (PID) or disabled veteran (DAV) license number for anyone that will fish during any part of the trip, including paying and non-paying (comped) anglers and crew; 2) the first and last name of each angler in the space provided below their license number; the birth date and first and last name and of each youth angler under the age of 16; 3) for each angler, the number of halibut kept year-to-date YTD in IPHC Area 2C in the “YTD in 2C” box from the back side of the angler’s fish license or 2008 Harvest Record card. At the end of a fishing trip, the guide that leads the trip must sign and complete the logbook page at the end of each day of fishing or at the end of each trip within a day (for multiple trips within a day).



**COMPLETE THIS SECTION FOR EVERY TRIP**

2008 FISH & GAME BUSINESS OWNER LICENSE #: 1234  
(License # assigned to you by ADF&G)

2008 FISH & GAME GUIDE LICENSE #: 5678

**TRIP INFORMATION**

DATE FISHED: MO: 7 DAY: 12, 2008

PORT OR COMMUNITY WHERE FISHING TRIP BEGAN: Juneau  
(Port or Community where clients were loaded and trip began)

PORT OR COMMUNITY OF OFF-LOADING: Juneau  
(Port or Community where fish or clients were off-loaded from vessel)

TOTAL NO. PAYING CLIENTS ON THE VESSEL: 5  
(Include ALL paying clients, even those that did not fish and those who did not catch anything. DO NOT include "comped" anglers or crew members that fished.)

PRIMARY STAT AREA & BOAT HOURS:

Targeted Species	Primary Stat. Area where most fish were caught. (6-digit Code)	No. of Boat Hours Fished this Trip
Salmon	112120	3
Bottomfish	112120	4

COMPLETE THE FOLLOWING FOR ALL TRIPS

Circle the IPHC Area Fished if HALIBUT were Kept during this trip: 2C 3A 3B or 4 (Circle Only One)

IF HALIBUT were kept in more than one IPHC area during this trip, a separate logbook data sheet must be used for each IPHC area fished.

PAGE NO. 1 OF 1 (TOTAL NO. OF PAGES FOR THIS TRIP)

**CERTIFICATION:** I certify that the information contained in this document is true and correct to the best of my knowledge.  GUIDE SIGNATURE

**INSTRUCTIONS: Complete one row below for each angler who fished on this trip.**

**INDIVIDUAL ANGLER AND CATCH INFORMATION**

Serial Fishing License Number AND printed name of each angler that fished	Circle <input checked="" type="checkbox"/> if License is Resident or <input checked="" type="checkbox"/> if Non-Resident	Date that fishing took place. This date may appear more than once if multiple trips were taken in a single day.	Number of King Salmon			Number of Other Salmon			Number of Halibut		Number of Lingcod		Number of Rought Rockfish (Red Sea, etc.)		Number of Yelloweye Rockfish		Number of Non-pelagic Rockfish (not including Tulewee)		Number of Salmon Shark		All Other Fish (logbook)
			Kept	Released	Chum	Kept	Released	Kept	Released	Kept	Released	Kept	Released	Kept	Released	Kept	Released	Kept	Released		
1. 8012345 Larry Lure	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N							1	1												
2. Z50148-P Robby Norow	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N										2										
3. 8023336 Doug Drift	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N																				
4. 08/28/98 Bryan Baiter	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N																				
5. 8054321 Mary Bile	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N																				
6. 8012346 Jerry Jig	<input checked="" type="checkbox"/> R <input checked="" type="checkbox"/> N																				

Both salmon and bottomfish were targeted. This was a 7 hour trip, 3 hours were spent targeting salmon, 4 hours were spent targeting bottomfish.

The guide must sign the bottom of every logsheet for each trip he/she was in charge of.

Continue on another page if more than 8 clients, or if a different IPHC area was fished where halibut were kept.

Next to each fishing license number: Circle  if angler is a Crew member. Circle  if angler is "Comped" All other anglers, Circle  for Nonresident or  for Resident. DO NOT mark the residency for crew or "comped". Circle "C" or "X" only.

Note that two anglers had kept Halibut on previous charters in 2C. The number of Halibut previously kept on another charter in 2C is to be recorded prior to beginning sport fishing.

Note that there were 6 anglers on board but only 5 were paying clients, 1 was a "comped" angler. Of the 5 paying clients 1 angler fished by proxy (Z50148 - P).

Note that one fish not already specified on this page was kept. This column is optional, you do not need to fill it out.

Figure 6 Alaska Department of Fish and Game Saltwater Sport Fishing Charter Trip Logbook

Issues that need to be considered when determining whether the data reported in the logbooks are sufficient to manage the charter sector harvest allocation include data timeliness, accuracy, and precision. If any of these components of the logbook data collection program is deemed to be insufficient to manage a charter allocation, an additional data collection program may be necessary.

Saltwater logbook pages must be submitted to ADF&G-SF each week. Because the logbooks are submitted on paper, the data must be entered into a database before it can be used. More than 2,000 trips were taken during the peak fishing weeks in both Areas 2C and 3A during 2006. Since each trip must be reported separately on a logbook, during the peak season over 2,000 logbook pages would need to be entered into the database. Note that the remote nature of charter operations may affect any type of electronic reporting.

It is critical that logbook data be accurate to provide a correct measurement of total removals. Individual angler information along with the harvest data are linked in the logbook to verify that accurate data are being collected in the logbooks. ADF&G-SF staff will verify logbook data reported by the guide by surveying anglers that are identified in the logbook about their trip. A report on this comparison is scheduled for review by the Council's Science and Statistical Committee in April 2008.

Recordkeeping and reporting The Council has acknowledged the need to develop timely, accurate, and independently verifiable charter halibut harvest records, but has left the design of that data collection system to the agencies. Originally recommended by its stakeholder committee, the Council identified its intent in proposing the following options that the real time collection of data should not be used for in-season management changes or in-season closures. Rather the Council intends that one or more of the three proposed options be used to shorten the data collection feedback loop to facilitate the timely



advance adoption of management tools designed to achieve the charter sector allocation without in-season changes or in-season closures in order to maintain, to the extent possible, a season of historic length with a minimum two fish bag limit.

*Because NMFS will not be able to provide cost estimates for a fully developed reporting system in this analysis, the Council may be precluded from selecting a specific timeline for its preferred regulatory cycle under Element 4.* Therefore, Element 4 (timeline) is descriptive and not a decision point. In fact, priorities outside of Council (and often NMFS) control will determine the speed with which any regulatory actions are implemented.

Before reviewing *potential* reporting mechanisms, it is critical to understand that **two separate databases** will be needed to track charter halibut harvests under the proposed alternative. A core database is needed to monitor harvests to account for the charter halibut allocation, or what stakeholders have come to call the “**common pool**.” The Statewide Harvest Survey (SWHS) (or mail survey) self reports charter halibut harvests by anglers. The SWHS is the basis for determining total charter halibut harvests and setting the Guideline Harvest Levels for Area 2C and Area 3A. It is the basis for determining the charter halibut allocation in this analysis. A second database is the logbook survey, which collects self-reported harvests by charter operators. The logbook survey was the basis for determining eligibility under the limited entry program (and the withdrawn charter IFQ program). A comparison of self reported charter halibut harvests by ADF&G Sport Fish Division is scheduled for Council review in April 2008.

A second (and likely more complex) accounting system is needed to monitor and enforce those charter halibut that will be counted against commercial halibut IFQs that are transferred for use in the charter sector, also referred to as **Guided Angler Fish** or GAF. A GAF would put an angler on par with regulations for an unguided angler, that is, he/she would be exempt from any regulations specific to reducing charter halibut harvests.

Management of GAF will require distinguishing a charter halibut that was harvested using leased IFQs from those fished against the charter common pool allocation. Allowing unused leased IFQs to the charter sector to revert back to the commercial sector will result in some implementation difficulties (e.g., underage/overage accounting) that will need to be addressed in the new accounting system. Agency staff identified that GAF would be managed as whole fish (i.e., no partial GAFs). Some additional (minor) harvest savings could accrue due to accounting of a whole average sized fish from the common pool or from GAFs. The size of a second halibut in Area 2C in 2007 was artificially constrained by current regulations. Note that the revised GHIL reporting/accounting program may use a more specific time and area average weight.

Wostmann (2003b) provided a conceptual design of a landing reporting system of the withdrawn charter IFQ program, but many comments regarding record keeping and reporting also apply to the narrower application of commercial IFQs transferred for use in the charter sector. It identified the importance of developing a new system that would be compatible with the existing commercial halibut IFQ program. It must support the management of quota shares and the transfer of shares within and between the charter and commercial sectors. Enforcement of regulations for charter operations is more difficult than for commercial operations because landing activity is not concentrated at processors, is widely dispersed, and includes many remote locations. An objective of the data collection program is to make compliance and accurate reporting as easy and convenient as possible to minimize the incidence of improper reporting caused by confusion over requirements. Additionally, the system will need to provide features to make enforcement efforts efficient and effective.

For managing a **combined charter and commercial fishery CEY**, staff noted the following issues as they relate to the Council's proposed policy to set a sector allocation and request that the IPHC apply the splits in its annual process to set catch limits.

- a. The IPHC only adopts catch limits; it does not formerly adopt Total CEY or Fishery CEY;
- b. Lack of IPHC adoption of CEYs is problematic as basis for any allocation formula; and
- c. If a floating allocation is selected, it should be set and measured against the same CEY basis (this is not the case in current regulations)

In October 2007 the Council requested that interagency staff<sup>12</sup> review Stakeholder Committee recommendations for development of a catch accounting system for GAFs using 1) electronic reporting; 2) harvest tags; and punch cards. Staff recommended against setting an allocation using one type of harvest record and managing the allocation with another. Staff also identified the dynamic tension between over-reporting (creating catch history) if records are used as the basis for the allocation and under-reporting (after implementation) if the perception of enforcement of the allocation is low. While the use of harvest tags to account for common pool halibut harvests may not be necessary, it could be done to achieve savings of one year between the fishery and accounting for that year's fishery. The Council had tasked staff with providing recommendations for how to reduce the time lag between an overage and implementation of measures to eliminate the overage. Staff comments follow.

*1. Electronic Reporting. Each limited entry permit holder could be assigned a unique reporting number and could use that number to electronically report the number of halibut caught by clients that day on a daily basis. The electronic reporting could be done either through an Internet website or a dial-in telephone system. As additional verification each client could be required to sign the mandatory logbook next to the entry containing their name, license number, number and type of fish caught, and any other required information. Logbooks could continue to be submitted weekly.*

At an interagency meeting, staff reviewed electronic reporting as a means for effectively monitoring and enforcing a charter halibut allocation. It identified that electronic reporting (ER) could supplement or substitute for a harvest tag system (described below). It identified that ER may result in enforcement difficulties at-sea because reporting would not occur until the end of the fishing day, theoretically and NMFS needs an enforcement tool for at-sea boardings. Staff identified potential requirements, such as reporting or signing the harvest tag "immediately upon landing. . ." NMFS staff plans to examine the commercial E-landings system to determine where it is not (always) required because internet is sporadic in some locations. However, E-landings still requires senders to email data. Participants could use satellite phones for reporting. But electronic reporting is still self-reported, and is not independently verifiable.

*2. Harvest Tag. Uniquely numbered harvest tags could be distributed to each limited entry permit holder at the beginning of the season and additional tags could be available throughout the season if needed. The number of harvest tags could be greater than the number of fish allocated to the charter sector for that year (i.e., the tags are not a management tool for restricting or closing charter fishing in-season). When a halibut is landed the harvest tag could be required to be inserted into the fish and the harvest tag number recorded in the log book entry for the angler license number of the person who caught the fish. When the fish is processed the tag could be removed and mailed in using pre-addressed, stamped envelopes supplied for that purpose. Limited entry permit holders could pay a fee to cover the cost of the envelopes and tags. Harvest tags could preferably be bar coded to enable machine reading, with peel off bar code stickers for placement in the log book.*

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<sup>12</sup> Staff of NOAA, ADF&G, IPHC, and Council convened twice to provide guidance to the Council on draft alternatives for analysis. Reports were distributed to the Council and public at the December 2007 Council meeting. Since these meetings, opinions and recommendations may have evolved due to further internal discussions.

Interagency staff identified that harvest tags addressed numerous record keeping and enforcement requirements for a number of implementation issues including shortening the regulatory timeline by one year, which is of paramount interest to the Council in the design of this program. A key point to the use of halibut harvest tags is whether they are issued through charter operators (which results in them taking on characteristics of a share-based fishery) or directly to the angler (similar to how ADF&G sport licenses are issued). Discussion of the general design of a harvest tag program includes the following features:

- a. Tags issued by NMFS, since the State of Alaska is not authorized to directly manage halibut;
- b. Linked to ADF&G sport fish license number;
- c. Harvest tag = one fish;
- d. Would be redundant to SWHS and/or logbook program (independent verification with logbook);
- e. Could be used to manage *both* the common pool halibut and GAF halibut;
- f. Common pool halibut harvest tags could be issued equal to the number of fish in the allocation or increased by a correction factor for unused, lost, etc. tags;
- g. Would not require tag returns; once issued they are counted as fished. Unique number associated with each tag, entered in logbook for individual harvest record; Basic assumption that all tickets are used (so allocation is taken) or the number of tickets can be calculated to include the average number of halibut taken (one ticket – 0.8 fish);
- h. Some portion could be issued pre-season (earlier if fixed pound allocation not tied to IPHC decisions);
- i. Halibut harvest tags reduce the reliance on self-reporting and increase reliance on independent third party corroboration;
- j. Could have two types of distinguishable halibut harvest tags:
- k. Common pool halibut harvest tags would be held by individual anglers after obtaining a ADF&G sport fishing license; and
- l. GAF halibut harvest tags would be held by charter operator who leased commercial IFQs;
- m. Both types could have a two-part ticket with one part to be signed by angler; other half to be attached or copied into the charter operator's logbook and turned in with logbook – verifiable paper trail for enforcement;
- n. Use caps could allow flexibility to individuals but not allow larger operators to corner the market;
- o. Could work best if charter operators can book a client and know that tickets are available and can lease fish;
- p. Some portion of total tags could be sold pre-season for advance bookings;
- q. Could put time limit on tags to spread them out over the season;
- r. Might be able to charge an administrative fee;
- s. Could result in secondary resale markets for tags;
- t. Harvest tags could have greater value in years of low abundance;
- u. Harvest tags could result in overestimates of harvest (because we assume it is used fully once issued), but it is unlikely to under report (if used legally);
- v. Instead of annual toolbox regulations, fewer harvest tags could be issued to reduce harvest; and
- w. Economic analysis would have to factor in limited entry aspect of halibut harvest tags.

In its discussions, the staff emphasized timeliness and accuracy of data (faster (only) is not better) as a critical feature of any management program. Shortening the time period in which charter halibut data can be finalized for use in management is the main mechanism that has been identified to shorten the delayed feedback between an overage and implementation of restrictive management measure(s). Staff previously identified some additional time savings that could be achieved by the Council in changes to its analysis and review process.

*3. Punch Cards. Each limited entry permit holder could be issued a supply of uniquely numbered punch cards with punch outs equal to any daily or annual limit for that year. The cards could be issued at the beginning of the season and additional cards could be available as needed (i.e., the cards are not a management tool for restricting or closing charter fishing in-season). Each day every client angler could be assigned a punch card and that punch card number could be entered in the log book next to the license number. As each halibut is landed by a client their respective card could be punched, and at the end of the day the client could sign the punch card in the space provided. The punch card could then be sealed in a supplied stamped and addressed envelope, which could be mailed by the permit holder. Limited entry permit holders could pay a fee to cover the cost of the punch cards and mailing envelopes. Any log book entry for which a signed punch card is not received could be corrected to read the maximum number of fish printed on a punch card (i.e., the daily bag limit or six fish).*

Interagency staff did not discuss the use of a punch card to monitor charter halibut removals.

A fourth option for an interactive voice response system (IVRS) is described by Wostmann (2005) in a report to NMFS. The primary benefit of an IVRS is to provide an alternative to the web for data reporting when Internet access is unavailable for data reporting. It could allow charter operators to report from locations that are off the Internet “grid” but where cellular or satellite phone service is available. An IVRS could come at additional cost to NMFS and possibly charter operators.

Interagency staff did not discuss the use of IVRS to monitor charter halibut removals.

Previous studies of potential data collection programs In a statement of work developed for a 2003 contract for development of a now defunct data collection and monitoring program for individually held charter IFQs, NMFS staff identified the necessity to collect the data required to adequately implement a proposed program for the charter halibut fleet. At a minimum, this data collection system would need to collect data on individual charter vessel operator and/or sportfish client harvests, fleetwide harvests, and the location of harvests. The data collection system would need to provide data on a timely basis, and provide measures to ensure adequate monitoring and enforcement of catch data. Typically, this means that data would be independently verifiable and not based simply on a self-reporting system. A contractor to NMFS provided three reports to guide the agency in the development of data collection systems to implement a (since withdrawn) recommendation by the Council for a charter IFQ program. Many of the conclusions and recommendations are germane to the current analysis.

Wostmann (2003a) surveyed charter data collection programs in other jurisdictions and the data reporting capabilities and experiences of the charter halibut fleet in Alaska at that time. The report concluded that data collection should be integrated into the ADF&G logbook (which has since been achieved), electronic logbooks are feasible although US mail was preferred (although only halibut reporting may mitigate some concerns), tagging the fish was acceptable to industry but reported to be of questionable value for enforcement and administration of the program.

On *data requirements*, Wostmann (2003a) reported that neither recording an angler’s ADF&G sportfish license number (first required by ADF&G in 2007) nor recording lengths of retained fish was problematic; however, ADF&G has concerns with this approach. The report recommended that rules for measuring and recording fish lengths must be easily understandable and unambiguous. Appropriate statistical areas must be identified for reporting (likely to be ADF&G statistical areas); these could be correlated with the corresponding IPHC area in electronic reporting. It reports that requiring operators to return to the dock before processing or mutilating the fish in a manner that prevents measuring lengths would pose problems to some operators who lack the storage capacity for whole fish and would inconvenience operators who process fish before returning to the dock, but these requirements are currently in place for determining the minimum size or the number of fish caught while on board the

vessel. Operators reported that requirements for data entry before fishing and before docking or unloading at the end of a trip would not be excessively burdensome.

On *internet and phone reporting*, Wostmann (2003a) reported that electronic reporting forms are likely to be used to allow both agency staffs and the charter operators to view activity and account balances of commercial IFQ transferred for use to the charter sector and to transfer commercial IFQs between commercial and charter users. It reported that remote operations generally have telephones, and many had Internet access. It is expected that phone (cellular and satellite) and Internet access has improved in some locations since 2003.

On *tagging fish*, Wostmann (2003a) reported that most surveyed operators reported that tags would be ineffective at remote lodges and other locations with a single operator and where enforcement is rare when tags were considered for monitoring charter IFQ halibut. Operators reported that they could self-regulate those who fished out of ports with significant charter activity through peer pressure and tips to the agencies.

## **2.3 Background**

### **2.3.1 Previous Council Actions**

In the past, the Council has considered and rejected a program that would allocate a fixed amount or percentage of the halibut resource to the charter sector and close the charter fishery to retention once its allocation is harvested. This type of management has traditionally been referred to as an allocation with a “hard cap,” because the charter sector would be prohibited from retaining halibut to prevent them from exceeding their allocation<sup>13</sup>. When their allocation was harvested, the charter sector would be prohibited from retaining additional halibut that year, but would not be prohibited from providing charter trips for other species, halibut trips outside Areas 2C and 3A, or halibut trips within Areas 2C or 3A where halibut would not be retained.

Members of the charter industry have contended that because of the sector's business structure, closing the fishery to retention in-season would dramatically disrupt their traditional method of booking clients and operating their business. For example, charter operators have indicated that many of their clients book trips a year in advance. If the charter season's historic length were disrupted the following year, it could force the business to refund deposits for trips scheduled after the closure. The inconvenience to the client would reduce their level of satisfaction with the business that was forced to cancel their trip. Charter operators have also stated on the record that client satisfaction and repeat customers are vital to their operations (especially lodge owners and Area 3A charter businesses). If a charter business must cancel a client's trip because the season is closed before the trip is taken, operators are concerned that those clients may be unwilling to book future trips with that business.

The client's dissatisfaction with the business operator could be magnified if halibut fishing was the primary reason for the trip and the client is unable to easily obtain refunds for all of their other travel expenditures. Many clients book flights to Alaska and schedule other vacation activities along with the charter trips. Ensuring the client is able to take the advertised charter trip is important to trip providers. Altering the management structure in-season could impact the charter operators' ability to provide the trips.

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<sup>13</sup> Closures would be initiated using the best in-season harvest data available.

### 2.3.2 Previous Management Proposals

This is not the first time the Council has considered restrictions to the charter sector. The GHL program was intended to limit charter halibut harvests and has resulted in numerous regulatory amendments to implement and amend the program. Dividing the halibut available for harvest by the two sectors has been considered previously. Proposed actions attempted to address the open-ended reallocation from the commercial IFQ sector to the charter sector. A division of the available halibut was included when the Council approved the halibut charter IFQ program in 2005. That program was rescinded by the Council before the Secretary took action. A hard cap for charter sector harvests has never been implemented.

The Council developed and approved a moratorium on new entry into the halibut charter sector in 2007; a previous analysis to implement a moratorium on entry was rejected in favor of a more comprehensive rationalization program to include the charter sector into the commercial halibut IFQ program. The Council and many long time members of the charter industry felt that limiting new entry was an important protection for the existing charter fleet, if their sector's harvest is capped. If the moratorium is not implemented, the existing charter operators would compete against each other and new entrants into the charter sector for the available halibut and charter clients. Implementing the moratorium limits the number of charter business and vessels that can participate in the fishery at any one time.

If approved by the Secretary, the Council's preferred alternative would limit the number of vessels that may take clients halibut fishing at any one time and the number of clients each vessel may carry on a trip (NPFMC 2007(a)). A maximum<sup>14</sup> of 689 permits would be issued in Area 2C and 611 permits would be issued in Area 3A. Those numbers represent 35 more permits than vessels that were used to carry clients in Area 2C during 2005. In Area 3A, 44 additional permits could be issued than were fished in 2005. The moratorium analysis acknowledged that charter operators could take more trips with the qualified vessels than they had taken historically. They would also be allowed to increase the average number of clients taken on a trip, if the number of clients they carried varied during the endorsement qualification period. Either of those outcomes would increase the number of clients that fish for halibut in a year. Increases in the number of clients fishing, everything else being equal, would result in additional halibut being harvested.

The proposed moratorium program also contains a provision that designates some of the permits as non-transferable. Permits would be designated as non-transferable if the participation history of the vessel/business generating the permit was at a lower level than required to earn a transferable permit. Issuing some non-transferable permits would reduce the maximum harvest capacity of the fleet over time. Harvest capacity would be reduced when recipients of non-transferable licenses leave the fishery.

Continued growth in halibut harvests by charter clients reduces the portion of the CEY that is available to the directed commercial halibut fishery. The process used by the IPHC to determine the amount of halibut available for the charter and commercial IFQ fisheries is discussed here to show why increases in charter sector harvests reduce the percentage of the CEY available to the commercial IFQ fishery. Total CEY is currently calculated by applying a fixed harvest rate (20 %) to the exploitable biomass estimate. The

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<sup>14</sup> Moratorium qualification requirements are based on activity of the business in the year prior to implementation and during the years 2004 or 2005. Because the moratorium analysis could not determine which businesses will fish during the year prior to implementation (or even what year the "year prior to implementation" would be), it estimated the maximum number of permits that could be issued. Over time, the number of permits that are actively being fished should decrease, since about 25% of the permits would be non-transferable because the vessel generating the permit took less than 15 trips in 2004 or 2005.

fishery CEY is calculated by subtracting an estimate of all other non-commercial removals<sup>15</sup> from the Total CEY. The IPHC sets a harvest limit only for commercial fisheries using setline or other hook and line gear. All other halibut removals are accounted for before the fishery CEY is set. The entire process is described in more detail in the EA.

Two general types of management measures have been recently considered that could constrain the growth in halibut harvests. The first type of measure imposes a restriction on when, where, or how fishing may occur; limits the number of halibut that a charter client may retain; or limits the size of halibut that may be retained. Examples are restricting crew harvests, reducing bag limits, and implementing restrictions on the sizes of halibut that could be retained. Limitations on crew harvests are likely to have little impact on a client's willingness to take a charter trip, but are not expected to constrain harvests to a level that is deemed appropriate by policy makers (NPFMC 2006b). An action such as reducing the bag limit to one fish is expected to impact some clients' willingness to take a trip (NPFMC 2006b). Harvest restrictions that limit the size of the second halibut that may be retained are thought to have less of an impact on a client's willingness to take a trip than reducing the bag limit from two fish to one (NPFMC 2006b). These management measures are expected to slow the growth of charter harvests by varying amounts. However, it is difficult to constrain the total charter harvests over time as the sector adapts to the implementation of those measures. Such adaptations would necessitate the implementation of increasingly stringent management measures over time.

### **2.3.3 Historic Halibut Catches**

The Pacific halibut resource is fully utilized. The halibut resource has traditionally been harvested by commercial, sport (guided and non-guided), and subsistence users. The IPHC did not have a formal regulatory definition of subsistence prior to 2002; however, it did attempt to track subsistence harvest taken under a personal use category, leaving only sport harvests under the sportfishing category. In 2002, the IPHC adopted regulatory language defining subsistence ("Customary and Traditional Fishing in Alaska"). Federal regulations now recognize and define a legal subsistence fishery for halibut in Alaska. Addition information may be found in the EA.

Sportfishing for halibut in Southeast Alaska is an important recreational activity for resident and non-resident anglers. Meyer (2005) reported that participation in the marine sport fisheries of Southcentral Alaska has more than doubled in the last 15 years. A major portion of the marine fishing effort is directed at halibut and state-managed groundfishes, including rockfishes, lingcod, and sharks. However, sport harvest of halibut exceeds that of all other marine finfishes. Harvest in Southcentral Alaska increased from 40,000 fish in 1980 to 286,000 fish in 2000. The 2003 harvest of 278,000 halibut made up 69% (in number) of the statewide recreational harvest. Sport harvests of halibut rapidly increased in the late 1980s to mid-1990s due to continued increases in targeted effort (Tersteeg and Jaenicke 2005). In IPHC Area 3A, sport catch, both charter and unguided, primarily occurs on the Kenai Peninsula. Fishing effort in Area 2C is mostly concentrated around Juneau, Ketchikan, Sitka, Wrangell, and Petersburg. However, substantial effort is also expended near remote fishing lodges and smaller communities throughout the region, such as Craig, Gustavus, and Yakutat (Jaenicke 2005).

As reported in IPHC (2005), Alaska sport harvest estimates are derived from a statewide postal survey in conjunction with creel surveys at points of landing. Estimates usually lag by one year. Halibut removals for Areas 2C and 3A are presented in Table 10 and Table 11, respectively. In summary, charter halibut harvests between 1997 and 2007 increased by more than 60% in Area 2C (from 1.03 M lb to 1.70 M lb). In Area 3A charter harvests have varied from a low of 2.53 M lb in 1999 to a high of 3.69 M lb in 2005.

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<sup>15</sup> The non-commercial removals include projected Legal-Sized bycatch harvest, projected Sport Catch, projected Wastage, and projected Personal Use/Subsistence.

However the harvests in 1997 and 2007 are about equal. Charter halibut harvests amounted to approximately 11% and 10% of total halibut removals in Areas 2C and 3A in 2005, compared with 7% and 9% in 1999.

Area 2C commercial halibut removals have fluctuated between 1995 and 2007, from a low of 7.76 M lbs in 1995 to a high of 10.49 M lbs in 2005. During the years 1997–1999 removals were between 9.66 M lbs and 9.90 M lbs. Removals were between 8.27 M lbs and 8.45 M lbs over the four year period from 2000–2003. From 2004 through 2006 removals increased to just under 10.5 M lbs each year. In Area 3A commercial removals followed a similar trend to Area 2C. Removals ranged from 18.14 M lbs in 1995 to 25.96 M lbs in 2007. Commercial removals were highest from 1997 through 1999 and the years 2004 through 2007. Removals were over 24 M lbs each of those years.

The number of halibut QS holders has declined since they were initially issued (NMFS 2007). In Area 2C 2,389 QS holders were initially issued halibut QS. As of the end of 2006, the number of halibut QS holders had declined to 1,353. That represents a decrease of 1,036 QS holders. In Area 3A, 3,073 QS holders were given an initial halibut allocation. By 2006, the number of QS holders was reported to be 1,774. So, 1,299 QS had left the halibut fishery between the initial allocation and the end of 2006.

**Table 10 Area 2C halibut removals (M lb), 1995–2008**

Year	Total CEY	Fishery CEY	Commercial Catch Limit	Commercial Catch	Sport Guided	Sport Unguided	Sport Total	Bycatch Mortality (Legal Sized Fish)	Personal Use (Subsistence)	Wastage (Legal Sized Fish)	TOTAL CEY REMOVALS
1995			9.00	7.761							7.761
1996			9.00	8.737							8.737
1997	13.92	11.41	10.00	9.753	1.034	1.139	2.172	0.260	n/a	0.040	12.225
1998	17.70	15.48	10.50	9.666	1.584	0.917	2.501	0.218	0.170	0.051	12.606
1999	12.80	10.49	10.49	9.902	0.939	0.9	1.843	0.233	0.170	0.072	12.220
2000	8.44	6.31	8.40	8.266	1.132	1.13	2.258	0.230	0.170	0.042	10.966
2001	11.20	8.78	8.78	8.273	1.202	0.72	1.925	0.220	0.170	0.037	10.625
2002	10.66	8.50	8.50	8.455	1.275	0.81	2.090	0.180	0.170	0.034	10.929
2003	12.00	9.11	8.50	8.286	1.412	0.85	2.258	0.167	0.170	0.029	10.910
2004	20.00	17.00	10.50	10.116	1.750	1.19	2.937	0.149	0.628	0.026	13.856
2005	14.90	11.80	10.93	10.489	1.952	0.85	2.798	0.140	0.598	0.043	14.068
2006	13.73	10.33	10.63	10.397	1.804	0.72	2.526	0.216	0.592	0.021	13.752
2007	10.80	7.61	8.51	8.343	1.701	0.84	2.545	0.210	0.580	0.017	11.695
2008	6.50	3.92	6.21								

Source: IPHC



**Table 11 Area 3A halibut removals (M Lb), 1995–2008**

Year	Total CEY	Fishery CEY	Commercial Catch Limit	Commercial Catch	Sport Guided	Sport Unguided	Sport Total	Bycatch Mortality (Legal Sized Fish)	Personal Use (Subsistence)	Wastage (Legal Sized Fish)	TOTAL CEY REMOVALS
1995			20.00	18.142							18.142
1996			20.00	19.318							19.318
1997	40.66	33.55	25.00	24.235	3.413	2.100	5.514	1.150	0.1	0.074	31.070
1998	45.44	38.71	26.00	24.538	2.985	1.717	4.702	1.490	0.07	0.155	30.959
1999	31.80	24.67	24.67	24.310	2.533	1.7	4.228	1.595	0.07	0.101	30.308
2000	18.98	11.94	18.31	18.166	3.140	2.17	5.305	1.210	0.07	0.030	24.785
2001	27.80	21.89	21.89	21.100	3.132	1.54	4.675	1.700	0.07	0.032	27.581
2002	30.96	24.14	22.63	22.614	2.724	1.48	4.202	1.180	0.07	0.023	28.093
2003	40.00	34.22	22.63	22.324	3.382	2.05	5.427	1.364	0.07	0.091	29.280
2004	36.50	30.00	25.06	24.717	3.668	1.94	5.606	1.520	0.280	0.067	32.190
2005	32.90	26.30	25.47	25.228	3.689	1.98	5.672	1.320	0.43	0.078	32.727
2006	32.18	24.94	25.20	25.238	3.664	1.67	5.338	1.426	0.362	0.051	32.415
2007	35.78	28.21	26.20	25.957	3.404	1.64	5.045	0.990	0.382	0.053	32.427
2008	28.96	22.25	24.22								

Source: IPHC

**2.3.3.1 Percentage of Halibut Harvested by Charter Sector**

Figure 7 shows the percentage of the combined charter harvest and the commercial IFQ halibut that was caught by the charter sector during the years 1995–2006<sup>16</sup>. The percentage of the total halibut harvested by the charter sector in Area 2C shows no consistent increasing or decreasing trend from 1995–2000. However, from 2001–2006 the charter sector annually increased its percentage of the combined harvest. In Area 3A, the charter sector percentage of the total decreased from 1995–2000. Their percentage of the total spiked up in 2000 and then decreased through 2002. The percentage was then fairly stable from 2003–2006.

<sup>16</sup>

2006 estimates are preliminary

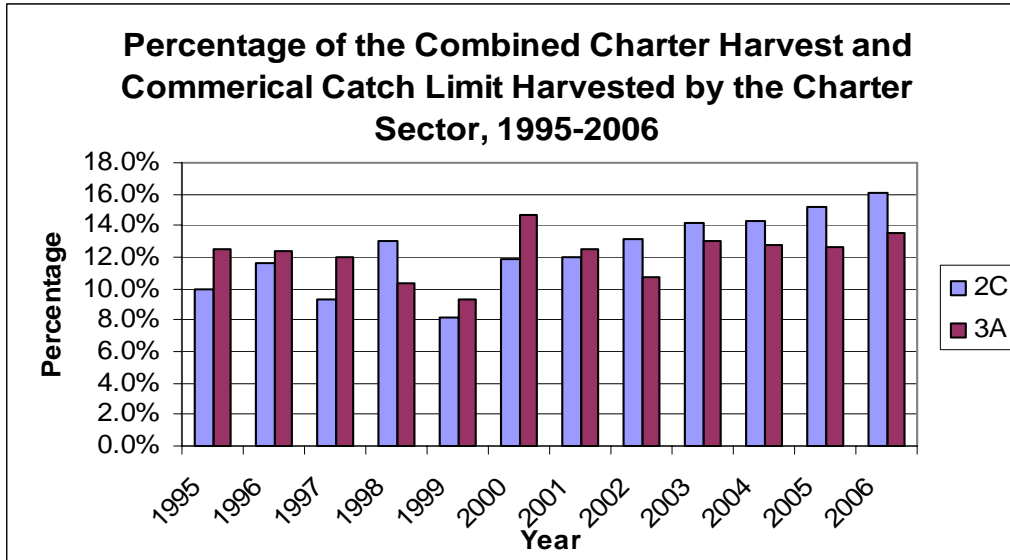
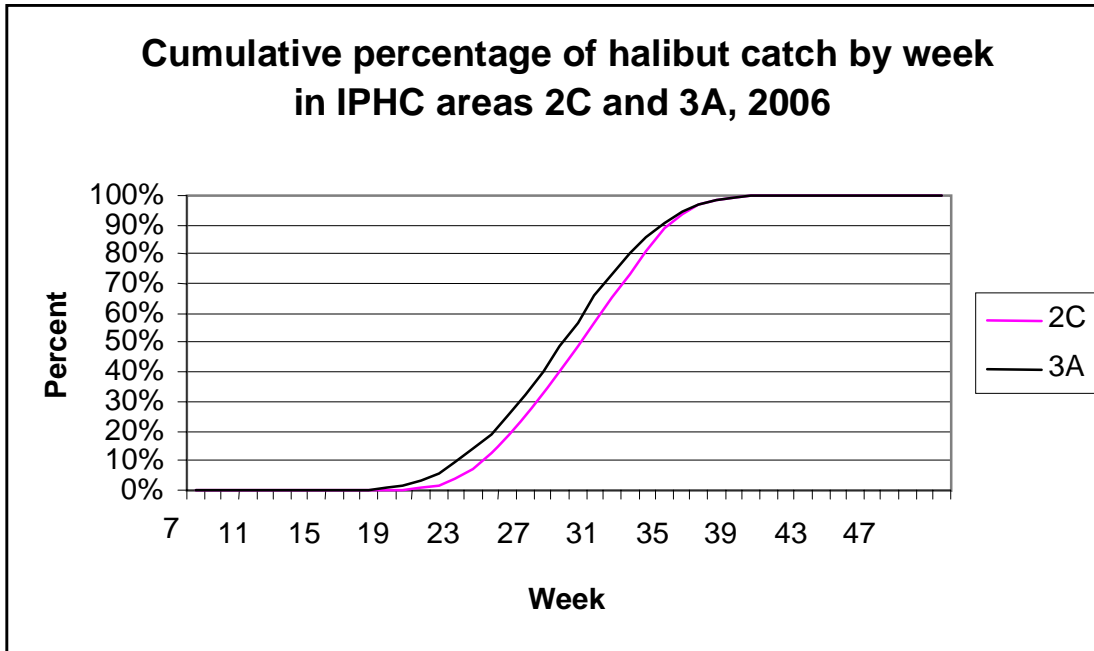


Figure 7 Charter halibut harvest as a percentage of combined commercial IFQ and charter harvest, 1995-2006.

### 2.3.4 Charter Catch in 2006 by Week

Figure 8 shows the cumulative percentage of charter harvest by week during 2006. The shape of the Area 2C and Area 3A harvest curves indicates that the weekly harvests are lower either early or late in the fishing year than they are during the peak season. During 2006, the Area 2C charter fleet harvested over 5% of its total harvest every week from June 5 through the week starting August 21. The percentage of total charter harvest dropped dramatically during the weeks before and after those dates. In Area 2C the charter sector is dependent on cruise ship clients in ports like Ketchikan, Sitka, Juneau, and Haines; those clients are less likely to shift their trip dates because they are linked to their cruise dates.



**Figure 8 Cumulative percentage of halibut charter catch by week during 2006**

Halibut harvests from Area 3A tend to follow the same general trend as discussed for Area 2C. The primary difference in the two areas is that Area 3A harvest tended to start sooner and taper off sooner than in Area 2C. The Area 3A charter fleet was harvesting over 4.1% of their total harvest during the week of May 22. By the week of August 14, they were harvesting less than 5% of its annual total.

Figure 9 shows the percentage of total charter halibut caught in Areas 2C and 3A by week. This information again demonstrates that the Area 3A fishery has more activity earlier in the year and less later in the year than Area 2C. The Area 2C halibut charter fishery continued at peak summer levels for about two weeks longer than Area 3A during 2006. Both areas had weeks when over 8% of the annual harvest was taken. The data in this section further enforce the importance of the charter fishery in June, July, and August. Limiting a charter operator’s ability to provide trips during those months would have the greatest impact on his or her business.

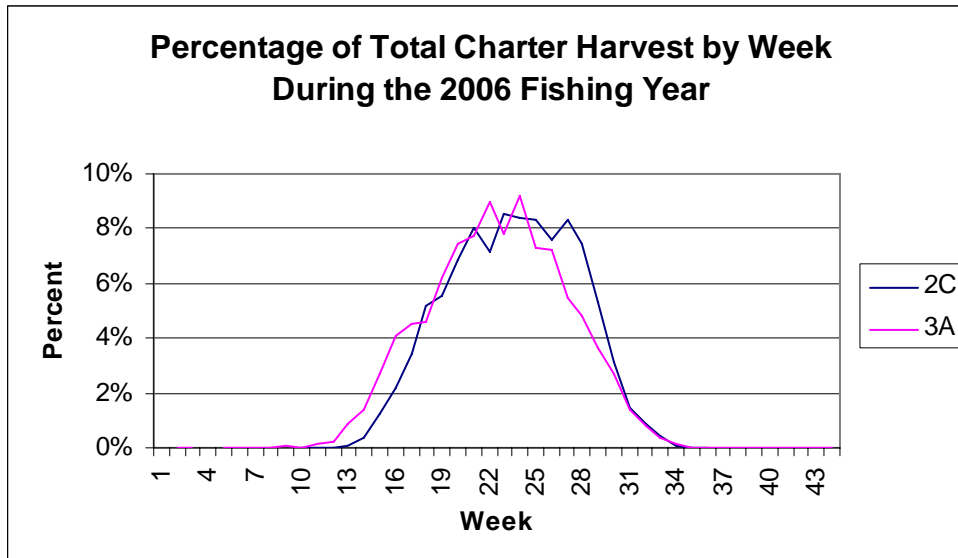


Figure 9 Weekly percentage of total charter harvest during 2006

## 2.4 Status Quo

### 2.4.1 Current Guideline Harvest Level (GHL) Charter Regulations

Current regulations define a guideline level of harvest for the charter sector. The GHL amount is linked to the CEY that is set by the IPHC for that year. The GHL defined a target harvest level for the charter sector of 1.432 M lb (equivalent to 13% of the CEY) in Area 2C and 3.650 M lb (equivalent to 14% of the CEY) in Area 3A, respectively, from 2004–2007 (NPFMC 2007). In 2008, the CEY established by the IPHC was 6.500 M lbs in Area 2C and 28.960 M lbs in Area 3A. Because the Area 2C CEY was reduced, from 11.4 M lbs in 2007, the 2008 CEY resulted in a GHL of 0.931 M lbs. The Area 3A remained unchanged at 3.650 M lbs in 2008. The lower CEY in Area 2C reduced the GHL to 65% of its 2007 level. The Area 3A GHL has remained unchanged from 2004–2008 (Federal Register, 2008)<sup>17</sup>.

Current management measures do not mandate that the charter sector stay within the GHL within a year or even over several years. Since current management measures would not be expected to maintain a division of the available halibut, the Council is considering implementing an allocation of halibut that charter clients would be allowed to harvest annually from Areas 2C and 3A. If the allocation to the charter sector is exceeded, the charter fishery would not be closed that season. However, the harvest of halibut in future years would be limited by more restrictive management measures designed to keep the charter within their allocation over a five-year average. As stated in the Council's objectives for this program, the general goal is for the charter sector to harvest at or below their allocation, using a five-year rolling average charter harvest.

### 2.4.2 Coastwide Assessment

The historic (1995–2007) catch and CEY estimates used in this analysis are based on the area-wide assessment. Starting in 2008, the coastwide assessment was used to derive CEYs used in this analysis. Prior to 2008, the IPHC had been considering switching to a coastwide assessment to account for

<sup>17</sup> Federal Register. 2008. Volume 73, No 24. Tuesday February 5, 2008.

migration. The change in assessments has a larger impact on Area 2C than it does on Area 3A. The following is excerpted from Clark and Hare (2006):

*Growing concerns about net migration from the western to the eastern Gulf of Alaska have led the staff to doubt the accuracy of the closed-area assessments that have been done for many years. A coastwide assessment with survey apportionment was presented to the IPHC, in addition to the closed-area assessments, and was used to calculate the available yield in each area. The two assessments produced very similar estimates of total abundance (total exploitable biomass about 400 M lb, total available yield about 80 M lb) but the distribution among areas was quite different, with the coastwide assessment showing more biomass and available yield in Areas 3B and 4 than the closed-area assessments and less in Area 2. Area 3A is about the same in both assessments.*

The IPHC reported the coastwide exploitable biomass was 414 M lbs in 2007. By 2008 the exploitable biomass decreased to 361 M lbs (IPHC 2008). This represents a 53 M lbs decrease.

### 2.4.3 Projected CEYs and GHLS

The IPHC has produced Total CEY projections for the years 2008–2013. Those projections show that Area 2C is at a low level in 2008 relative to previous years. The implementation of the coastwide model plays an important role in the decrease. The IPHC is projecting that the Area 2C CEY would increase from 2008 through 2013. By 2011 the IPHC is projecting the CEY would return to a level that would once again allow the GHL to be set at 1.432 M lb (IPHC 2008). Note that the GHL would be replaced by the proposed allocation, if implemented. Projections provided by the IPHC for the years 2008–2013 are provided in Table 12.

In Area 3A the CEY for 2008 is lower than recent years, but it remains large enough to yield a GHL of 3.65 M lbs. The Area 3A CEY is also expected to increase each year from 2008 through 2013. By 2013, the CEY is projected to be 155% of the 2008 level.

**Table 12 IPHC staff CEY projections for Area 2C and 3A, 2008–2013**

Year	IPHC Area 2C		IPHC Area 3A	
	CEY (M lbs)	GHLS (M lbs)	CEY (M lbs)	GHLS (M lbs)
2008	6.2	0.931	28.9	3.65
2009	7.4	1.074	32.9	3.65
2010	8.3	1.217	37.0	3.65
2011	9.1	1.432	40.6	3.65
2012	9.7	1.432	43.3	3.65
2013	10.1	1.432	44.8	3.65

Source: IPHC Staff, 2008

## 2.5 Analysis of New Alternatives

This section of the analysis provides estimates of the various initial allocation options and provides a discussion of each of the other elements being considered by the Council. The section following our discussion of the general impacts describes the economic impacts of the alternatives.

## 2.5.1 Element 1– Initial Allocation

This section presents information on data and methods used to calculate the initial allocation options being considered by the Council. The initial allocation would determine the size of the halibut common pool. All licensed charter business may allow their clients to harvest from the common pool. The total number of halibut each business may harvest is only limited by the regulations imposed on the number of clients they may carry and the individual client harvest regulations. The concept of Guided Angler Fish (GAF) is discussed later in the RIR. In the context of this amendment, GAF could be leased from the commercial sector, by GSM permit holders, to increase their harvesting flexibility under current harvest regulations.

Three types of allocation options are being considered for the common pool. The first would allocate the charter sector a percentage of a combined commercial and charter catch limit. It is assumed that the IPHC would set the combined commercial and charter catch limit. The second option would allocate that charter sector a fixed number of pounds. Under the fixed-pound option, a suboption would convert the fixed-pound option to a percentage-based option that moves in predefined steps associated with total CEY changes. The final set of options uses 50% of the allocation that results from both a fixed pound and percentage allocation. That option sets a floor for the charter allocation, while allowing half of the charter allocation to vary with changes in the CEY.

### 2.5.1.1 Option 1

Option 1 would set the allocation for charter sector as a percentage of a combined charter and commercial catch limit. The combined commercial and charter catch limit would be set by the IPHC if this option is selected, but has not been calculated historically. The percentages would be determined by dividing 125% of the historic charter catches by the sum of the combined commercial catch limits and charter harvests over the years selected. The formula used for the calculation of Options 1a and 1b is shown below:

In the formula, Charter% represents the percentage of a combined charter and commercial sector fishery catch limit, to be developed by the IPHC<sup>18</sup>, that is set aside as the charter allocation. CHarv is the sum of the charter sector's harvest over the years included in the allocation formula. CL is the sum of the commercial catch limit set by the IPHC for the years included in the allocation. If this allocation alternative is selected, the percentages for Area 2C and 3A would be fixed. The percentages may only be changed if the Council initiates an amendment to revise them. This is the same formula that was used to calculate the original GHL.

Table 13 shows the raw data used in the formula to allow the reader to how the percentages were derived. The raw data are presented at the third decimal place. At the request of the Council, the allocation percentages that are calculated have been rounded to the nearest 1/10 of a percent<sup>19</sup>. The bottom row of Table 13 shows that the charter sector would be allocated 13.1% of the Area 2C combined commercial and charter catch limit if Option 1a is selected. The allocation for Area 3A is equal to 14.1% of that area's combined commercial and charter catch limit.

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<sup>18</sup> The Council would request that the IPHC set a combined charter and commercial sector catch limit each year. Currently the IPHC does not generate that number.

<sup>19</sup> The number places after the decimal point and the allocation percentages have changed from previous drafts.

**Table 13 Option 1a – 125% of 1995–1999 average charter harvest (current GHL)**

Year	Area 2C					Area 3A				
	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter %	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter%
1995	0.986	9.000	9.986	1.233	12.3%	2.845	20.000	22.845	3.557	15.6%
1996	1.187	9.000	10.187	1.483	14.6%	2.822	20.000	22.822	3.527	15.5%
1997	1.034	10.000	11.034	1.292	11.7%	3.413	25.000	28.413	4.266	15.0%
1998	1.584	10.500	12.084	1.980	16.4%	2.985	26.000	28.985	3.731	12.9%
1999	0.939	10.490	11.429	1.173	10.3%	2.533	24.670	27.203	3.167	11.6%
Avg.				1.432	<b>13.1%</b>				3.650	<b>14.1%</b>

Source: ADFG

Table 14 shows that the charter sector would be allocated 17.2% of the Area 2C combined commercial and charter catch limit if Option 1b is selected. The formula used to make the calculation is the same in Option 1a and 1b, but different years of data are used. The allocation for Area 3A is equal to 15.4% of that area's combined commercial and charter catch limit. Option 1b yields an Area 2C allocation that is more than 4% larger than the combined commercial and charter catch limit in Option 1a. The Option 1b allocation for Area 3A is more than 1% larger than the combined commercial and charter catch limit larger in Option 1a.

**Table 14 Option 1b – 125% of 2001–2005 average charter harvest**

Year	Area 2C					Area 3A				
	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter %	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter %
2001	1.202	8.780	9.982	1.503	15.1%	3.132	21.890	25.022	3.915	15.6%
2002	1.275	8.500	9.775	1.594	16.3%	2.724	22.630	25.354	3.404	13.4%
2003	1.412	8.500	9.912	1.765	17.8%	3.382	22.630	26.012	4.227	16.3%
2004	1.750	10.500	12.250	2.187	17.9%	3.668	25.060	28.728	4.586	16.0%
2005	1.952	10.930	12.882	2.441	18.9%	3.689	25.470	29.159	4.611	15.8%
Avg.				1.898	<b>17.2%</b>				4.149	<b>15.4%</b>

Source: ADFG

Option 1c uses a slightly different formula to calculate the percentage of the combined commercial and charter catch limit that would be allocated to the charter sector. The formula for this option is shown below:

CHarv is the charter sector's harvest during 2004. CL is the commercial catch limit set by the IPHC for 2004. The allocation calculation and results for Option 1c are shown in Table 15. This option yields the smallest charter allocation of the Option 1 suboptions for both Area 2C and Area 3A.

When the Council passed this motion in October 2007, the GHL poundages in Area 2C and 3A had never changed. However, in 2008 the Area 2C GHL was reduced to 0.931 M lbs because of a smaller CEY. The intent of this option is to set a fixed percentage for the charter allocation. To achieve a fixed percentage, an assumption needed to be made regarding the appropriate baseline GHL poudage. This analysis assumes the Current GHL should be set equal to the GHL in place the year the Council's motion was passed. This assumption was made because allowing the current GHL to vary would change the allocation percentage.

**Table 15 Option 1c – current GHL as percent in 2004.**

Year	Area 2C					Area 3A				
	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter %	Charter Harvest	Commercial Catch Limit	Total	Char* 1.25	Charter %
2004	1.750	10.500	12.250	1.432	<b>11.7%</b>	3.668	25.060	28.728	3.650	<b>12.7%</b>

Source: ADFG

Option 1d calculates the charter sector allocation by dividing the 2005 charter harvest by the sum of the 2005 charter harvest and the 2005 commercial catch limit. The actual formula used is shown below:

The results of this calculation show that the Area 2C charter allocation would equal 15.2% of a combined charter and commercial catch limit (Table 16). In Area 3A, the percentage of the combined catch limit would be set at 12.7%. Once set, the percentages derived under Option 1 would not change unless the Council develops a new amendment to change them. However, fluctuations in the combined commercial and charter catch limit set by the IPHC would result in changes to the number of pounds allocated to the charter sector.

**Table 16 Option 1d - 2005 charter harvest as a percent**

Year	Area 2C				Area 3A			
	Charter	Longline	Total	% Alloc	Charter	Longline	Total	% Alloc
2005	1.952	10.930	12.882	<b>15.2%</b>	3.689	25.470	29.159	<b>12.7%</b>

### 2.5.1.2 Option 2

Option 2, under Element 1, would set the charter allocation at a fixed number of pounds. The pounds allocated to the charter sector would never vary, unless resource conservation issues require a reduction in the allocation. Under extreme stock collapse conditions, the commercial allocation could be set at zero pounds before the charter allocation would be reduced.

Three options are being considered to determine the fixed number of pounds. Only two use the same time periods that were used under the percentage-based allocation options. The allocation is calculated using the simple arithmetic mean of the average charter harvest. The results are reported in Table 17, Table 18, and Table 19. Table 17 shows that the charter sector would be allocated 1.43 M lbs for Area 2C and 3.65 M lbs for Area 3A. The allocation is based on the same formula used to calculate the original GHL. It should be noted that the Area 2C GHL was reduced to 0.931 M lbs in 2008. The GHL was reduced because it is linked to changes in CEY. In 2008 the CEY declined to 6.5 M lbs. The 2008 CEY for Area 3A did not trigger a change in the GHL.



**Table 17 Option 2a – 125% of the 1995–1999 average charter harvest (M lbs)**

Year	Area 2C	Area 3A
1995	0.986	2.845
1996	1.187	2.822
1997	1.034	3.413
1998	1.584	2.985
1999	0.939	2.533
<b>Allocation</b>	<b>1.43</b>	<b>3.65</b>

Source: ADFG

Note: This is the current GHF formula but changes in the allocation are not linked to changes in the CEY.

Because the charter harvest was larger in 2000-2004 than in 1995-1999, the charter allocation under Option 2b (Table 18) is larger. Option 2b yields an allocation that is 1.69 M lbs in Area 2C and 4.01 M lbs in Area 3A. The Area 2C allocation increased by 0.26 M lbs, relative to the Option 2a allocation. In Area 3A, the allocation increased by 0.36 M lbs. While the allocation increased by more pounds in Area 3A, the percentage change in the allocation was greater in Area 2C.

**Table 18 Option 2b – 125% of the 2000-2004 average charter harvest (M lbs)**

Year	Area 2C	Area 3A
2000	1.132	3.140
2001	1.202	3.132
2002	1.275	2.724
2003	1.412	3.382
2004	1.750	3.668
<b>Allocation</b>	<b>1.69</b>	<b>4.01</b>

Source: ADFG

The largest charter allocation is generated using Option 2c (Table 19). That allocation option was based on the years 2001-2005. Option 2c yields an Area 2C allocation that is 0.57 M lbs more than Option 2a. In Area 3A, the allocation is 0.50 M lbs larger. So, using the years 2001-2005 relative to the current GHF years, the Area 2C allocation increases more in both pounds and percentage when compared to the Area 3A allocation.

**Table 19 Option 2c – 125% of the 2001-2005 average charter harvest**

Year	Area 2C	Area 3A
2001	1.202	3.132
2002	1.275	2.724
2003	1.412	3.382
2004	1.750	3.668
2005	1.952	3.689
<b>Allocation</b>	<b>1.90</b>	<b>4.15</b>

Source: ADFG

By receiving a fixed poundage allocation, the charter sector is insulated from fluctuations in halibut stock abundance. Under a percentage based allocation, stock abundance changes would cause the charter sector's allocation to vary. The fixed poundage allocation has always appealed to some members of the charter sector because it eliminates some of the uncertainties associated with their future allocation.

### 2.5.1.2.1 Option 2 Suboption

A suboption has been included under the fixed poundage option that would require the charter allocation to increase or decrease in predefined steps when the halibut CEY changes by specified amounts. The suboption does not apply to the percentage-based allocation under Option 1, because those allocations are already directly linked to changes in a combined commercial and charter catch limit. Selecting the Option 2 suboption results in an allocation to the charter sector that behaves much more like Option 1 than a fixed poundage allocation. Anytime the CEY changes by the predetermined amount, the charter allocation would be revised to the corresponding allocation level. Allowing the charter allocation to vary with CEY changes removes the security of having a fixed-poundage allocation. For example, if the fixed-poundage allocation was implemented with 2007 as the base year, the 2008 CEY would have triggered a substantial reduction in their allocation. However, if Option 2 was not modified to include the stair step up and down, the commercial sector would have been required to absorb the reduction in available halibut.

The suboption under Option 2 would modify the charter allocation based on predefined steps. Those steps are based on charges in the “total CEY.” The total CEY is defined as the CEY currently set by the IPHC for that area.

The CEYs for the years 1995–2007, presented in Table 20, are based on area assessments. The CEYs presented for 2008 and later are based on the coastwide assessment. In area 2C, the use of earlier years, especially if the CEYs are not recalculated using the coastwide model, would be more likely to trigger a reduction in the charter allocation in the near future.

**Table 20 Area 2C and 3A CEY by year, 1995-2013**

Year	2C	3A
1995	10.03	27.89
1996	11.19	27.25
1997	12.35	33.39
1998	12.92	32.97
1999	12.50	32.02
2000	11.15	26.62
2001	10.80	29.35
2002	11.18	29.63
2003	11.14	31.28
2004	14.31	34.83
2005	14.55	34.91
2006	13.70	32.02
2007	11.40	37.20
2008*	6.50	28.90
2009*	7.40	32.90
2010*	8.30	37.00
2011*	9.10	40.60
2012*	9.70	43.30
2013*	10.10	44.80

Source: IPHC

Note: \* means the CEY is based on a coastwide assessment.

Changes in the charter allocation, when the CEY changes a specified percentage from the baseline amount, are shown in the tables below. The tables show the initial allocation and the revised allocation if the CEY changes by the percentages listed in the table. It should be noted that the tables do not define the

starting point for the changes to be measured against; until that is defined, we cannot provide the actual future CEYs that would trigger the defined percentage change. Table 21 shows changes in the charter allocation if Option 2a were selected. No changes occur to the charter allocation when the CEY increases or decreases less than 15% from the baseline amount. Increases greater than that amount would trigger changes in the charter allocation. The first step changes the initial allocation by 15%. Each additional 10% change in the CEY triggers an additional 10% change in the charter sector's allocation. In Area 2C, the first step is triggered by a 15% change in the CEY and results in the allocation increasing or decreasing 0.21 M lbs. In Area 3A the allocation is changed by 0.55 M lbs. Each additional 10% change in the CEY results in the charter sector's allocation increasing or decreasing 0.14 M lbs in Area 2C and 0.36 M lbs in Area 3A.

**Table 21 Suboption allocation under Option 2a at given changes in the CEY**

Area 2C		Area 3A	
Relative CEY	Allocation (M lbs)	Relative CEY	Allocation (M lbs)
+45 to +55%	2.08	+45 to +55%	5.29
+35 to +45%	1.93	+35 to +45%	4.93
+25 to +35%	1.79	+25 to +35%	4.56
+15 to +25%	1.65	+15 to +25%	4.20
<b>-15 to +15%</b>	<b>1.43</b>	<b>-15 to +15%</b>	<b>3.65</b>
-15 to -25%	1.22	-15 to -25%	3.10
-25 to -35%	1.07	-25 to -35%	2.74
-35 to -45%	0.93	-35 to -45%	2.37
-45 to -55%	0.79	-45 to -55%	2.01

Source: ADFG

Table 22 shows the charter allocations that would result from CEY changes under Option 2b. Because the initial allocation is larger, the changes in the allocation at each step are also larger. In area 2C, the initial 15% increase or decrease in the allocation increases or decreases the amount by 0.25 M lbs. Each additional 10% increase (or decrease) increases (or decreases) the allocation by 0.17 M lbs. In Area 3A, the initial change is 0.60 M lbs, and each additional 10% change moves the allocation by 0.40 M lbs.

**Table 22 Suboption allocation under Option 2b at given changes in the CEY**

Area 2C		Area 3A	
Relative CEY	GHL	Relative CEY	GHL
+45 to +55%	2.45	+45 to +55%	5.82
+35 to +45%	2.29	+35 to +45%	5.42
+25 to +35%	2.12	+25 to +35%	5.01
+15 to +25%	1.95	+15 to +25%	4.61
<b>-15 to +15%</b>	<b>1.69</b>	<b>-15 to +15%</b>	<b>4.01</b>
-15 to -25%	1.44	-15 to -25%	3.41
-25 to -35%	1.27	-25 to -35%	3.01
-35 to -45%	1.10	-35 to -45%	2.61
-45 to -55%	0.93	-45 to -55%	2.21

Source: ADFG

Table 23 shows the charter allocations that would result from CEY changes under Option 2c. Because the initial allocation is larger than either of the other two options, the changes in the allocation, at each step, are also larger. In area 2C, the initial 15% increase (or decrease) in the allocation increases (or decreases) the amount by 0.28 M lbs. Each additional 10% increase (or decrease) increases (or decreases) the allocation by 0.19 M lbs. In Area 3A, the initial change is 0.62 M lbs, and each additional 10% change moves the allocation by 0.41 M lbs.

**Table 23 Suboption allocation under Option 2c at given changes in the CEY**

Area 2C		Area 3A	
Relative CEY	GHL	Relative CEY	GHL
+45 to +55%	2.75	+45 to +55%	6.02
+35 to +45%	2.56	+35 to +45%	5.60
+25 to +35%	2.37	+25 to +35%	5.19
+15 to +25%	2.18	+15 to +25%	4.77
<b>-15 to +15%</b>	<b>1.90</b>	<b>-15 to +15%</b>	<b>4.15</b>
-15 to -25%	1.61	-15 to -25%	3.53
-25 to -35%	1.42	-25 to -35%	3.11
-35 to -45%	1.23	-35 to -45%	2.70
-45 to -55%	1.04	-45 to -55%	2.28

Source: ADFG

### 2.5.1.3 Option 3

Option 3 would determine the initial charter allocation by using 50% of the result of the percentage-based allocation and 50% of the fixed-poundage allocation over the same historic period of time. The years used to determine these allocation amounts are the same year combinations used for Option 2 to calculate the fixed poundage allocation. Option 3a is based on the percentages for Area 2C and 3A that were generated under Option 1a and the fixed pounds that were generated under Option 2a. The percentages from Option 1a and the fixed pounds from Option 2a were then divided by 2 to calculate the allocation estimates for Option 3a. The fixed poundage component of this alternative can be viewed as the floor of the charter allocation. If there is a sufficient amount of the combined commercial and charter catch limit, the charter sector would always receive that level of an allocation. The remainder of their allocation for the common pool would be determined by the percentage of the combined commercial and charter catch limit the charter sector is apportioned. That amount would fluctuate when the combined commercial and charter catch limit, set by the IPHC, changes.

Option 3b is based on the years 2000-2004. Because those years were not an alternative under Option 1, the percentage was calculated for Option 3 using the same formula used in Options 1a and 1b. One-half of the resulting percentage was used in Option 3b. The fixed poundage amount was calculated as half of Option 2b. Option 3c is calculated by taking half of the percentage calculated for Option 1b and half of the pounds calculated under Option 2c. The results of those calculations are shown in Table 24.

**Table 24 Option3a–Option 3c based on 50% fixed pounds and 50% fixed percentage**

Option	Area 2C		Area 3A	
	%	M lbs.	%	M lbs.
<b>3a (125% of 1995-1999)</b>	6.5%	0.72	7.1%	1.82
<b>3b (125% of 2000-2004)</b>	8.2%	0.85	8.0%	2.01
<b>3c (125% of 2001-2005)</b>	8.6%	0.95	7.7%	2.07

Source: ADFG

## 2.5.2 Future Harvest Projections

During the October 2007 Council meeting the Council, SSC, and AP were presented an analysis that provided projections of charter harvest for the 2006-2015 fishing years. After reviewing that information the SSC recommended that the projections be revised using a different model and that the number of years projected forward be decreased. To make the new projections, an ARIMA model (Auto-Regressive Integrated Moving Average) was run using ADFG harvest estimates from 1996-2006. Data used in the model for Area 2C and Area 3A are shown in Table 25. In that table, harvest is the historic charter harvest, SE (yield) is the standard error of the yield variable, L95%CI is the lower bound of the 95% confidence interval, and U95%CI is the upper bound of the 95% confidence interval. The ARIMA model includes a weighting system that accounts for the standard errors associated with ADFG's harvest estimates and autoregressive and moving average data components. Under this model, new charter harvest projections were made for the years 2007-2011. The shorter projection period was used because uncertainty of the results increases as the time increases between the actual harvest data and the year projected.

**Table 25 Charter harvest (in M lbs) and standard errors**

Year	Harvest	SE(Yield)	L95%CI	U95%CI	RP
Area 2C					
1996	1.19	0.07	1.051	1.322	5.8%
1997	1.03	0.06	0.914	1.153	5.9%
1998	1.58	0.22	1.153	2.015	13.9%
1999	0.94	0.05	0.835	1.043	5.6%
2000	1.13	0.07	1.001	1.258	5.8%
2001	1.20	0.06	1.079	1.326	5.2%
2002	1.28	0.07	1.143	1.408	5.3%
2003	1.41	0.07	1.281	1.543	4.7%
2004	1.75	0.09	1.582	1.918	4.9%
2005	1.95	0.09	1.767	2.138	4.8%
2006	1.80	0.09	1.628	1.979	5.0%
Area 3A					
1996	2.82	0.09	2.648	2.995	3.1%
1997	3.41	0.11	3.201	3.625	3.2%
1998	2.98	0.11	2.771	3.199	3.7%
1999	2.53	0.08	2.373	2.693	3.2%
2000	3.14	0.10	2.945	3.335	3.2%
2001	3.13	0.10	2.940	3.325	3.1%
2002	2.72	0.11	2.509	2.938	4.0%
2003	3.38	0.10	3.180	3.584	3.0%
2004	3.67	0.10	3.474	3.863	2.7%
2005	3.69	0.11	3.471	3.906	3.0%
2006	3.66	0.11	3.451	3.876	3.0%

Source: ADFG

Table 26 shows estimates of future charter harvests in Area 2C for the years 2007-2011. The harvest estimates are made based on the status quo management measures that are expected to be in place during

the year of the projection. In IPHC Area 2C, those measures include the length limit<sup>20</sup> imposed for 2007. The harvest estimates also assume that the one-fish bag limit would be in place for 2008–2011. Projections for 2008–2011 include those management measures in addition to the prohibition on harvest by skipper and crew and the limit on fishing lines to six or the number of clients on board the vessel, whichever is less. Because management measures like the one-fish bag limit are expected to impact client demand, harvest projections are included that estimate demand change. Estimates are also made that assume the management measures do not impact client demand. Given the uncertainty regarding how client demand would change in Area 2C, an estimate using the average of the two methods has also been included. The average of the two methods would be used in this document when comparing projected harvest to the sector allocations. The harvest projections using the other demand assumptions are included here, but for simplicity are not directly compared to the allocation options.

The Area 2C harvest projection table is divided into four sections. Unadjusted projections are shown on the left side of Table 26. Harvest projections are reported in millions of pounds and are included in the field labeled “Removal M lbs”. Those are the estimated harvests those years using the ARIMA model. The next column reports the Standard Error (SE M lb) of the harvest. The L95%CI and U95%CI columns report the lower and upper 95% confidence intervals of the harvest projections. **It should be noted that the estimated standard errors and confidence intervals are probably too small. The smaller than realistic confidence interval estimates are a result of the analytical form of the model.** If the projections are too small, then we cannot be 95% confident that the harvest in those future years would fall within the bounds of the upper and lower confidence intervals.

The three sections on the right side of Table 26 show the projected charter harvests that are adjusted to account for new management measures and changes in client demand that result from the new management measures. Columns under the “Status Quo-Less Effective” title multiply the unadjusted projections by a factor of 0.803 in 2007. In 2008–2011, because of the different management measures (e.g., one-fish bag limits) that are expected to be in place those years, the factor is reduced to 0.603. These factors were derived using information developed by Northern Economics, Inc (NEI) as part of the Area 2C and Area 3A management actions to limit charter growth under the GHL. As discussed earlier, the upper and lower confidence intervals are calculated by multiplying the standard error by 1.96 and adding or subtracting the product to or from the adjusted harvest projection. The “Status Quo-Most Effective” section of the table adjusts the charter harvest projections by a factor of 0.739 in 2007 and 0.422 in 2008–2011. The “Status Quo-Average Effective” was calculated using the average of the factors under the less and most effective estimates. The result is that the unadjusted harvest projections were multiplied by 0.771 in 2007 and 0.513 in 2008–2011 to calculate the adjusted harvest estimate. These are the projected harvest levels that would be used to compare the sector allocations proposed in this amendment.

Table 27 shows the harvest projections for Area 3A. Those projections include the skipper and crew harvest ban that is assumed to be in place through 2011. Management measures that are assumed to be in place for 2008-2011 are not expected reduce client demand for trips. Therefore, the projections do not need to account for changes in client demand as do the projections in Area 2C.

The ban on skipper and crew harvest imposed in 2007 is expected to reduce the unadjusted harvest projections by a factor of 0.896. NEI provided the estimated reduction percentage based on their earlier work on management measures for the GHL. This factor is used to adjust all of the projected years of harvest in Area 3A, 2007-2011.

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<sup>20</sup> One halibut may be of any length and the second halibut must be less than 32”

**Table 26 Projected charter halibut harvests in Area 2C under the status quo, 1996–2011**

Year	Unadjusted Projections				Status Quo-Less Effective			Status Quo-Average Effective			Status Quo-Most Effective		
	Removal (M lb)	SE (M lb)	L95% CI	U95% CI	Removal (M lb)	L95% CI	U95% CI	Removal (M lb)	L95% CI	U95% CI	Removal (M lb)	L95% CI	U95% CI
1996	0.973	0.037	0.901	1.046									
1997	1.069	0.079	0.914	1.131									
1998	1.157	0.002	1.153	1.209									
1999	1.241	0.207	0.835	1.286									
2000	1.327	0.166	1.001	1.368									
2001	1.337	0.131	1.079	1.376									
2002	1.434	0.149	1.143	1.476									
2003	1.512	0.118	1.281	1.561									
2004	1.596	0.007	1.582	1.653									
2005	1.699	0.035	1.767	1.766									
2006	1.814	0.095	1.628	1.892									
2007	1.892	0.045	1.803	1.981	1.519	1.430	1.608	1.459	1.370	1.548	1.332	1.243	1.422
2008	1.949	0.051	1.848	2.049	1.176	1.075	1.276	0.999	0.899	1.100	0.781	0.680	0.881
2009	2.030	0.057	1.918	2.143	1.225	1.113	1.338	1.041	0.929	1.154	0.810	0.698	0.923
2010	2.109	0.064	1.984	2.233	1.273	1.148	1.397	1.082	0.957	1.206	0.838	0.714	0.963
2011	2.190	0.070	2.054	2.327	1.322	1.185	1.458	1.123	0.987	1.260	0.867	0.731	1.004

Source: NEI projections using ADFG data

Note: The upper confidence interval is calculated by multiplying the standard error by 1.96 and adding the result to the harvest projection. The same procedure is followed to calculate the lower bound, except the multiple of the standard error is subtracted from the harvest projection.

**Table 27 Projected charter halibut harvests in Area 3A under the status quo, 1996–2011**

Year	Unadjusted Projection				Adjusted for Status Quo		
	Yield M lb	SE (M lb)	L95%CI	U95%CI	Yield M lb	L95%CI	U95%CI
1996	2.741	0.058	2.627	2.855			
1997	2.844	0.049	2.747	2.940			
1998	3.051	0.041	2.970	3.131			
1999	2.682	0.034	2.615	2.749			
2000	2.981	0.029	2.924	3.038			
2001	3.482	0.027	3.429	3.536			
2002	3.063	0.029	3.006	3.121			
2003	3.202	0.035	3.134	3.270			
2004	3.787	0.042	3.705	3.869			
2005	3.445	0.050	3.347	3.543			
2006	3.611	0.059	3.495	3.727			
2007	3.638	0.050	3.541	3.735	3.172	3.075	3.270
2008	3.754	0.057	3.643	3.865	3.264	3.153	3.375
2009	3.896	0.064	3.771	4.021	3.379	3.254	3.504
2010	3.968	0.071	3.829	4.107	3.431	3.292	3.570
2011	4.027	0.078	3.874	4.180	3.471	3.318	3.624

Source: NEI projections using ADFG data

Note: The upper confidence interval is calculated by multiplying the standard error by 1.96 and adding the result to the harvest projection. The same procedure is followed to calculate the lower bound, except the multiple of the standard error is subtracted from the harvest projection.

### 2.5.2.1 Comparing Charter Allocations to Projected Harvest

To determine the effect of the proposed charter sector allocation options it is important to know whether the allocation would trigger additional management measure to constrain harvest, if management measures already in place could be loosened, or if it is appropriate to continue the current management program. Note that management measures apply to the common pool of halibut allocated to the sector. Another class of halibut that may be available to the charter sector are Guided Angler Fish (GAF). The concept of GAF is discussed in detail under Element 5. GAF that are leased from the commercial sector are outside of this discussion because they are managed separately from the open access pool of halibut.

If the charter sector's allocation of common pool fish is just sufficient to meet the needs of the charter sector, then management measures would likely not change. However, if the allocation is too small to cover client demand for harvesting halibut, the management agencies would need to impose harsher management measures in the future to constrain charter harvests. As stated in the Council's objectives, the goal is to keep the charter sector at or below their allocation over a five-year moving average. If the client demand for trips and halibut is less than the sector allocation in that area, then some of the management measures that are in place could be eliminated.

When comparing the charter allocation to the projected harvest it is important to consider the overall landscape of the halibut fishery. Based on input from the SSC, at their October 2007 meeting, the projections of future charter harvests used in this amendment were modified. The future time period covered by the projections was reduced to the five-year period from 2007–2011. Starting in 2008 the CEY in Area 2C that is set by the IPHC was substantially reduced. The CEY in Area 3A was also reduced, but not to the extent of the Area 2C reduction. Because of the smaller CEYs, the projected allocations to the commercial sectors are smaller than historic averages. The allocations to the charter sector are also smaller than would have occurred under CEYs during the 1995–2007 time period, when their allocation is percentage based. IPHC CEY projections from 2008 through 2013 indicate that the CEY would increase in both Areas each year. The increasing CEYs would increase the commercial, and perhaps charter, allocation. Therefore, the years reported in this amendment are cover a period of time that is expected to yield historically low commercial, and perhaps charter, allocations.

Charter harvest estimates are compared to the charter sector allocations to show which allocations would fund the common pool without the need to impose different management measures. The projected harvests and allocations for Area 2C are presented in Table 28. The table shows the projected allocation for each of the Council's alternatives. Those alternatives are then compared to the projected harvest for the years 2007–2011. For years when the allocation is less than the lower bound of the 95% confidence interval, the numbers in the table are in bold print and underlined. Because the allocations are less than the projected harvest, additional management measures may be needed to keep the charter sector under their allocation for the five-year average. When the allocation is greater than the upper bound of the 95% confidence interval, the numbers in the table are only in bold print. Finally, when the allocation falls within the calculated 95% confidence interval for harvest, the allocation amount is in normal font.



**Table 28 Area 2C allocation amount and its relation to projected harvest, 2007–2011**

Year	Percentage Based Allocations				Fixed Pound Allocation			Mixed Allocation		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	1.38	<b>1.82</b>	<u>1.24</u>	<b>1.61</b>	1.43	<b>1.69</b>	<b>1.90</b>	1.40	<b>1.59</b>	<b>1.73</b>
2008	1.01	<b>1.32</b>	0.90	<b>1.17</b>	<b>1.43</b>	<b>1.69</b>	<b>1.90</b>	<b>1.21</b>	<b>1.24</b>	<b>1.36</b>
2009	<u>0.87</u>	1.15	<u>0.78</u>	1.01	<b>1.43</b>	<b>1.69</b>	<b>1.90</b>	1.15	<b>1.31</b>	<b>1.44</b>
2010	<u>0.87</u>	1.14	<u>0.78</u>	1.01	<b>1.43</b>	<b>1.69</b>	<b>1.90</b>	1.15	<b>1.38</b>	<b>1.52</b>
2011	<u>0.90</u>	1.18	<u>0.80</u>	1.04	<b>1.43</b>	<b>1.69</b>	<b>1.90</b>	1.16	<b>1.45</b>	<b>1.58</b>

Source: IPHC projections using NEI harvest projections from ADFG data.

Note: For years in bold and underlined print, the allocation is less than projected harvest; for years shown in bold print but not underlined, the projected harvest is under the allocation; and for years with normal fonts the allocation is within the 95% confidence interval of projected harvest.

Estimates of historic combined commercial and charter catch limits are not available. The IPHC has indicated that they can provide a combined commercial and charter catch limit number if the Council requests they do so. At the request of the analysts, the IPHC staff has generated estimates of a combined commercial and charter catch limit for the years 2007-2011. The estimate was calculated using Fishery CEY projections for those years and slow-up fast-down. To calculate the Fishery CEY for this analysis, the unguided sport harvest, bycatch mortality, personal use/subsistence, and wastage (and research) amounts reported for 2004, 2005, and 2006 were averaged. Those years were selected because personal use/subsistence numbers were assumed to be 0.17 M lbs in Area 2C from 1998-2003. However, in 2004 the estimated personal use/subsistence number increased to 0.628 M lbs after surveys were conducted to estimate removals. In 2005 personal use/subsistence was 0.598 M lbs and in 2006 it was .590 M lbs. Because of the change in how that number is determined and the magnitude of the change after 2003, years prior to the change were not included. Other halibut uses over that time period were more consistent than the personal use/subsistence category. Using the averages from 2004 and 2005 results in a total of 1.73 M lbs and 3.71 M lbs being deducted from the Area 2C and 3A CEYs, respectively, to calculate the Fishery CEY. The slow-up fast-down model was then applied to the estimate the combined commercial and charter catch limit. That catch limit was then multiplied by the allocation percentages to determine the M lbs of halibut the charter sector would be allocated each year for the common pool. The allocations can then be directly compared to the projected harvests.

Options 1a through 1d are the percentage based allocations (Table 29). In Area 2C, the charter fleet's projected harvest is expected to exceed their allocation over the 2007–2011 five-year average, under Options 1a and 1c. This could result in additional management measures being imposed to keep the charter sector under their allocation. Note that the management options assumed to be in place already include a one-fish daily bag limit. Reducing the charter harvest in Area 2C would require more restrictive management measures. Allocation Options 1b and 1d are expected to result in an allocation that would be slightly larger than the harvest in 2007 and 2008. During 2009-2011 the allocation is estimated to fall within the 95% confidence intervals of the projected harvest. Depending on the years used to determine the five-year rolling average at the beginning of the program, implementing slightly a less stringent management measures may be possible. If the Council's preferred alternative does not match future harvests the Council may need to initiate a new regulatory amendment to adjust charter harvest.

**Table 29 Area 3A allocation amount and its relation to projected harvest, 2007-2011**

Year	Percentage Based Allocations				Fixed Pound Allocation			Mixed Allocation		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	<b>4.28</b>	<b>4.68</b>	<b>3.86</b>	<b>3.86</b>	<b>3.65</b>	<b>4.01</b>	<b>4.15</b>	<b>3.98</b>	<b>4.44</b>	<b>4.41</b>
2008	<b>4.53</b>	<b>4.95</b>	<b>4.08</b>	<b>4.08</b>	<b>3.65</b>	<b>4.01</b>	<b>4.15</b>	<b>4.10</b>	<b>4.57</b>	<b>4.55</b>
2009	<b>4.66</b>	<b>5.09</b>	<b>4.20</b>	<b>4.20</b>	<b>3.65</b>	<b>4.01</b>	<b>4.15</b>	<b>4.17</b>	<b>4.65</b>	<b>4.62</b>
2010	<b>4.67</b>	<b>5.10</b>	<b>4.21</b>	<b>4.21</b>	<b>3.65</b>	<b>4.01</b>	<b>4.15</b>	<b>4.18</b>	<b>4.66</b>	<b>4.63</b>
2011	<b>4.85</b>	<b>5.29</b>	<b>4.37</b>	<b>4.37</b>	<b>3.65</b>	<b>4.01</b>	<b>4.15</b>	<b>4.27</b>	<b>4.75</b>	<b>4.72</b>

Source: Source: IPHC projections using NEI harvest projections from ADFG data.

Note: Years in Bold and underlined print the allocation is less than projected harvest, years that are shown in bold print the projected harvest is under the allocation, and years with normal fonts the allocation is within the 95% confidence interval of projected harvest.

Additional, management measures may be needed under the Option 1a and 1c allocation alternatives to keep the charter sector at or below their allocation over a five-year period. However, allowing the charter sector to purchase GAF from the commercial sector could reduce the need for additional management measures. Based on the estimates provided, the charter sector would need to purchase about 0.13 M lbs of halibut under Option 1a and 0.24 M lbs under Option 1c to cover their projected harvest overage. With the information that is currently available, it is not possible to determine whether the charter sector would be willing or able to lease a number of halibut to make up the difference.

The Council has stated that their objective is to keep the charter sector at or below their allocation over a rolling five-year average. It is clear how this average would be calculated after the program has been implemented for five years. What is unclear is how the five-year rolling average would be calculated during the first four years of the program. It is not possible to include years when the charter sector exceeded their GHl and possibly their allocation under this action. Including those years could place an undue burden on the charter sector because of harvests prior to this program. To make up for past years overages the charter sector's future catches would need to be reduced even more than they are projected to be in this amendment. Therefore, it may be appropriate to only use the years after the program is implemented to determine if the charter sector is within their allocation. This would mean either starting the rolling average calculation after five years or perhaps starting with one year and increasing the average every year until the 5<sup>th</sup> year of the program is complete. From that point forward, a five-year rolling average could be used to determine if the charter sector is exceeding its allocation.

Under Option 2, the charter sector is allocated a fixed number of pounds. Because the Area 2C CEY has declined substantially from 2006 to 2008, keeping the charter allocation fixed provides charter operators a larger allocation than when it is based on a percentage of the combined charter and commercial catch limit. Because of the fixed allocation and the more stringent management measures imposed on the Area 2C charter sector in 2007 and 2008, the charter sector is projected to harvest at a level below its allocations under Option 2. Only Option 2a, during 2007, is projected to fall within the 95% confidence intervals for charter harvests. Every other year the allocation is projected to exceed the upper bound of the 95% confidence interval. Allocations resulting from Options 2b and 2c are projected to be larger than the upper bound of the 95% confidence interval every year from 2007–2011.

Based on the five-year average of projected charter harvest and the fixed-poundage allocation under Options 2a through 2c, the charter sector is 0.29 M lbs, 0.55 M lbs, and 0.76 M lbs under its allocation on

average. Because the sector is projected to harvest less than its allocation, the council may be able to relax some of the management measure to allow increased charter harvest.

Because Option 3 allocations are a combination of the fixed percentage and fixed pound allocations discussed under Options 1 and 2, it is not surprising that the allocation amount falls between those two options. Since the allocation under Option 1a and 1c are not expected to cover projected charter harvests and all the allocations under Option 2 exceed projected charter harvests, the allocations under Option 3 provide allocation amounts that are closer to the charter harvests expected for the years 2007–2011. Option 3a is smaller than the projected harvest in 2007, but falls within the 95% confidence interval of projected harvest for the years 2007, 2009, 2010, and 2011. The charter allocation is projected to exceed their harvest in 2008. Options 3b and 3c are both projected to generate an allocation that is larger than the status quo harvest in the years 2007–2011.

It is important to note here that while the projected harvests and allocations are closer under Option 3, it does not necessarily mean that it is a superior management alternative. It simply means that the allocation results are closer to the harvest level than is expected to occur under the status quo management regime. Many members of the charter sector would likely argue that the status quo management measures are too strict. The one-fish bag limit would reduce client demand and could reduce net revenue generated by Area 2C charter businesses. These charter operators may argue that a larger allocation that removes some of the recently imposed management measures would be more acceptable. Commercial halibut harvesters, on the other hand, would likely argue that the pounds of halibut generated by the QS they hold is also being reduced by the smaller CEY. They could argue that the increases in ex-vessel price that result from the lower quantity of halibut produced are not expected to offset the gross revenue reductions associated with the smaller harvest. These arguments and the fact that the analysis cannot provide annual, quantitative estimates of net benefits to the Nation under each alternative mean that the selection of an alternative must be based on the best judgment of the policy makers.

In Area 3A, the allocation Options 1a through 1d would provide the charter sector an amount of halibut that would likely be over its needs, based on the status quo management measures expected to be in place from 2007-2011. On average, during those five years, the charter sector is projected to harvest 1.25 M lbs, 1.68 M lbs, 0.80 M lbs, and 0.80 M lbs less than their allocation under Options 1a through 1d, respectively. This set of options should provide some room for future growth in charter harvests.

The fixed poundage allocation options (Options 2a–2c) are also projected to result in an allocation to the charter sector that is larger than their projected harvest. However, their projected harvest is shown to increase over time, and the buffer between the Option 2a allocation and the upper bound of the 95% confidence interval for harvest in 2011 is only 0.03 M lbs. Under Option 2b the allocation is 0.39 M lbs over the projected harvest at the upper bound of the 95% confidence interval and 0.53 M lbs under Option 2c.

The allocations under Options 3a through 3c are all larger than the projected harvests at the upper end of the 95% confidence interval. On average, over the five years, the Option 3a allocation is 0.80 M lbs larger than the projected harvest. Options 3b and 3c are both projected to be 1.27 and 1.24 M lbs under the allocation, respectively.

The allocation options being considered for Area 2C and 3A, while based on the same formulas, could have very different impacts. Because of the different impacts on the two areas, the Council may consider selecting a different option for each area. The analysis in this document was designed to give the Council that latitude.

When considering the estimates that are provided in this section, note that the results are dependent on the assumptions used to make the calculations. These are outlined next.

1. Charter sector harvests are estimated for the years 2007-2011. An ARIMA model was run in STATA using ADFG estimates of harvest from the years 1996-2006. Standard Errors were provided by ADFG to allow 95% confidence intervals to be estimated. It must be noted that the standard errors and 95% confidence intervals may be too narrow.
2. Harvest estimates for the years 2007-2011 were based on the management measures anticipated to be in place those years. The IPHC Area 2C management measures for 2007 include a ban on skipper and crew harvests; a line limit of six per vessel or the number of clients on board, whichever is lower: a two-fish bag limit; and a requirement that one of the two fish be less than 32". For 2008, the skipper and crew harvest ban and the line limits would remain in place. A one-fish bag limit would also be implemented. The size limit on the second fish is dropped because of the one-fish bag limit. In IPHC Area 3A, a two-fish bag limit and a ban on skipper and crew harvest are expected to be in place every year from 2007- 2011.
3. An estimate of 2007-2008 combined charter and commercial catch limits was provided by IPHC staff. Those catch limits incorporated the slow-up and fast-down model applied to estimated fishery CEYs.
4. The estimated combined commercial and charter catch limit is then multiplied by the percentage allocation in Options 1a-1c and Options 3a-3c to estimate the pounds that would be allocated under each option.
5. The commercial allocation is calculated by subtracting the projected charter allocation from the combined catch limit.
6. It should be noted that the projections assume the charter sector the combined catch limit is fully attained. That means the catch limit is neither exceeded nor are fish left in the water. Any deviation from that assumption would affect the CEY for the following year, which would impact the Fishery CEYs and subsequent catch limits.

### 2.5.2.2 Changes in Average Size of Charter Halibut

Because the IPHC accounts for halibut in pounds and charter clients harvest fish, a conversion factor is needed to convert pounds of halibut into number of halibut. The conversion factor is important because it varies from year-to-year and it affects when the charter sector is assumed to reach its allocation. To help explain the issue consider the charter mean net weight in Areas 2C and 3A from 1995-2006. Those estimates are provided by ADFG and are shown in Table 30. If the mean weights are biased, the estimates of charter harvest may be too low or high.

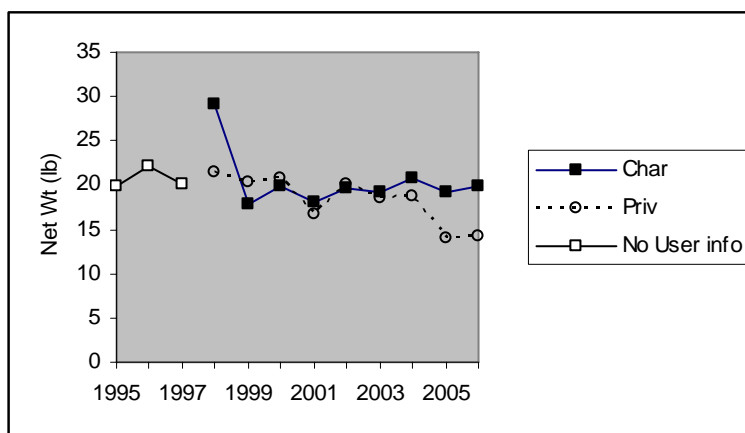
**Table 30 Charter mean net weight (lb), Areas 2C and 3A, 1995-2006**

Year	Area 2C	Area 3A
1995	19.9	20.6
1996	22.1	19.7
1997	20.2	22.3
1998	29.1	20.8
1999	17.8	19.2
2000	19.8	19.7
2001	18.1	19.2
2002	19.7	18.2
2003	19.1	20.7
2004	20.7	18.6
2005	19.1	17.8
2006	19.9	17.9

Source: ADFG

To understand the weights presented in the table, readers should be aware of how those weights are derived. Estimates of average weight collected in Area 2C during 1995-1997 were not charter-specific because the user group (charter/private) was not recorded when fish were measured. Estimates of mean weights for these years are for a mixture of private-caught and charter-caught fish.

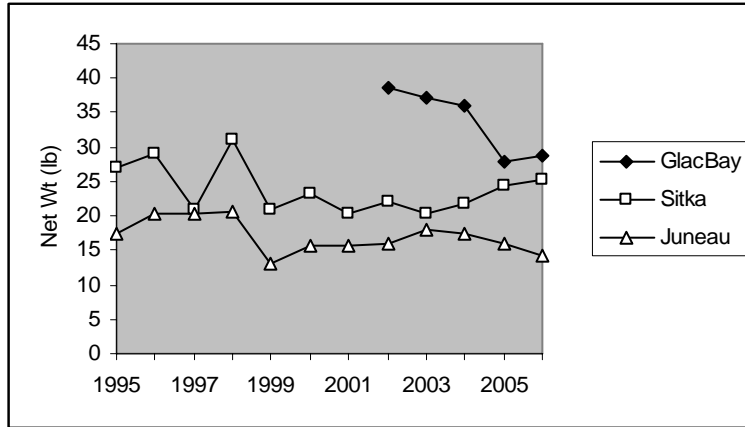
Figure 10 compares the Area 2C mixed charter and private mean weights for 1995-1997 with the charter-specific and private-specific mean weights for 1998-2006. The charter mean weight in 1998 is much higher than all subsequent years. Charter mean weight was relatively stable after that and not substantially different from the private mean weight from 1999 to 2004. It is possible that the 1998 charter mean weight estimate was biased high because it does not fit the trend, and there would have to have been a large discrepancy between the charter and private mean weights for the mixed average to be so similar to the trend.



**Figure 10 Average net weight of halibut harvested by user group, 1995–2006**

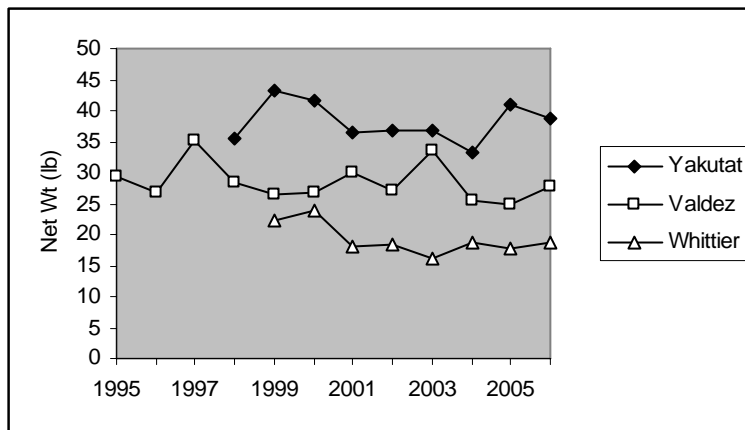
Also, sampling was not conducted at all ports representing each of the various subareas within Area 2C or 3A each year. In order to estimate the total weight of the charter harvest, the estimates of the number of fish harvested in each subarea are multiplied by the mean weights representing harvest in each subarea. If there is no sampling and no mean weight estimate for a subarea, the mean weight from another area is typically substituted. No sampling was conducted in the Glacier Bay subarea until 2002 (Figure 11). The mean weight from Juneau was substituted for the years 1995-1999, and the mean weight from Sitka was substituted for the years 2000-2001. The chart below suggests that the mean weight in the Glacier Bay area was substantially higher than the substituted weights from Juneau or Sitka. Therefore, substituting mean weights from one area for another area could bias the estimates.

In addition for Area 2C, no sampling has been conducted in the Haines/Skagway area due to the small magnitude of harvest. Mean weights from Juneau have been substituted all years. It is unknown whether this substitution is reasonable, but errors would have had little effect on the total estimates of removals because the harvest at Haines/Skagway typically represents only about 1% of number of fish harvested in Area 2C.



**Figure 11 Mean halibut weights for fish harvested in the area around Juneau, Glacier Bay, and Sitka, 1995–2006**

In Area 3A, no significant sampling was conducted at Whittier before 1999 or at Yakutat before 1998. Harvest estimates for Prince William Sound (PWS) were not broken out before 1999, so the Valdez mean weight was applied to all halibut harvested in PWS. In addition, Valdez mean weight data were applied to harvest in the Yakutat area. Figure 12 shows that mean weight has been substantially higher at Yakutat than at Valdez every year since sampling began, and that mean weight at Valdez is higher than at Whittier. Since the mean weight at Whittier shows a slight downward trend since 1999, it is possible that mean weights were similar before that time. The effect of underestimating mean weight at Yakutat on the Area 3A GHJ would have been minor, because the harvest at Yakutat represents a small proportion of the total Area 3A harvest.



**Figure 12 Mean net halibut weights for the areas around Yakutat, Valdez, and Whittier, 1995–2006**

Assuming the charter sector is allocated 1.43 M lbs in Area 2C and 3.65 M lbs in 3A, we can compare the number of halibut that could be harvested and still remain under the allocation. These allocations are only used for illustrative purposes and are not intended to imply that the Council is considering this option above any others. Based on the calculations presented in Table 31, in Area 2C, a 1.43 M lb allocation would result in the charter sector being able to harvest between 69,082 and 80,337 halibut. The difference of about 11,000 halibut is due solely to the change in average halibut weight. Therefore, during years when average size of a halibut applied to the allocation is relatively large, the number of fish that could be harvested before exceeding their allocation would be reduced. Assuming a constant catch per client, few

clients could take a trip before the allocation is taken or before more restrictive management measures need to be implemented. When the average fish size used for the conversion is smaller, the charter sector may harvest more fish before it reaches its allocation and is less likely to require additional management measures

**Table 31 Number of halibut the charter could harvest and remain under the assumed allocation based on average halibut weights that year**

Year	2C	3A
1999	80,337	190,104
2000	72,222	185,279
2001	79,006	190,104
2002	72,589	200,549
2003	74,869	176,329
2004	69,082	196,237
2005	74,869	205,056
2006	71,859	203,911

Source: ADFG halibut net weight estimate for 1999-2006 and an assumed allocation of 1.43 M lbs in Area 2C and 3.65 M lbs in Area 3A.

### 2.5.3 Element 2 – Annual Regulatory Cycle

*The initial charter allocation would be a common harvest pool for all charter limited entry permit holders. It would not close the fishery when the charter allocation is exceeded. Instead, the allocation would be linked to an annual regulatory analysis of management measures (delayed feedback loop) that take into account the projected CEY for the following year and any overages by the charter industry in the past year(s). This system would work best if there is not a time lag between the overage year and the payback year. The Council would not revisit or readjust the sector split. An allocation overage would trigger the regulatory process automatically, in contrast with current GHL management. Any underages would accrue to the benefit of the halibut biomass and would not be reallocated or paid forward. The Council assumes (and would request) that the International Pacific Halibut Commission set a combined charter and commercial sector fishery catch limit and apply the allocations between the two sectors that would be recommended by the Council in a type of catch sharing plan to the combined fishery catch limit.*

The second element of the Council’s proposed alternative addresses its planned management response to an overage of the charter halibut sector allocation that would be decided under Element 1. The Council has proposed continuation of the current regulatory amendment process, but one with a tighter linkage between an overage and subsequent action(s) to prevent further overages by reducing charter harvests. Nothing under Element 2 would be included in Federal regulations, but is intended to clarify the Council’s intent for those elements that would be written into regulation.

Under Element 2, the Council also states its intent that the charter sector allocation would be allocated to the universe of charter limited entry permit holders in each area and would be fixed at the level decided under Element 1<sup>21</sup>. The Council states its intent not to consider increasing the charter sector allocation

<sup>21</sup> except as modified under Element 5 whereby individual charter LEP holders would acquire commercial IFQs to allow their anglers to be exempt from restrictive measures implemented on charter halibut anglers who fish under the common pool allocation.

when and if the allocation is determined to be binding to the charter sector<sup>22</sup>. The Council states its intent that any overage would not close the fishery in-season; instead, it states its intent to act as quickly as possible in recommending changes to Federal regulations that would result in charter halibut harvests equal to or less than the allocation during the next charter season, at the earliest. It acknowledges that it may select more restrictive measures to ensure that the allocation is not exceeded because accurate projections of charter halibut harvests can not be made because of the following unknowns: (1) number of future charter halibut anglers; (2) size (and weight) of halibut harvested; and (3) the allocation (if any part of the charter allocation floats in proportion to the annual IPHC action to set a combined commercial and charter quota. Underages would not be reallocated, but would revert back to the biomass.

The Council also states its intent to request that the IPHC implement the Council’s catch sharing plan (CSP) between the commercial and charter halibut sectors each year. The IPHC already applies the CSPs for Area 2A and Area 4CDE each year.

*Note that depending on the Council’s selection of a preferred alternative under Element 1, a trailing regulatory amendment may be needed to restrict charter halibut harvests to the (new) sector allocation. That amendment may be to relieve current restrictions if the new allocation(s) is higher than harvests when implemented or to enact restrictive measures if the new allocation(s) is lower than current harvests when implemented.*

## 2.5.4 Element 3 – Management Tool Box

Element 3 establishes the management toolbox to be used by the Council if the charter industry exceeds its allocation. The Council would select the tool (or tools) that allow it to reduce charter harvest by an amount that is likely to allow the industry to “pay back” the halibut biomass that amount of the overage(s) in the preceding year(s). Element 3 establishes two tiers of measures that the Council can use to manage the charter common pool (Table 32). Tier 1 contains measures that allow the Council to manage the charter common pool for a season of historic length and a two-fish daily harvest limit. Tier 2 contains measures that could affect the season’s length or the daily catch limit. In addition, it includes the option of an annual limit.

**Table 32 Measures by tier**

<b>Tier 1</b>	<b>Tier 2</b>
One Trip per Vessel per Day	Annual Catch Limits
No Retention by Skipper and Crew	One Fish Bag Limit for all or a portion of the Season
Line Limits	Season Closure
Second Fish of a Minimum Size	
Second Fish at or below a Specific Length	

If the Council is to meet the regulatory cycle discussed in Element 2, it may choose to rely on estimates from past GHL analyses (NPFMC, 2007b and NPFMC, 2007c) to estimate the effect of each management measure on the charter industry’s harvest. Table 33 shows the estimated effect of each management measure by sub-option as analyzed and reported by NPFMC (2007b) and NPFMC (2007c). Note that the analyses did not look at the same sub-options for each management area as the Council tailored the sub-options to fit each area’s individual management needs. The analysis notes the following about each management measure.

<sup>22</sup> Some of the allocation options under Element 1 would be binding on the charter sector upon implementation. Opportunities to lease commercial IFQ under Element 5 would allow for increases in charter harvests by individual charter LEP holders rather than the sector as a whole.



**Table 33 Estimated effect of management measures**

Tier	Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
			Area 2C	Area 3A <sup>23</sup>
Tier 1	One Trip per Vessel per Day	None	1.8%-2.4%	5.5-6.3%
	No Retention by Skipper and Crew	None	4.3%-4.7%	10.4%
	Line Limits <sup>24</sup>	None	Not Analyzed	Not Analyzed
	Second Fish of a Minimum Size <sup>25</sup>	45"	18.8%-27.0%	32.5%-39.3%
		50"	23.1%-30.8%	36.9%-43.3%
	Second Fish at or below a Length Limit <sup>26</sup>	32 Inches	19.7%-26.1%	18.2%-24.5%
		34 Inches	Not Analyzed	15.2%-21.1%
		36 Inches	Not Analyzed	12.1%-18.3%
	Annual Catch Limits	Four Fish	16.4%	6.5%
		Five Fish	9.3%	4.1%
Six Fish		4.3%	2.1%	
Tier 2	One Fish Bag Limit for All or a Portion of the Season <sup>27</sup>	Full Season	39.7%-57.8%	47.1%-62.9%
		May	1.8%-2.6%	5.0%-6.6%
		June	10.0%-14.6%	12.4%-16.5%
		July	14.5%-21.1%	17.8%-23.8%
		August	12.0%-17.5%	9.9%-13.2%
		September	1.4%-2.0%	1.8%-2.9%
		Season Closure <sup>28</sup>	Full Season	100.0%
May	5.2%		10.5%	
June	25.7%		26.0%	
July	35.4%		37.7%	
August	29.9%		21.2%	
September	3.7%		4.0%	

Source: NPFMC (2007b) and NPFMC (2007c).

<sup>23</sup> Numbers for Area 3A reflect the analysis for NPFMC (2007c) updated with ADF&G's final 2006 harvest estimates.

<sup>24</sup> Neither NPFMC (2007b) nor NPFMC (2007c) analyzed line limits as an individual option.

<sup>25</sup> Upper estimates include an assumption of a 10% reduction in the demand for halibut charter trips.

<sup>26</sup> Upper estimate assumes that anglers catch the average fish below the length limit based on biomass. Lower estimate assumes that anglers are able to high-grade by one two-inch size class.

<sup>27</sup> Upper estimates include an assumption of a 30% reduction in the demand for halibut charter trips. The analysis did not make any adjustments for anglers rescheduling their trips to other parts of the season which do not include the one-fish bag limit.

<sup>28</sup> Estimates based on ADF&G data provided for NPFMC (2007b) and NPFMC (2007c). Estimates do not include the effect of anglers migrating to other months or otherwise adapting to the closure.

## 2.5.4.1 Tier One Management Measures

### 2.5.4.1.1 One Trip per Vessel per Day

The recent GHL analyses estimated that limiting vessels to one trip per day would reduce harvest between 1.8% and 2.4% in Area 2C and between 5.5% and 6.3% in Area 3A (Table 34). However, the analyses noted that these numbers assume that none of the displaced passengers were able to reschedule their trip on other vessels during the season. Both of the GHL analyses and NPFMC (2007a) noted latent industry capacity that could allow a sizeable portion of displaced passengers to find replacement trips. Hence, the overall savings associated with this measure are likely to be smaller than the estimates provided above. Additionally, NPFMC (2007b), NPFMC (2007c), and NPFMC (2006) noted that the economic burden associated with this measure would be borne by providers whose business models focused on providing more than one trip per day. NPFMC (2007b) and public testimony at the Council's June 2007 meeting described how the economic effect of this measure in Area 2C would be borne largely by a number of lodge operators and smaller operators focusing on quick trips for cruise ship passengers. NPFMC (2007c) and NPFMC (2006) discussed how the economic burden of this measure in Area 3A would fall more heavily on the Central Cook Inlet area than on ports in other areas as businesses in this region are more likely to take multiple trips in a single day.

**Table 34 One trip per vessel per day**

Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
		Area 2C	Area 3A
One Trip per Vessel per Day	None	1.8%-2.4%	5.5-6.3%

### 2.5.4.1.2 No Retention by Skipper and Crew

The retention of halibut by skipper and crew while fishing on paid halibut charters has been banned by ADFG emergency order since 2006 in Area 2C and since 2007 in Area 3A. The 2007 GHL analyses noted that the ban saves approximately 4.3% to 4.7% in Area 2C and approximately 10.4% in Area 3A (Table 35). In June 2007, the Council selected a preferred alternative for managing Area 2C charter harvests that included a federal ban on skipper and crew harvests. In October 2007, the Council chose to postpone further action on management regulations for Area 3A until 2008, but encouraged ADFG to continue the ban on skipper and crew harvest that it established in January 2007. Hence, the use of a skipper and crew harvest ban as a halibut management measure is already in place in both IPHC areas. However, that ban is subject to the continuation of ADFG emergency orders until NMFS publishes the final rule for the Area 2C regulatory package and the Council takes further action in Area 3A. With the ADFG emergency orders in place, the establishment of federal regulations would not further reduce harvest by skipper and crew. However, both 2007 GHL analyses noted that a federal ban would allow skipper and crew to harvest other species as the ADFG emergency order is a blanket ban on the harvest of any species caught while on a halibut charter. Thus, the federal ban would result in a lowering of economic burdens that the ban places on skipper and crew by allowing them to access other species.

**Table 35 No retention by skipper and crew**

Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
		Area 2C	Area 3A
No Retention by Skipper and Crew	None	4.3%-4.7%	10.4%

### 2.5.4.1.3 Line Limits

Tier 1 includes limiting the number of lines a vessel may have in the water while fishing for halibut. This management measure has not been analyzed as a stand alone option in prior analyses. The skipper and crew portion regulation package for Area 2C and the skipper and crew management option for Area 3A (NPFMC 2007b) included line limits. The effect of reducing the number of lines is not known at this time. Theoretically, if anglers did not need the full-trip length to catch their halibut, then a vessel could carry more passengers than the number of lines allowed in the water at any one time and we would not expect a great change in harvest. However, a more likely scenario is that a lower line limit would reduce harvest as anglers likely need most of their water time for their catch to equal current catch per unit of effort (CPUE). Economic theory suggest that anglers would be less willing to pay for a trip where they are not guaranteed a fair or equitable chance to catch or where they perceive a reduced opportunity to catch and retain halibut. Thus, it is logical to expect that a lower line limit would reduce harvest, but the amount of the reduction would depend on, amongst other factors, CPUEs at the time of the ban and whether anglers can find replacement seats on boats where the line limit may not affect their experience. For example, if the line limit were to move to four lines per vessel, the two anglers who may have travelled as the fifth and sixth anglers on a vessel may find another boat where they can travel as the third and fourth anglers.

### 2.5.4.1.4 Second Fish of a Minimum Size

The 2007 GHM analyses contained options that would have required the second fish in an angler’s bag to be either equal to a minimum of 45 inches or 50 inches (Table 36). These analyses estimated that a 45inch minimum would have reduced harvest by 18.8% to 27.0% in Area 2C and between 32.5% and 39.3% in Area 3A; a 50-inch minimum would have reduced harvest by 23.1% to 30.8% in Area 2C and between 36.9% and 43.3% in Area 3A. The Council rejected these options in 2007 for both Area 2C and Area 3A in part because of the concern about measuring fish at sea, increased mortality, and the potential for the minimum size limits to become de facto one-fish bag limits in sub-areas where larger fish are scarce.

**Table 36 Second fish of a minimum size**

Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
		Area 2C	Area 3A
Second Fish of a Minimum Size	45"	18.8%-27.0%	32.5%-39.3%
	50"	23.1%-30.8%	36.9%-43.3%

### 2.5.4.1.5 Second Fish at or below a Length Limit

A size limit on the second fish in an angler’s daily bag limit is already part of the management package in place in Area 2C. In June 2007, NMFS enacted a rule requiring the second halibut in an angler’s daily bag limit to measure 32 inches or less in length. This management measure is also part of the regulatory package for Area 2C that is currently in the NMFS rulemaking process after being selected by the Council as its preferred alternative in June 2007. If the Council wished to lower harvest further in Area 2C using a length limit, it would need to lower the length limit below 32 inches. Analysts have not estimated the effect of lower length limits using ADFG’s final harvest estimates for 2006. NPFMC (2007b) estimated that this option, as a stand alone measure, would reduce harvest by 19.7% to 26.1%.

NPFMC (2007c) contained three sub-options of 32 inches, 34 inches, or 36 inches in length as part of the analyzed management options for Area 3A. The analysis estimated that these sub-options would have reduced harvest between 18.2% to 24.5%, 15.2% to 21.1%, and 12.1% to 18.3% respectively (Table 37).

The Council postponed action in Area 3A until 2008 when more data on 2007 Area 3A harvest would become available.

**Table 37 Second fish at or below a length limit**

Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
		Area 2C	Area 3A
Second Fish at or below a Length Limit	32 Inches	19.7%-26.1%	18.2%-24.5%
	34 Inches	Not Analyzed	15.2%-21.1%
	36 Inches	Not Analyzed	12.1%-18.3%

**2.5.4.2 Tier Two Management Measures**

The Council’s October 2007 motion contains three Tier 2 management measures. These are: annual limits, a one fish bag limit for all or a portion of the season, and a partial or full season closure.

**2.5.4.2.1 Annual Catch Limits**

The Council considered annual limits in its 2007 decision-making process for enacting new management measures in both Area 2C and Area 3A. A four-fish annual limit is included in the Council’s preferred alternative that is currently in the NMFS rule-making process. NPFMC (2007b) estimated that a four, five, or six-fish annual limit would reduce harvest under 2006 conditions by approximately 16.4%, 9.3%, and 4.3% respectively (Table 38). The Council considered the same four, five, or six-fish annual limit in Area 3A, but postponed action until 2008. NPFMC (2007c) estimated that these annual limits would reduce harvest under 2006 conditions by approximately 6.5%, 4.1%, and 2.1% respectively, if combined with a skipper and crew harvest ban. Without a skipper and crew harvest ban, the measures reduce harvest by 15.3%, 12.9%, and 10.7% respectively.

**Table 38 Annual limits**

Management Measure	Sub-Option	Estimated Harvest Reduction (%)	
		Area 2C	Area 3A
Annual Catch Limits	Four Fish	16.4%	6.5%
	Five Fish	9.3%	4.1%
	Six Fish	4.3%	2.1%

The effect of annual catch limits varies slightly from year to year. As noted in NPFMC (2007b) and NPFMC (2007c) the estimated savings associated with annual limits based on analysis of 2006 data are similar to the estimated saving that analysts estimated in prior analyses such as NPFMC 2006 using data from 1996 to 2004. The difference between the prior analysis and the analyses conducted in 2007 is that ADFG’s 2006 logbooks introduced the capability of tracking anglers by license number. The 2006 analysis had relied on estimates from the Statewide Harvest Survey (SWHS).

**2.5.4.2.2 One Fish Bag Limit for All or a Portion of the Season**

In 2007 the Council considered options for a one fish bag limit for the month of May, or June, or July, or August, or September, or for the entire season (see NPFMC [2007b] and NPFMC [2007c]). The estimated effect of a full-season bag limit reduction is 39.7% to 57.8% in Area 2C and 47.1% to 62.9% in Area 3A (Table 39). The estimated effects of smaller bag limits in individual months are proportional to the amount of harvest occurring in that month. For example, July is the busiest month in both areas, and a

smaller bag limit in that month would likely result in larger harvest savings than in any other single month. As noted in prior analyses, the actual harvest savings associated with single month reductions in bag limits would likely be smaller than estimated because of anglers' ability to shift their trips to other months. The reduction in actual harvest savings relative to the estimate would depend on factors such as how much lead time anglers have before the bag limit reduction becomes effective and how flexible anglers can be with their fishing trips.

**Table 39 Estimated savings from a one-fish bag limit, 2006 conditions**

Length of Closure	Area 2C	Area 3A
Full Season	39.7%-57.8%	47.1%-62.9%
May	1.8%-2.6%	5.0%-6.6%
June	10.0%-14.6%	12.4%-16.5%
July	14.5%-21.1%	17.8%-23.8%
August	12.0%-17.5%	9.9%-13.2%
September	1.4%-2.0%	1.8%-2.9%

Source: NPFMC (2007b) and NPFMC (2007c).

#### 2.5.4.2.3 Season Closure

Prior analyses have not analyzed partial or full season closure options. However, ADFG has provided these analyses with estimates of harvest by month. Table 40 shows the portion of 2006 harvest that occurred in each month between May and September 2006. These five months account for more than 99% of harvest in both IPHC areas. The distribution of harvest may be representative of the harvest savings if anglers have little time to adapt to a proposed closure. Closures would be less effective if anglers have forewarning of the closure and if they have time to fish after the closure in the same season that the closure occurred. For example, if anglers were informed in January of an August-September closure we would expect that anglers with flexibility in their fishing dates would simply try to schedule dates in other months. Latent industry capacity would allow at least some to find replacement fishing trips. On the other hand, an announcement in mid-July of an August-September closure would leave anglers with little time to react to closure and a very small portion of the halibut season over which they could try to find replacement trips. The economic effects of a partial or full season closure have not been identified or quantified. These effects would depend, in part, on the ability of operators to rotate their craft into non-consumptive uses or encourage anglers to book trips targeting other species. Short notice of closures would likely increase economic losses as charter operators would have less time to adapt.

**Table 40 2006 harvest by month**

Length of Closure	Area 2C	Area 3A
Full Season	100.0%	100.0%
May	5.2%	10.5%
June	25.7%	26.0%
July	35.4%	37.7%
August	29.9%	21.2%
September	3.7%	4.0%

#### 2.5.4.3 Limitations

The approach described in this element provides a rapid, “back of the envelope” method of estimating the effect of management measures to reduce charter industry halibut harvest. However, there are limitations to the approach that should be recognized, including the effect of changing average weights, the effect of

changing harvest composition, and the difficulty of accounting for the interaction effects associated with utilizing several management measures at the same time.

A change in average harvest weights could increase or decrease the effectiveness of length-based management measures. For example, analyses in NPFMC 2007(b) and NPFMC 2007(c) calculated the estimated effect of a minimum size on a second fish. These analyses estimated this effect by looking at the difference between 2006 average weights and the estimated average weight of the average fish caught below the minimum length. These calculations provided an estimated percentage reduction in the overall harvest. In the future, if the overall average weight goes down and the estimated average weight of the average fish below the minimum size stays the same, then the effect of this type of management measure would be less than what was predicted in NPFMC 2007(b) and NPFMC 2007(c). The second column in Table 41 shows how a decline in average weight would affect the estimated savings from a 32-inch length limit based on 2006 Area 3A data. If average weight declined from 17.9 lbs to 15.9 lbs, the estimated savings associated with this management measure would drop from 24.3% to 21.5%. On the other hand, if anglers are successful in increasing the average size of the fish they retain, then length-based management measures would be more effective than predicted in NPFMC 2007(b) and NPFMC 2007(c). As Table 41 shows, the same measure would now reduce harvest by 26.7% instead of 24.3%. Hence, the estimated effect of each alternative listed above must be considered in the context of the descriptive statistics for that year's harvest.

**Table 41 How changes in average weight can affect the accuracy of prior estimates**

Category	32" Limit with 2006 3A Data	Average Weight Goes Down	Average Weight Goes Up
Number of Fish Caught	204,115	204,115	204,115
Percent Second Fish	47.1%	47.1%	47.1%
<i>Average Weight of All Fish</i>	<i>17.9</i>	<i>15.9</i>	<i>19.9</i>
Average Weight below Minimum Length	8.6	8.6	8.6
Weight Saved	9.3	7.3	11.3
Overall Weight Saved	891,106	698,943	1,083,269
Percentage of Harvest	24.3%	21.5%	26.7%

Source: NEI, 2007.

A change in harvest composition can also affect the accuracy of prior estimates. For example, NPFMC 2007(c) estimates that under 2006 conditions the institution of a 45-inch minimum size limit on the second fish in the angler's daily bag limit would reduce harvest by 32.5%. In 2006, 31% of the harvest by weight came from at, or above, the 45-inch standard. If anglers are less successful at catching these larger fish, then the estimated effect of the management measure increases. For example, if the percent-of-harvest falls to 25%, the estimated harvest reduction associated with the management measure increases to 35.3% because anglers are forced to replace smaller fish with relatively rarer larger fish. If large fish become a large portion of the harvest (indicating greater relative success in targeting them) then the efficacy of the management measure goes down. For example, if 45-inch or larger halibut represented 40% (by weight), then the estimated effect of the management measure falls to a 28.2% reduction in harvest.<sup>29</sup>

The analyses for NPFMC (2006), NPFMC (2007b), and NPFMC (2007c) contained a number of combined alternatives. These analyses showed that the effect of combined alternatives is not strictly additive. For example, NPFMC (2007c) showed that the combined effect of a ban on skipper and crew

<sup>29</sup> These examples assume all other 2006 conditions, including total harvest weight, stay constant.

harvest and an annual limit is less than the sum of the estimated effect of the individual management measures because skipper and crew harvest the majority of fish caught by anglers who catch four or more fish per year. Both NPFMC (2007b) and NPFMC (2007c) showed that any management measure that affects average weight (e.g., a maximum size measure) would lower the efficacy of any management measure that does not affect average weight (e.g., an annual limit). If the Council needs to consider multiple measures from Tier 1 or Tier 2, it is important to remember that the cumulative affect of measures is not necessarily additive.

## 2.5.5 Element 4 – Timeline

The current timeline for the proposal is as described below.

Example Scenario 1: four-year feedback loop

- Charter fishery ends 2007
- October 2008: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2008: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2009: IPHC adopts combined catch limits for 2009.
- February 2009: Council takes final action on management measures that would be implemented in year 2010.
- Winter 2009: NMFS publishes the rule that would be in effect for 2010.

Example Scenario 2: three-year feedback loop

- Charter fishery, with in-season monitoring, ends 2007
- October 2007: Council receives ADF&G report on final charter halibut harvest estimates for 2007. If the ADF&G report indicates that an allocation overage occurred in 2007, the Council would initiate the analysis of management measures necessary to restrict charter halibut harvests to its allocations.
- December 2007: Council reviews staff analysis (possibly in the form of a supplement) that updates the previous year's analysis with final 2007 harvest estimates.
- January 2008: IPHC adopts combined catch limits for 2008.
- February 2008: Council takes final action on management measures that would be implemented in year 2009
- Winter 2008: NMFS publishes the rule that would be in effect for 2009

Element 4 outlines two scenarios for the timing of regulatory action, once an overage has been identified. Three to four years may elapse between the year in which an overage occurs (step 1), the year in which ADFG data report that an overage has occurred (step 2), the year in which the Council selects a preferred alternative to address the overage (step 3), and the year in which new regulations become effective (step 4). A calendar year may not transpire for each of these events. This multi-year cycle has been described as a feedback loop. The primary difference between the two scenarios is when an estimate of charter harvests is available.

Two interagency staff meetings were held (October 29, 2007 and November 20, 2007) to review the proposed alternative. The purpose of those discussions was to provide guidance to the Council on implementation issues related to its proposed alternative. Each step would be examined below to address where any timelines may be abbreviated. Nothing under Element 4 would be included in Federal

regulations, but is intended to clarify its intent for those elements that would be written into regulation. The Council may identify a new scenario based on the following discussion, which could replace either or both scenarios listed above in the next draft of this analysis.

Step 1. There are no potential time savings in the year in which an overage occurs.

Step 2. Year delay between the year when an overage occurs and when final data identify the overage

Interagency staff identified that a year in the feedback loop could be eliminated by using halibut harvest tags<sup>30</sup> (or some other mechanism) as the measure of charter harvest rather than waiting for the subsequent October for the SWHS. Under a harvest tag program, the agencies would assume that the entire allocation was harvested and that no overage occurred. The assumption that the allocation was fully harvested is based on an assumption that secondary markets would develop to maximize their usage. An analogy for such a system is air travel, where more tickets than available seats are sold, assuming that not all passengers would use their tickets. In this analogy, ticket resellers (e.g., Craig's list, E-Bay) optimize the use of all tickets. Some charter sector opposition to this potential program related to the entity that would issue the harvest tags. These operators viewed the proposal more favorable if they controlled distribution of the tags to ensure that all their clients had the necessary tags to complete their booked trips. They were concerned about the ability for all anglers to match a tag to their bookings if dependent on the open market in which to acquire the tags.

Using SWHS (or logbook) data, charter harvests relative to the allocation can be confirmed one year later. Significant overages would not be expected to occur under a harvest tag program. An increase over estimated poundage could occur if the average size of halibut increased markedly during that season, but a conversion factor between fish and pounds would be fixed for the season.

Step 3. Year delay between notification of an overage and final action.

Staff identified a few scenarios in which the Council could shorten the time between being notified of an overage (October) and selecting a preferred alternative. Interagency staff emphasized timeliness *and* accuracy of data (faster is not better, if less accurate) as a critical feature of any management program. As noted above, shortening the time period in which charter halibut data can be finalized for use in management is the main mechanism was identified to shorten the delayed feedback between an overage and implementation of restrictive management measure(s).

Staff agreed that a new type of accounting system could be developed for monitoring commercial halibut IFQs that would be leased to charter halibut operators to use in excess of the charter common pool allocation under the proposed alternative. Many implementation difficulties (e.g., underage accounting) would be eliminated by not allowing unused leased IFQs to the charter sector to revert back to the commercial sector, but this was not deemed insurmountable since the charter season ends 8-12 weeks before season end accounting is required in the commercial IFQ programs. This proposed (and as yet undeveloped) accounting system of leased IFQs should be timely and accurate. It would require distinguishing a charter halibut that was harvested using leased IFQs from those fished against the charter common pool allocation. After the Council selects its preferred alternative, NMFS would develop the necessary record keeping and enforcement requirements to implement the Council's preferred alternative.

Staff noted that an accounting system for tracking harvests under the proposed charter halibut common pool allocation in the interim solution (which could be in place for many years) may not be necessary but

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<sup>30</sup> Preliminary design considerations for a harvest tag program and electronic reporting are provided in [insert URL here]



could provide an opportunity to develop a pilot program for a new accounting system that would be required for a share-based system. A consensus was not reached on the application of halibut harvest tags (which appears to be a superior approach to others considered) to manage the charter halibut common pool allocation under the interim solution program, but its pros and cons were reviewed briefly. During the October staff and committee meetings, a halibut harvest tag program was identified as addressing many of the administrative, record keeping, implementation, and enforcement issues raised by one or another element of the interim and permanent solutions. A key point to the use of halibut harvest tags is whether they are issued through charter operators (which results in them taking on characteristics of a share-based fishery) or directly to the angler (as ADFG sport licenses are issued).

The Council has flexibility in how it chooses to schedule action on regulatory amendments for management of Pacific halibut fisheries. For most proposed actions, the Council elects to schedule a two-meeting cycle for initial and final action for analyses of plan and regulatory amendments. This two-meeting cycle is not required under the Magnuson-Stevens Act, the Secretary of Commerce, or NMFS. In response to a discussion of streamlining the Council's agendas, the Council Chair and Executive Director are currently consulting on the types of proposed actions that the Council may wish to schedule for initial and final action at the same meeting (assuming SSC concurrence that an analysis is ready for final action). Annual revisions to a halibut catch sharing plan, which modifies federal regulations in a step-wise, and previously analyzed procedure may be deemed a candidate for abbreviated review and action. The Council could decide to follow a new policy for actions to amend its Area 2C/3A CSP, as proposed by staff in the following examples.

- The Council could save one meeting cycle by tiering off the previous (final) GHM analysis for each area, foregoing initial review, and proceeding straight to final action (there is no federal requirement for initial review; this is a Council policy that could be streamlined for annual CSP actions).
- The Council could schedule final action sooner under a poundage charter sector allocation compared with a floating allocation because Council action would not be dependent on IPHC action to apply a Council CSP allocation split of a combined charter and commercial catch limit.
- Assuming notification by ADFG Sport Fish Division of an overage in October, the Council could take final action in December (it may have to forego its 4-week advance release of the public review document and prior SSC review (or it could schedule SSC review at the same time as final action and assume that the analysis conforms with analytical methodology previously approved by the SSC)). It could adopt a preferred alternative under a fixed poundage allocation or could adopt a two-prong preferred alternative. A proposed rule would be published prior to IPHC action and solicit comments on both preferred alternatives or the proposed rule could be published after IPHC action and solicit comments on the remaining preferred alternative.
- Since an EA/RIR/IRFA is required for Secretarial action (and technically not required for Council action), the Council could take action on only a supplemental analysis (to its previous year's EA/RIR/IRFA) similar to the supplemental analysis (2-3 pages provided to the Council in October 2007 on its previously released EA/RIR/IRFA for Area 2C GHM measures [insert URL here]. A complete, revised EA/RIR/IRFA would be prepared by Council staff immediately after final action and submitted to the Secretary (timing of proposed rulemaking would occur depending on whether allocation was in pounds or percent (and therefore dependent on IPHC action)).

Step 4. There are no potential time savings in the NMFS regulatory timeline (6-9 months minimum).

Some streamlining during regional review would occur as these analyses become annual updates of previously reviewed documents, as compared with wholly new analyses. No resolution to a bottleneck is

foreseen, in which CSP analyses compete with other higher priority analyses for regional economic review. Depending on the initial allocation and amount of IFQ leasing that occurs in each of the regulatory areas, two CSP analyses could be submitted each year or they could be combined into a single analysis and rulemaking.

## 2.5.6 Element 5 – Supplemental Individual use of GAF

Element 5 would allow limited entry permit (LEP) holders to lease commercial IFQ from individual commercial IFQ holders to provide guided anglers with additional harvesting opportunities in excess of the annual charter allocation. The LEP holder would ask NMFS to convert the leased IFQ into Guided Angler Fish (GAF). The LEP holder could then use the GAF to provide guided anglers with additional harvesting opportunities with the provision that the individual guided angler’s harvesting opportunities never exceed the daily bag and size limits in place for unguided anglers. In a simple example, a LEP holder could lease 100 pounds of commercial IFQ. NMFS would then convert the IFQ into GAF using a predetermined average weight. If guided halibut regulations specify that each angler’s daily bag limit is limited to one fish of any size while an unguided angler may harvest two fish of any size, then the LEP holder can use one GAF to allow one guided angler to harvest two fish of any size. That is, the GAF is used to allow a guided angler to harvest an additional fish. The GAF used by the guided angler is deducted from the LEP holder’s account of unused GAF.

The following sections discuss each provision under Element 5.

### 2.5.6.1 Provision A – Leasing Commercial IFQ to Guided Anger Fish

*Leasing commercial IFQ for conversion to Guided Angler Fish (GAF).*

1. *A LEP (Limited Entry Permit) holder may lease IFQ for conversion to GAF for use on the LEP.*
2. *Commercial halibut QS holders may lease up to 1,500 pounds or 10% (whichever is greater) of their annual IFQ to LEP holders (including themselves) for use as GAF on LEPs<sup>31</sup>. A CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs.*
3. *LEP holder per vessel may not lease more than 200-400 fish.*

*Suboption: vessels with LEP w/endorsement for more than 6 clients may not lease more than 400-600 fish.*

Provision A-1 would establish the ability of LEP holders to lease IFQ for conversion to GAF. ADFG estimated that there were a total of 369 qualifying entities in Area 2C and 466 qualifying entities in Area 3A using 2004 and 2005 as qualifying years under the proposed charter halibut limited entry program (NPFMC 2007c). These entities operated 702 vessels and 624 vessels respectively during the qualifying years (Table 42). In addition, these entities operated an additional 36 vessels and 29 vessels, respectively, in 2006 (after the qualifying years).

**Table 42 LEP qualifying entities and vessels**

Area	LEP Qualifying Entities	Vessels Operated in Qualifying Years
2A	369	702
3C	466	624

Source: Alaska Department of Fish and Game, 2008

<sup>31</sup> Staff interprets Council intent that these limits are for Area 2 C and Area 3A, separately and **\*not\*** for total halibut IFQ holdings across areas 2C, Areas 3A and B, and Areas 4A through E.

Provision A-2 would set a cap on the amount of commercial halibut QS that may be leased as GAF from each QS holder. **Staff seeks Council clarification on the rationale for the proposed levels selected for analysis (i.e., 1,500 lb or 10% of holdings).** The provision allows IFQ holders with less than 15,000 lb of IFQ to lease 1,500 lb, while those with more than 15,000 lb IFQ could lease 10% of their holdings. The provision does not specify restrictions based on vessel class or block shares, so all QS are included in this analysis. In Area 2C, the analysis found that as of December 31, 2006 there were 1,141 IFQ holders who held less than 15,000 lb of IFQ and 218 holders that held more than 15,000 lb of IFQ. In this area, “small holders” would control 69% of the IFQ available for leasing. In Area 3A, the analysis identified 1,328 holders holding less than 15,000 lb of IFQ and 465 holding more than 15,000 lb. In Area 3A, small holders would control 40% of the IFQ available for leasing.

The analysis estimates that in 2006 this provision would have made available for lease 1.832 M lb and 3.306 M lb of IFQ in Areas 2C and 3A, respectively (Table 43). These IFQ amounts were equal to approximately 96,000 GAF in Area 2C and 186,000 GAF in Area 3A based on 2005 average harvest weights. The GAF are equivalent to 106% of the 2006 Area 2C harvest (in numbers of halibut) and 91% of the 2006 Area 3A harvest. The largest individual IFQ holder in each area would have qualified to lease a maximum of 9,362 lb and 20,480 lb in Areas 2C and 3A, respectively.<sup>32</sup> If every pound of available IFQ was converted into GAF it would provide on average 136 GAF per vessel in Area 2C and 298 GAF per vessel in Area 3A. These levels are well above the amount of GAF that the analysis estimates would be required to preserve 2006 fishing conditions under the most stringent bag limit reductions (i.e., one fish per day per angler).

The amount and the price of the IFQ that commercial IFQ holders would make available for leasing to the charter sector are unknown. A possible indicator for lease prices may come from the market for leasing halibut IFQ for Class A vessels. In 2005 these leases averaged \$1.43 per pound of IFQ (RAM 2007<sup>33</sup>). However, leasing between QS holders is relatively restricted within the halibut IFQ program and leasing represents a very small portion of the overall halibut QS market.<sup>34</sup> Thus, it’s not clear that Class A lease prices represent a good indicator of potential lease prices as most QS holders do not participate in, or have access to, that market. The eventual lease price would depend on factors such as the current ex-vessel price of halibut, the willingness of commercial operators to lease IFQ to charter entities, the willingness of charter customers to accept price increases to pay for leased fish, and the willingness of charter operators to lease IFQ from commercial operators.

**Table 43 IFQ and GAF available for leasing under Provision A-2 (2006 conditions)**

Area	IFQ Available for Lease (lb)	2006 GAF Equivalent <sup>35</sup> (fish)	Number of Holders Allowed to Lease More than 1,500 lb	Number of Holders Allowed to Lease 1,500 lb or Less <sup>36</sup>
2C	1,832,000	96,000	218	1,141
3A	3,306,000	186,000	465	1,328

Source: NEI Estimates from <http://www.fakr.noaa.gov/ram/06ifqunitf.CSV>, 2007.

<sup>32</sup> Source: Source: NEI Estimates from <http://www.fakr.noaa.gov/ram/06ifqunitf.CSV>, 2007.

<sup>33</sup> [http://www.fakr.noaa.gov/ram/halibuttransfer95\\_06.pdf](http://www.fakr.noaa.gov/ram/halibuttransfer95_06.pdf)

<sup>34</sup> In 2006, 0.7% of the 3A QS was leased and 1.2% of 2C QS was leased.

<sup>35</sup> This amount is the number of GAF that would have been available in 2006 using 2006 QS-to-IFQ conversion ratios and 2005 average charter harvest weights.

<sup>36</sup> This analysis assumes that holders qualifying for the smaller category would only be able to lease up to the maximum amount of IFQ that they controlled. For example, a holder with 1,200 pounds of IFQ would technically qualify for the 1,500 lbs leasing category, but could only lease the 1,200 lbs they control.

To date, only one Community Quota Entity (CQE) holds halibut QS, but the CQE holds Area 3B QS and is therefore not part of this action. Note, however, that other CQEs may purchase Area 2C and 3A halibut QS and would be subject to the same commercial use caps as any other QS holder. Associated IFQs would be leased to eligible fisherman that are residents of the community represented by the CQE. Under the proposed charter halibut LEP program, eligible CQEs may be issued permits upon or after implementation for use in the community represented by the CQE (i.e., the charter trip must originate or terminate in the CQE community). Under Provision A-2, a CQE may lease up to 100% of its annual IFQ for use as GAF on their own LEPs, which would then be subject to the aforementioned limitation. **(Staff seeks Council clarification on the rationale for the proposed level selected for analysis (i.e., up to 100% of holdings) and why the level that would be allowed for leasing by CQEs is different than for non-CQE holders of commercial halibut IFQs who may choose to lease their IFQs to themselves for use in the charter sector).** Estimated Demand for GAF by Allocation Scenario

A basic question arising from Provision A-2 is:

Would Provision A-2 allow enough QS to become available to meet the projected demand for GAF if charter halibut demand rises to the maximum amount projected by the demand projections model?

For Area 2C, the analysis concludes that the provision could provide enough GAF through 2011 under the allocation options the Council is considering if commercial QS holders and charter operators could reach mutually agreeable terms. However, if long-term growth continued Provision A-2 would eventually constrain charter sector growth in Area 2C through a lack of QS to convert to GAF. The analysis compared the maximum estimated 2011 demand (i.e., the 95% upper confidence interval) for charter halibut with the estimated allocation to the charter sector in 2011. In Area 2C the analysis' estimated 95% upper confidence interval on charter halibut demand in 2011 is 2.33 Mlb.<sup>37</sup> Estimates for the allocations under consideration in 2011 range from 0.80 Mlb to 1.90 Mlb; leaving a shortfall to be covered by GAF of between 0.43 Mlb and 1.52 Mlb. This shortfall is equal to between 21,000 GAF and 77,000 GAF. So, the analysis expects that the charter sector could demand between 21,000 and 77,000 GAF by 2011 depending on the allocation scenario. The estimated maximum amount of GAF available is between 90,000 and 100,000 depending on the average harvest weights exhibited between 1995 and 2006.<sup>38</sup> Thus, under some allocation scenarios (e.g., 1a, 1c, and 1d) the sector's demand for GAF would be equal to two-thirds or more of the maximum amount of GAF available. If demand growth continued at a high rate past 2011 then the Area 2C charter sector could demand more GAF than the commercial sector would be allowed to lease.<sup>39</sup>

**Table 44 Estimated maximum 2011 demand for GAF in area 2c by allocation scenario**

Category	Percentage Based Allocations				Fixed Pound Allocation			Mixed Allocation		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
Estimated 2011 Allocation (Mlbs)	<i>0.90</i>	<i>1.18</i>	<i>0.80</i>	<i>1.04</i>	<i>1.43</i>	<i>1.69</i>	<i>1.90</i>	<i>1.16</i>	<i>1.45</i>	<i>1.58</i>
Demand-Allocation Differential (Mlb)	1.43	1.14	1.52	1.28	0.90	0.64	0.43	1.16	0.88	0.74
GAF Required (2006 Average Weight)	72,000	58,000	77,000	64,000	45,000	32,000	21,000	59,000	44,000	37,000
GAF Required (2002-2006 Average Weight)	72,000	58,000	77,000	65,000	46,000	32,000	22,000	59,000	45,000	38,000

Source: NEI Estimates, 2008.

<sup>37</sup> This number is an estimate of what demand might be under current trends and assuming no restrictions except the current ban on skipper and crew harvest.

<sup>38</sup> In 1998 average harvest weight rose to 29.1 lb which would drop the maximum number of GAF available to 63,000.

<sup>39</sup> GAF availability may potentially be constrained before the maximum leasing allowance is reached given that charter operators may not be able to convince commercial QS holders to lease 100 percent of the available QS.

In Area 3A the estimated maximum demand for GAF in 2011 is likely to be a relatively modest portion of the potential pool of leasable GAF. The analysis estimates that the 95% upper confidence interval for demand is 4.18 Mlb. The IPHC has estimated that only three scenarios (i.e., 2a, 2b, 2c) under consideration would provide less than 4.18 Mlb to the charter sector in 2011. The estimated demand for GAF ranges for those scenarios ranges from 2,000 to 30,000 while the estimated maximum amount of GAF available ranges from 150,000 to 190,000 GAF based on average weights between 1995 and 2006. Thus, similar to the results in 2007(c), the analysis concludes that the leasing limits for commercial QS holders could provide enough GAF to accommodate growth in Area 3A for the reasonably foreseeable future as long as charter operators and commercial QS holders can reach a mutually agreeable leasing arrangement.

**Table 45 Estimated maximum 2011 demand for gaf in area 3a by allocation scenario**

Category	Percentage Based Allocations				Fixed Pound Allocation			Mixed Allocation		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
Estimated 2011 Allocation (Mlbs)	4.85	5.29	4.37	4.37	3.65	4.01	4.15	4.27	4.75	4.72
Demand-Allocation Differential (Mlb)	-0.67	-1.11	-0.18	-0.18	0.53	0.17	0.03	-0.09	-0.57	-0.54
GAF Required (2006 Average Weight)	0	0	0	0	30,000	10,000	2,000	0	0	0
GAF Required (2002-2006 Average Weight)	0	0	0	0	28,000	9,000	2,000	0	0	0

Source: NEI Estimates, 2008.

For Provision A-3 and its suboption, Table 46 and Table 47 classify vessels owned by potential LEP holders for a passenger enforcement by 2006 harvest levels (NPFMC 2007c). These tables show that:

- Vessels with endorsements for more than six passengers are more common in Area 3A than they are in Area 2C. These vessels represented 3.8% of the qualifying fleet in Area 2C and 21.1% of the qualifying fleet in Area 3A are endorsed for more than six passengers.
- Vessel harvesting fewer than 400 fish per year represented 68% of the fleet in Area 2C and 52.6% of the fleet in Area 3A. These harvest levels are more common in vessels that are endorsed for fewer passengers (i.e., 91.7% and 74.4% of the six-or-less passenger fleet in Area 2C and Area 3A respectively.)

**Table 46 Distribution of vessels by area and endorsement level (number)**

2006 Halibut Harvest	Area 2C		Area 3A	
	Passenger Endorsement of 6 or Fewer	Passenger Endorsement More than 6	Passenger Endorsement of 6 or Fewer	Passenger Endorsement More than 6
No Data	4	0	2	0
No Harvest in 2006	177	4	143	14
Less than 200	284	13	150	19
200 to 399	154	6	71	15
400 to 599	53	3	47	14
600 to 799	3	0	36	16
800 to 999	0	0	21	10
1,000 to 1,199	0	1	10	8
1,200 to 1,399	0	0	10	9
1,400 to 1,599	0	0	2	4
1,600 to 1,799	0	0	0	7
1,800 to 1,999	0	0	0	6
2,000 to 5,000	0	0	0	7
5,000 to 10,000	0	0	0	3
Grand Total	675	27	492	132

**Table 47 Distribution of vessels by area and endorsement level (percentage)**

2006 Halibut Harvest	Area 2C		Area 3A	
	Passenger Endorsement of 6 or Fewer (%)	Passenger Endorsement More than 6 (%)	Passenger Endorsement of 6 or Fewer (%)	Passenger Endorsement More than 6 (%)
No Data	0.6	0.0	0.4	0.0
No Harvest in 2006	26.2	14.8	29.1	10.6
Less than 200	42.1	48.1	30.5	14.4
200 to 399	22.8	22.2	14.4	11.4
400 to 599	7.9	11.1	9.6	10.6
600 to 799	0.4	0.0	7.3	12.1
800 to 999	0.0	0.0	4.3	7.6
1,000 to 1,199	0.0	3.7	2.0	6.1
1,200 to 1,399	0.0	0.0	2.0	6.8
1,400 to 1,599	0.0	0.0	0.4	3.0
1,600 to 1,799	0.0	0.0	0.0	5.3
1,800 to 1,999	0.0	0.0	0.0	4.5
2,000 to 5,000	0.0	0.0	0.0	5.3
5,000 to 10,000	0.0	0.0	0.0	2.3
Average 2006 Harvest (No. Halibut)	138	197	257	882
Average GAF Needed to Cover 2 <sup>nd</sup> Fish Limitations	54	78	121	415

- Vessels with passenger endorsements for more than six passengers harvest approximately 42% more fish on average in Area 2C and 243% more on average than smaller vessels in Area 3A. Vessels harvesting more than 1,000 fish per year occur primarily in Area 3A. No vessel with an endorsement of six passengers or less harvests more than 1,600 halibut per year.
- GAF would be used to provide charter anglers with harvest opportunities equivalent to those for non-charter anglers. Many of the management options considered in Element 3 affect the second fish in an angler's daily bag limit through size restrictions or outright harvest bans. Thus, an LEP holder's demand for GAF in part would be driven by the success their customers have at harvesting a second fish. On average, second fish were 39.7% of overall harvest in Area 2C and 47.1% of overall harvest in 2006. So, in order to ensure the same level of customer success in 2007 that a customer had in 2006 Area 2C LEP holders (on average) would have need to lease GAF equal to 39.7% of their 2006 harvest in order to free their clients from length limitations. On average this would have meant leasing 54-78 GAF depending on the client endorsement level. In Area 3A smaller vessels would need on average 121 GAF to mitigate second fish management measures while larger endorsement vessels would need 415 GAF on average.

Based on 2006 data, the 200-GAF leasing allowance would provide harvest opportunities equivalent to 2006 conditions to vessels harvesting 500 halibut or less in Area 2C or 425 halibut or less in Area 3A. The 400-GAF leasing allowance per vessel would allow vessels that had harvested 1,000 halibut or less (Area 2C) or 850 halibut or less (Area 3A) to offer historic harvest opportunities. The 600-GAF level, which is only being considered for vessels with passenger endorsements higher than six anglers, would allow vessels that had harvested 1,500 halibut or fewer (Area 2C) or 1,275 halibut or fewer (Area 3A) to offer historic harvest opportunities (see Table 48).

The data show that different leasing allowances would be needed in Areas 2C and 3A to maintain the same level of access to historic harvest opportunities. In Area 2C, only one vessel harvested more than 1,000 fish in 2006 and this vessel harvested 1,028 halibut. Thus, the 400-GAF leasing limit would

provide a near-universal guarantee of historical (2006) harvesting opportunities in Area 2C with the exception of this one vessel. However, in Area 3A, there are vessels in both endorsement levels that would be unable to provide their historical harvest opportunities at the either 400-GAF or 600-GAF leasing limits. Approximately 7.5% of the fleet in the smaller endorsement level and 38.6% of the fleet in the larger endorsement level would be unable to provide their historical opportunities at the 400-GAF limit (Table 49). At the 600-GAF limit, 26.5% of the vessels in the larger endorsement class would be unable to offer their historic opportunities. While Area 3A does not exhibit the same GHL coverage as found in Area 2C and there are currently no differences in the harvest regulations for guided and unguided anglers, the Council may wish to consider higher GAF-leasing limits in Area 3A to provide equivalent preservation of historic fishing opportunities. **Staff seeks Council clarification on the rationale for the proposed levels selected for analysis (i.e., 200, 400, or 600 fish).**

**Table 48 Harvest levels under which proposed GAF leasing amounts would no longer be adequate to cover historical usage**

Leasing Allowance	Equivalent 2006 Harvest Level			
	Area 2C		Area 3A	
	Passenger Endorsement of 6 or Fewer	Passenger Endorsement More than 6	Passenger Endorsement of 6 or Fewer	Passenger Endorsement More than 6
200-GAF	500	500	425	425
400-GAF	1000	1000	850	850
600-GAF	N/A	1500	N/A	1275

**Table 49 Portion of fleet likely to be unable to provide historical opportunities/experience**

Leasing Allowance	Equivalent 2006 Harvest Level			
	Area 2C		Area 3A	
	Passenger Endorsement of 6 or Fewer (%)	Passenger Endorsement More than 6 (%)	Passenger Endorsement of 6 or Fewer (%)	Passenger Endorsement More than 6 (%)
200-GAF	3.4	11.1	20.7	44.2
400-GAF	0.0	3.7	7.5	38.6
600-GAF	N/A	0.0	N/A	26.5

### 2.5.6.2 Provision B – Landing and Use Restrictions

*LEP holders harvesting GAF while participating in the guided sport halibut fishery are exempt from landing and use restrictions associated with commercial IFQ fishery, but subject to the landing and use provisions detailed under the provisions listed below.*

The following lists some of the landing and use provisions from which LEP holders would be exempted under Provision B. These provisions are generally described in <http://www.fakr.noaa.gov/ram/rtf95.pdf> and are more specifically detailed in 50 CFR 300.60 through 300.65:

- Block restrictions;
- Use and vessel harvest caps;
- Vessel length categories;
- Owner-on-board restrictions;
- Landing and reporting requirements;
- Prior notice of landings, and
- Vessel clearance requirements.

The provisions discussed below examine landing and use restrictions that would apply to LEP holders in place of the commercial landing and use provisions listed above.

### **2.5.6.3 Provision C – Issuance of Guided Angler Fish**

*GAF would be issued in numbers of fish. The conversion between annual IFQ and GAF would be based on average weight of halibut landed in each region's charter halibut fishery (2C or 3A) during the previous year as determined by ADFG. The long-term plan may require further conversion to some other form (e.g., angler days).*

GAF would be issued in numbers of fish. The conversion between annual IFQ and GAF would be based on average weight of halibut landed in each region's charter halibut fishery (2C or 3A) during the previous year as determined by ADFG. The long-term plan may require further conversion based on some other criteria (e.g., angler days).

Provision C would govern how NMFS RAM Program would convert IFQ to GAF. For example, if the average weight of a halibut in Area 3A in 2006 was 20.0 lbs then a LEP holder would have to lease 20.0 lbs of IFQ for each GAF they wanted to harvest in the 2007 season. The same average weight should be used to convert unused GAF back to IFQ at the end of the season. The conversion is:

*IFQ to convert(lb) = no. fish needed × average weight from previous year.*

Currently ADFG does not obtain a final estimate of the average weight for the previous year until final harvest estimates are provided from the Statewide Harvest Survey (SWHS) in September. Therefore, the final estimates of average weight from the previous year are not available for IFQ conversion until the end of the season. For example, the final estimate of average weight for 2007 would not be available until September 2008. Alternately, NMFS could make the conversion using the preliminary estimate of average weight for the previous year. Preliminary estimates are based on average weights for each SWHS area, weighted by harvest projections for each area, whereas the final estimates are weighted by final harvest estimates for each area. Occasionally other errors in the weight data are corrected between the preliminary and final stage. Preliminary and final estimates of average weight have varied by less than 1 lb since 2001, with an average difference in 0.5 lb in Area 2C and 0.2 lb in Area 3A.

If there is a change in the average weight from year to year, it would become apparent the following year that the charter operator paid either too much or too little for GAF. Since the conversion is a linear function of the average weight, the percentage error in the amount of IFQ converted would equal the percentage difference in the average weights from year to year. These differences would likely cancel out only for charter operators and IFQ holders who convert on a regular basis over an extended number of years.

The delay in estimation of average weight may also affect catch accounting. It is assumed that GAF harvest is tallied as commercial catch, since it is converted from IFQs. Because the conversion of IFQ to GAF would likely be based on preliminary estimates of average weight from the previous year, the accurate accounting of GAF removals could not be obtained until the final estimates of harvest are available the following year. The degree to which this accounting error becomes an issue depends on the magnitude of GAF conversion. If the amount of IFQ converted to GAF is a small proportion of the commercial catch limit, the error may not be worth addressing.

Perhaps a more important consideration is whether the average weight of the sport charter harvest (common pool) should be used to convert IFQ to GAF, or whether the average weight of GAF should be



used. The average weight of GAF may be higher than the average weight of all charter caught halibut under certain conditions. For example, if the GAF program had been in place under the 2007 regulations for Area 2C, the GAF could have been used to exempt harvests from the 32 inch maximum size limit on the second fish in an angler's daily bag limit. In cases where the angler and the LEP holder decided to use a GAF, many of the fish could have been larger than 32 inches. If the average GAF is the same size as the average first fish, then the average GAF would be larger than the average fish for the entire fishery because calculations for the latter would include fish that are constrained by the maximum size limit.. Even in the absence of a size limit, GAF could be larger than common pool fish if charter operations that use GAF tend to harvest larger fish than charters relying on common pool fish, as a result of how or where they fish. In addition, the average weight of GAF would be dependent on the distribution of harvest among subareas of Area 2C or Area 3A. Average weight currently varies quite a bit from port to port. If a high proportion of GAF are harvested from areas with larger fish, which would result in a higher average weight.

It is also possible under certain conditions that average weight of GAF would not exceed that of common pool fish. For example, if the charter fishery is restricted by a one-fish bag limit then common pool fish may have a higher average weight than GAF due to high-grading. Under a one-fish limit, some anglers would try to harvest the largest fish possible.

Given the uncertainty regarding differences in the size of GAF and common pool fish, it would be prudent to obtain size data from both groups of fish, especially in the early years of the program.

#### **2.5.6.4 Provision D – Subleasing of Guided Anger Fish**

*Subleasing of GAF would be prohibited.*

Provision D is designed to limit the incentives for LEP holders to lease more IFQ for use as GAF than necessary. However, the leasing cost itself is likely to provide an incentive not to lease more IFQ than can be reasonably used. One drawback of this provision is that it could prevent an LEP holder from leasing to another LEP holder if the first lease holder was unable to fish the GAF (e.g., unavoidable circumstances including long term illness, injury, boat loss). However, LEP holders may be quick to recognize this limitation and adapt their lease agreements to include a reversion clause in the case that the LEP holder is unable to fish the GAF. Such reversion clauses would be a private contractual decision between the parties.

#### **2.5.6.5 Provision E – Conversion of GAF back to IFQ**

*Conversion of GAF back to commercial sector*

- 1. GAF holders may request NMFS convert unused GAF into IFQ pounds for harvest in compliance with commercial fishing regulations provided the GAF holder qualifies under the commercial IFQ regulations.*
- 2. Unused GAF may revert back to pounds of IFQ at the end of the year and be subject to the underage provisions applicable to their underlying commercial QS.*

The first component would allow dual-holders of both IQS and LEPs to convert GAF back into IFQ at any time during the commercial IFQ season. For example, at the beginning of the charter fishing season, a dual holder of commercial QS and charter LEP may request that NMFS convert IFQ equivalent to 200 GAF. In September, the dual holder realizes that he or she is only going to use 150 of the 200 GAF and

asks NMFS to convert the remaining 50 GAF back into IFQ using the same conversion ratios used during the original conversion. The holder is now free to commercially fish that IFQ. The intent of this component is to allow the dual holder to convert his or her own IFQ into GAF and retain the flexibility to convert those GAF back into IFQ. The component is not clear whether a dual holder who leased IFQ to convert into GAF would be allowed to convert the GAF back into IFQ and fish that IFQ commercially.

The second component would allow unused GAF to revert back to IFQ at the end of the commercial season and to be subject to the underage provisions applicable to their underlying commercial QS. For example, a LEP holder not qualified to hold QS leases IFQ and requests that NMFS convert it into GAF, which results in 200 GAF. By the end of the season the LEP holder has used only 150 GAF. The unused 50 GAF **automatically** reverts back to IFQ in the account of the QS holder (who is not necessarily the leasor).

Under Component (2), the Council's motion on conversion of GAF back to the commercial sector lacked guidance on how and when those transfers would be allowed. RAM Division staff has suggested that transfers could be conducted automatically or only upon request. RAM staff recommends that a combination of both options with the same cut-off date could be implemented. That is, any unused GAFs that were not requested previously to be returned to the lessor by a date certain would be automatically returned by NMFS on a certain date. Three scenarios have been identified for these requests: 1) by the GAF holder; 2) by the IFQ holder; or 3) either. GAF holders may request the transfer back to the IFQ leaseholder at any time during the season (although they have limited incentive if the value of unused GAFs are not somehow rebated, unless they are (also) the original commercial IFQ holders and therefore eligible to fish them commercially) or *all* unused GAFs would automatically revert back to the IFQ holder (assumed without compensation to the GAF holder) on a date certain (proposed to be October 1 by staff). Scenarios under which an IFQ holder reclaimed unused GAFs before a GAF holder wished to relinquish them would be problematic. Staff discussions assumed that unused GAFs that return to the IFQ holder would not be rebated but this issue is primarily contractual; an unrebated return would diminish the incentive for GAF holders to request their return but would provide incentive to only lease what the LEP holder needs to meet client demand during the season. Staff seeks clarification on the details of how the Council intends these transfers to be conducted. Under any scenario, these two-way transfers require a real-time reporting system for the management of these GAFs for accurate in-season accounting of their balances.

Discussions with RAM staff indicated a concern about the potential influx of GAF to IFQ reversions at the end of season. During the same period, RAM staff is very busy balancing the accounts of commercial halibut, sablefish, and crab IFQ accounts and preparing IFQ permits for the following seasons, along with numerous other administrative duties. Hence, RAM staff recommends that the date for such GAF reversions be set as soon as possible after the conclusion of the charter halibut season. For example, ADFG data for 2006 indicate that less than 1% of charter halibut harvest occurred after September 30 in either Area 2C or Area 3A. Hence, an automatic reconversion date for unused GAF of October 1 would not significantly affect charter business operations. At the same time, the automatic date would make the program easier for RAM staff to manage. It would also provide six weeks for those (reverted) commercial IFQs to be used in the commercial sector.

#### **2.5.6.6 Provision F – Limitations on Using Guided Angler Fish to Expand the Daily Bag Limit**

*Guided angler fish derived from commercial QS may not be used to harvest fish in excess of the non-guided sport bag limit on any given day.*

Provision F is intended to allow charter operators to use GAF to provide guided anglers with opportunities that are equivalent to (but not more than) those provided to non-guided recreational anglers.

Until implementation of a maximum size limit of 32 inches on the second fish in the guided angler's daily bag by NMFS in June 2007, guided and unguided anglers were subject to the same set of harvest regulations in both IPHC areas. This provision would allow charter operators who use GAFS to return to parity in daily bag limits in Area 2C. GAF would not be expected to be used in Area 3A until such time that the regulations are more restrictive on guided anglers than on non-guided anglers.

#### **2.5.6.6.1 Provision G – Enforcement and Sampling Access**

*Charter operators landing GAF on private property (e.g., lodges) and motherships would be required to allow agency samplers and enforcement personnel access to the point of landing.*

Provision G requires that “charter operators landing GAF on private property (e.g., lodges) and motherships would be required to allow ADFG samplers and enforcement personnel access to the point of landing.” The provision is included in this program because the conversion of IFQ to GAF would be based on average weight of halibut landed in each region's charter halibut fishery. Current sampling programs collect size data from the recreational fishery mainly at public access sites, with some exceptions in Area 2C. It is unknown whether the current access sites would provide adequate or representative samples of GAF. If remote lodges tend to use the GAF provisions more than other charter operations, estimates of average weight of GAF may be biased. Management agencies should have the ability to access private sites of halibut landings for purposes of data collection, if it is determined that this sampling is feasible and cost-effective.

#### **2.5.6.7 Provision H – Ban on Same Day Commercial and Charter Operations**

*Commercial and charter fishing may not be conducted from the same vessel on the same day.*

Provision H would prevent individuals who hold both a LEP and commercial IFQ from fishing for commercial and charter halibut during the same day. The provision exists to facilitate enforcement as different regulations would apply to charter-caught and commercially-caught halibut and preceding provisions exempt GAF fish from the landing and use provisions associated with commercial IFQ. This provision would not prevent dual-owners from conducting charter operations and commercial operations on separate boats on the same day. Approximately 2% of halibut IFQ holders would likely qualify for an LEP and approximately 8% to 10% of preliminary LEP qualifiers held commercial QS in 2006.

## **2.6 Expected Effects of a Charter Allocation and Associated Actions**

This section describes how the charter sector allocation is expected to impact the charter sector, charter clients, the commercial sector, consumers of halibut, and the communities that support the various halibut sectors. It is assumed in this section that the charter sector allocation is a pool of fish that clients of eligible members of the charter sector would be allowed to harvest. When the charter allocation limit is reached, charter clients would continue to be allowed to retain halibut for the remainder of the year. Consistently exceeding the common pool allocation would result in more stringent management measures being implemented to reduce harvest in future years. The leasing of commercial IFQ may also be allowed under this amendment. Leasing of IFQ would result in individual charter operators being issued some type of certificates that allow the holder to harvest a specific number of halibut that are not counted against the common pool harvest.

As noted in Scientific and Statistical Committee (SSC) minutes from the October 2007 meeting, this analysis does not provide quantitative estimates or confidence intervals for the magnitude of net national benefits. Nor are quantitative estimates provided for regional economic impacts of the alternatives

considered in this amendment. Because those estimates cannot be provided given the information available, the analysis does not identify an optimal allocation. To provide these data, analysts would need information on the contribution to national welfare of all commercial removals would be needed. That information is currently unavailable for the commercial sector and an analysis to estimate those impacts is outside the scope of what can be completed as part of this document.

Determining which allocation would maximize net national benefits would require detailed information on costs and expenditures in both the commercial and charter sectors. In addition to cost information, ex-vessel demand for charter trips and angler willingness-to-pay for trips would also be required. Collecting that information would be expensive and time consuming. Even if these data were available, changes in the halibut biomass would impact the optimal sustainable yield and the optimal allocation of halibut. Because of these ongoing changes to the resource, any allocation that is optimal when it is made, may be less than optimal in the future. To maintain an optimal allocation, managers would need to adjust that allocation whenever economic or biological conditions change (Criddle, 2006). It is unreasonable to assume that overall net economic benefits could be sustained over time by a management agency altering the allocation.

ADFG and NMFS would determine the appropriate data to estimate harvests from the common pool allocation and GAF. Data needed to manage the common pool allocation would likely be different from data needed to manage the GAF. Common pool harvests may be estimated at the Area 2C and 3A level, because the pool of fish available is allocated at that level and can be harvested by any client of a charter operator licensed to fish there. Area wide estimates could be derived from information reported in ADFG saltwater charter logbooks. That data is then verified using mail surveys. The logbook and mail survey data are currently being reviewed to determine if they provide sufficiently reliable data. Logbooks include the number of halibut retained and released by individual anglers. The logbooks do not require the person submitting the logbook to report the weight of each halibut. To estimate the total weight, the number of halibut harvested would be multiplied by the average halibut weight from the previous year.

Additional data collection measures implemented by ADFG can be used to verify the information reported in the logbooks. A summary of those measures was taken from NMFS response to comment 10 on the final rule to implement the 32" limit for one halibut harvested as part of the two fish bag limit<sup>40</sup>. Those measures include:

- Creel survey technicians validating the number of halibut offloaded when possible;
- Increased logbook inspections by deputized ADFG staff;
- Increased review of submitted logbooks and follow-up calls to charter operators to resolve missing or misreported information; and
- As discussed earlier, a random sample mail survey of clients to compare their reported harvest to logbook data recorded by operators.

The status quo is represented by the management actions that are currently in federal and state regulation as well as those that have been approved by the Council and those expected to be implemented for 2008. The Council has approved a moratorium on new entry into the Area 2C and 3A charter sectors. While the moratorium would limit the growth in the number of vessels carrying clients in the charter fishery, it is not expected to reduce the fleet's capacity to carry clients. Therefore, the moratorium by itself is not expected to reduce the retention of halibut by clients on charter vessels.

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<http://www.epa.gov/fedrgstr/EPA-IMPACT/2007/June/Day-04/i10736.htm>

The Council and NMFS have taken action to reduce the current charter harvests in Area 2C. During 2007 the Council and NMFS have implemented or proposed the following amendment for halibut fishery in IPHC Area 2C:

- NMFS has implemented a regulation that one of two fish in the daily bag limit must be less than or equal to 32 inches (effective June 1, 2007)
- The Council recommended that the halibut charter regulations be revised for 2008 to include:
  - No charter halibut harvest by skipper and crew (currently a State regulation);
  - line limits of six per vessel, not to exceed the number of paying clients on board (currently a State regulation);
  - An annual limit of four fish per angler (Note: this would be removed if the one-fish bag limit is implemented for 2008) .

It has also been assumed that starting in 2008 a one-fish bag limit would be imposed in Area 2C.

This analysis uses an ARIMA model to project charter harvests from 2007 through 2011 to study the impacts of various allocation options. The charter harvest projections were made using the status quo for both Area 2C and Area 3A. Estimates of future CEYs, for IPHC Area 2C and 3A, used in this amendment were made by IPHC staff for the years 2008-2011. Those estimates were reported at their February 2008 meeting.

### **2.6.1 Charter Sector**

The charter sector is composed of business operators who are licensed by the State of Alaska to provide guided sport trips. These businesses book clients for halibut charter fishing trips and offer a variety of different recreational experiences. Charter businesses provide the necessary fishing equipment and knowledge to give clients the opportunity to harvest halibut and other species. They also provide assistance in cleaning the harvest, and may also help preserve, store, and ship the harvest back to the client's home. Depending on client needs and location, they may provide half-day trips, full-day trips, multi-day trips, or any combination of those types of trips. Some operators are also part of a larger lodge business. Their clients often stay at the lodge and take halibut trips as part of their wilderness adventure. Also, a limited number of charter businesses own floating lodges where clients are housed on a larger vessel and may also use smaller vessels to fish for halibut. Even with the variety of charter business structures, the fishing vessels used to take clients fishing are typically small vessels (e.g. six-pack vessels). However, some larger vessels are currently being used in the fleet to carry more than six clients. The clients of the different types of businesses would be impacted differently. For example, clients that are on a cruise may have a half day free to take a charter trip. They would not be affected by the four-fish annual limit because they plan to take only one trip during the year. Clients at a lodge who are staying for a week would be more likely to be impacted by a four-fish annual limit, which they could fill in either two or four trips, depending on the bag limit.

There is not a single data source that provides information on halibut trip prices. Several charter operators have developed internet sites that list their rates and the types of trips they offer. Reviewing a sample of internet charter sites showed that the prices of halibut trips in 2007 varied depending on time of the year, the type of vessel used, and the length of the trip. In general, full-day trips originating from the Homer area cost between \$150 and \$250. Some trips were priced higher if the client wanted to book a vessel with four or fewer clients for private trips or more individualized attention. Discounted trips were offered by most of the charter operators for trips outside of the most popular fishing season (before early to mid June

or after the early to middle of August). The exact dates for discounted rates varied by company. Rates quoted for Seward were similar to those out of Homer.

The GHL amendment analysis provided some basic information on the cost of a charter trip in Area 2C. Data from the GHL analysis indicated that the prices paid for a charter trip are higher in Area 2C than in Area 3A (NPFMC, 2001). Rates for trips from Area 2C ports varied more than in Area 3A ports because 2C trips are affected by cruise ship timelines (four-hour trips or six-hour trips), are combined with other activities<sup>41</sup> (e.g., salmon fishing), or are part of a lodge package that also includes accommodations. However, when a site reported the halibut charter rates alone, the price for a full-day charter ranged from \$250 to \$350 per person. These prices are higher than the typical rates reported in Area 3A ports.

It is not possible to provide estimates of the charter sector's net revenue. Additional information on both the revenues generated by the charter sector and the costs associated with providing those trips would be needed. As discussed earlier, analysts do not have a complete set of data on the prices charged for a charter trip in Areas 2C and 3A. Trip prices were estimated earlier in this section, but those estimates are only intended to provide a small sample of trip prices derived from the businesses' advertising. Those samples are not intended to represent the mean trip prices in a given area. Information is available from ADFG Saltwater logbooks on the number of trips taken in each area. However, because we do not have the trip prices associate with those trips, we are unable to generate estimates of charter gross revenue.

Net revenues in the charter sector cannot be provided. Areawide data are not available for either gross revenues or costs of operating the charter business. Both of these pieces of information are needed to estimate net revenues. The cost and time required to collect these data make producing these estimates outside the scope of this analysis.

Defining the amount of halibut the charter sector may harvest, in Areas 2C and 3A, before additional management measures are implemented, in future years, has the potential to change how the charter fishery operates. Note that the current management options do not limit the amount of halibut the charter sector may harvest during a season. Instead, if it has been determined that the charter sector exceed their allocation in the previous year(s), additional management measures would be imposed on the charter sector to limit future harvests, so that the five-year rolling average harvest does not exceed their common pool allocation. Charter operators may be given the opportunity to lease halibut from the commercial sector to provide greater flexibility for their clients to harvest halibut.

Criddle (2004, 2006) described four types of management combinations for a halibut fishery shared by a commercial and charter sector. One combination provided an example of when the commercial fishery was managed under an IFQ-based system and the charter sector was managed under a regulated open access sport fishery. Under the regulated open access system, it is assumed that the charter sector's harvests are controlled by some combination of management measures. Those management measures could include gear restrictions, bag limits, possession limits, size restrictions, and closures. Criddle concluded that when a sportfishing charter fleet is composed of small homogeneous charter businesses, an increase in demand for trips would result in an increase in trip prices, in the short-run. Long-run effects depend on the types of management measures used to constrain charter harvests. Size limits, bag limits, annual harvest limits, line limits, and prohibition on captain and crew harvests, if some of the fish went to the clients, could reduce the angler or operator surpluses generated from the trips. Seasonal closures, restrictions on where fish is allowed, or limits on the number of clients are examples of management measures that could increase the costs of providing trips.

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<sup>41</sup> Combination trips for salmon are also common in many ports in IPHC Area 3A

The proposed moratorium on new entry into the charter sector is not expected to limit the harvest of halibut from charter vessels, in the near term. The moratorium may slow the rate at which effort in the fishery increases and help protect existing operations from competition associated with additional businesses. However, the excess capacity in the moratorium is not expected to limit the amount of halibut the charter sector can harvest, at least in the near term. It is anticipated that all rents in the charter fleet would be dissipated under the moratorium.

Over time, increases in demand for charter trips are not expected to impact the commercial sector. If the proposed management measures restrict charter harvests to their allocation over a five-year rolling average, increased demand for charter trips would be offset by more restrictive management measures. Some of the proposed measures like bag limits, size limits, and seasonal closures are expected to reduce client demand by reducing the angler surplus derived from a trip. The commercial sector would only be impacted if the charter sector is not constrained to its allocation by additional management measures or if the charter sector is able to convince the Council and the Secretary to increase its allocation.

The Council is also considering allowing licensed charter operators to lease GAF from the commercial sector. It is not possible to predict the magnitude of halibut that would be transferred if leasing is allowed. However, for transfers to occur the commercial harvester must agree to the transfer. For the transaction to occur the charter business must pay a sufficient amount for the halibut to offset the forgone value of commercial net revenues (Criddle 2006). Because the charter operators do not benefit from consumer surplus and commercial harvesters do not benefit from postharvest surplus they are not considered when determining whether to buy or sell IFQ.

Charter businesses that purchase GAF from the commercial sector would realize increased costs. Those costs would be passed on to charter clients through higher trip prices. The increased costs and prices are expected to allow charter businesses to earn normal profits in the long run.

Changes in stock abundance also impact the charter and commercial sectors. Criddle (2006) notes that:

*moderate fluctuations in stock abundance or in exvessel demand for commercial catch will not affect the total net benefits of sportfishing if the allocation between the commercial and sport fisheries is a fixed quota. If the allocation is percentage based, marginal increases in stock abundance will lead to short-term gains to charter operators while marginal decreases will lead to short-term losses.*

Because this amendment assumes that a combined commercial and charter catch limit would be set annually by the IPHC, both changes in stock abundance and increased harvest by the unguided sport sector, bycatch mortality, personal use, subsistence, and wastage would reduce the commercial allocation when the charter sector is allocated a fixed poundage. If the charter sector is allocated a percentage of the combined commercial and charter catch limit, both the commercial and charter allocations would decrease when the combined catch limit is reduced. If the combined catch limit increases, both sectors would receive a larger allotment. If the charter sector is allocated a fixed number of pounds, only the commercial sector's allocation would vary when the combined commercial and charter catch limit fluctuates.

Impacts of moderate fluctuations in stock abundance would lead to changes in the commercial quota under a fixed or percentage based charter allocation. The changes in commercial quota would directly alter the magnitude of commercial harvest. Changes in the amount of halibut harvested by the commercial sector would impact exvessel prices, commercial net revenue, and post harvest surplus. Given research conducted by Herrmann et al on the price flexibility of Alaska halibut, the changes in exvessel price that results from increasing or decreasing the amount of commercial harvest in Areas 2C and 3A as a result of

this amendment are expected to be very small. The increase in exvessel prices, that results from a decline in Area 2C and 3A halibut on the market, is not expected to be sufficient to offset the loss in revenue associated with selling fewer pounds. Therefore, an allocation to the charter sector that decreases the commercial allocation is expected to result in a small increase in exvessel price, but an overall decline in the net revenue of commercial harvesters. Post harvest surplus is directly related to the quantity of halibut on the market, so a decrease in commercial harvests would lead to a decrease in post harvest surplus (Criddle, 2006). If the allocation to the charter sector is set at a level that reduces their harvest during periods when the combined commercial and charter catch limit is steady, the commercial harvest would be increased and post harvest surplus would increase.

Stock fluctuations may impact the asset value of QS held by commercial harvesters. If the changes to halibut stocks in Areas 2C and 3A occur frequently and are relatively small, they are not expected to impact QS values. However, if the stock size is expected to increase or decrease for a longer period of time it would impact QS asset values. In that situation, a decrease in stock size would reduce QS values and an increase in stock size would increase QS values. Redistributing the amount of halibut that is assigned to the charter sector could have a similar impact on QS values. Because the asset value of QS is determined by the net revenue stream that is generated from the QS, if the charter allocation alters that net revenue over the long term it would impact the QS values. So, a long term allocation to the charter sector that reduces the commercial harvest would also tend to reduce QS values. QS values could also be reduced by other market conditions that impact exvessel demand. For example, increased farm raised production of halibut (or other close substitutes for halibut) could reduce the exvessel value of halibut and reduce QS values (Criddle, 2006).

Moderate stock fluctuations are not expected to change angler success rates or the total amount of halibut harvested by charter clients. Charter operators should still be able to take clients to areas where there are sufficient halibut to have a realistic chance to fill their bag limits, if the pool of halibut is relatively static. Local area depletion has been a concern for some locations in the past, but no information has been presented that those concerns have ever lead to a decline in areawide harvests for either the commercial or charter sectors. The charter sector has harvested close to or above their GHL and the commercial sector has always harvested close to their annual IFQ allotment.

Modest increases in the stock abundance of halibut would result in more halibut being available to the commercial sector and would not affect the amount of halibut available to the charter sector under a fixed pound allocation. Because stock changes do not affect the amount of halibut available to the charter sector, it is not expected to impact the earnings of charter operators (Criddle 2006).

#### **2.6.1.1 Charter Sector Growth**

An issue that has been raised by members of the charter sector whose business is “fully-developed” is who is responsible for the growth in the charter sector's harvest? Some of the longtime charter sector participants have indicated that their halibut harvests have been stable in recent years. They book a full charter schedule each year and carry roughly the same number of clients on an annual basis. Based on their current business model, they have stated they are not part of the problematic growth in charter harvests. Instead they often point to the new entrants into the charter sector that are still trying to develop their businesses. Those persons are working to achieve the goal of booking a full-season of clients. In doing so, they are increasing the number of clients carried each year and the number of halibut their clients harvest.

Newer entrants are expected to have a very different opinion of what is fair and equitable. They would want an opportunity to expand their operation without the additional costs of leasing commercial quota. A



management system that assigns individuals access to a specific amount of fish, clients, or trips benefits the businesses that receive the largest share. Those that receive smaller shares are less well off.

## 2.6.2 Commercial Sector

Under the status quo, the Area 2C commercial and charter sectors are being impacted more severely in the near-term than the Area 3A fleets, primarily as a result of the declining CEY. Changes in stock abundance and the implementation of the coastwide assessment model are the primary reasons for the substantial allocation decrease. Table 52 shows the projected Area 2C commercial allocation under the status quo management measures and projected combined commercial and charter catch limits using the slow up fast down approach. The 2007 allocation (under an areawide assessment) shows that the commercial sector would be issued 8.67 M lbs to 9.33 M lbs depending on the charter allocation selected. Recall that the from 2004-2006 the Area 2C commercial allocation was between 10.50 M lbs and 10.93 M lbs. So for 2007 the projected decline was about 1.5 M lbs. Starting in 2008, the coastwide assessment is used for the CEY projections. The use of the new model, changes in stock abundance, and the revised charter allocation results in the commercial sector being projected to receive an allocation of 5.77 M lbs. to 6.78 M lbs. This represents a decrease in their allocation to just over one-half to two-thirds of their 2004-2006 allocation levels. By 2011 the commercial allocation is projected to be between 4.97 M lbs and 6.07 M lbs. These allocation amounts are approximately one-half to three-fourths of the size of allocations given to the commercial sector since the beginning of the halibut IFQ program.

Because the harvests from the other IHPC Areas in Alaska are not as dramatically affected, the quantity of halibut on the market is not expected to be reduced to a level that would dramatically increase Area 2C exvessel prices. The large decrease in quantity sold by Area 2C fishermen and the modest expected change in exvessel prices would decrease the net revenue of commercial harvesters. Some QS holders may be unable to remain in the fishery as a result of declines in net revenue. Operations that are unable to cover the costs of operation and the costs of capital (for QS and/or vessels and equipment) may be forced to leave the fishery. Exvessel prices, number of vessels reporting landings, and total catch are reported in Table 50 for Areas 2C and 3A. Statewide exvessel prices are also included in the table.

**Table 50 Vessels, catch, and exvessel prices from the Area 2C and 3A halibut fishery, 1995–2007**

Year	Area 2C			Area 3A			Statewide
	Vessels	Total Catch	Exvessel Price	Vessels	Total Catch	Exvessel Price	Ex-vessel Price
1995	3,077	\$7.79	\$2.04	2,971	\$17.98	\$1.99	\$1.97
1996	3,326	\$8.53	\$2.26	2,952	\$19.37	\$2.24	\$2.19
1997	3,617	\$9.64	\$2.24	3,274	\$24.28	\$2.16	\$2.13
1998	3,118	\$9.66	\$1.39	2,919	\$24.61	\$1.36	\$1.29
1999	3,451	\$9.90	\$1.99	3,074	\$24.31	\$2.09	\$2.00
2000	3,037	\$8.20	\$2.62	2,571	\$18.07	\$2.60	\$2.52
2001	2,738	\$8.17	\$2.11	2,582	\$21.07	\$2.03	\$1.99
2002	2,758	\$8.43	\$2.95	2,546	\$22.56	\$2.89	\$2.84
2003	2,755	\$8.24	\$2.95	2,551	\$22.28	\$2.89	\$2.84
2004	2,792	\$10.09	\$3.04	2,594	\$24.60	\$3.04	\$2.97
2005	2,956	\$10.50	\$3.08	2,650	\$25.05	\$3.07	\$3.00
2006	3,129	\$10.34	\$3.75	2,687	\$24.95	\$3.78	\$3.75
2007*	2,675	\$8.30	> \$4.10	2,725	\$25.96	> \$4.30	n/a

Source: NMFS IFQ allocation and landings reports 1995-2007.

\* 2007 exvessel price estimates were derived from the Federal Register Vol. 72 No. 238, December 12, 2007.

Because the QS are expected to generate lower net revenues<sup>42</sup> over the next six years (based on IPHC CEY projections), the asset value of Area 2C QS is also expected to decline. Persons that are forced to sell their QS and those that willingly sell their QS would be expected to receive less for their QS. Persons that are unable to weather the financial downturn would be bought out by persons that are in a better financial position that feel stock abundance would increase over the long-term and constraints on charter harvests would help preserve their portion of the combined commercial and charter catch limit. As a result, Area 2C QS holdings would be further concentrated.

Information on historic IFQ and QS transfers are reported in Table 51. The data trend shows that prices have generally increased from 2000–2006. However, information is not available for Area 2C after the CEY has declined in 2007 and 2008.

**Table 51 IFQ and QS transfer data for Areas 2C and 3A, 1995–2006**

Area	Year	Mean Price \$/IFQ	Total IFQ Transferred used for pricing	Mean Price \$/QS	Total QS Transferred Used for Pricing	Number of Sales Used for Pricing
2C	1995	7.58	996,874	1.14	6,629,554	315
	1996	9.13	681,056	1.37	4,539,813	289
	1997	11.73	517,715	1.92	3,057,477	211
	1998	10.14	220,894	1.79	1,253,771	106
	1999	N/A	N/A	N/A	N/A	N/A
	2000	8.20	423,347	1.15	3,006,920	95
	2001	9.22	412,990	1.36	2,806,238	100
	2002	8.97	363,474	1.28	2,550,052	84
	2003	9.76	274,537	1.39	1,926,434	93
	2004	13.70	365,513	2.41	2,073,407	93
	2005	18.06	311,907	3.31	1,699,765	72
	2006	18.43	246,540	3.29	1,380,274	77
3A	1995	7.37	1,782,912	0.79	16,658,196	355
	1996	8.40	1,582,609	0.90	14,724,748	352
	1997	9.78	1,276,525	1.32	9,443,198	294
	1998	8.55	666,649	1.20	4,743,875	157
	1999	N/A	N/A	N/A	N/A	N/A
	2000	7.94	614,960	0.79	6,212,009	120
	2001	8.63	771,815	1.02	6,519,428	145
	2002	8.35	711,255	1.02	5,810,732	124
	2003	9.81	565,653	1.20	4,629,364	126
	2004	13.88	875,829	1.88	6,463,336	157
	2005	18.07	385,893	2.49	2,803,054	96
	2006	18.09	586,035	2.46	4,301,567	116

Source: NMFS RAM

<sup>42</sup> This assumes demand for Alaska commercial halibut does not change.

The Area 2C commercial allocation is projected to always be less (during the years considered in this amendment) under the fixed poundage allocations relative to the percentage based allocations. The reason the commercial allocation is always smaller under the fixed allocation is that the CEY is smaller those years relative to the base years used to determine the allocations.

**Table 52 Projected Area 2C commercial allocations (M lbs) under each of the charter allocation options, 2007–2011**

Year	Percentage Based Options				Fixed Pound Options			Pound & Percent Options		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	9.19	8.75	9.33	8.96	9.14	8.88	8.67	9.71	8.98	8.84
2008	6.67	6.35	6.78	6.51	6.24	5.98	5.77	6.46	6.44	6.31
2009	5.80	5.53	5.89	5.66	5.25	4.99	4.78	5.53	5.36	5.24
2010	5.76	5.49	5.85	5.62	5.20	4.94	4.73	5.48	5.24	5.11
2011	5.97	5.69	6.07	5.83	5.44	5.18	4.97	5.71	5.42	5.29

Note: Assumes an Area 2C combined commercial and charter catch limit of 10.57 M lbs in 2007, 7.67 M lbs in 2008, 6.68 M lbs in 2009, 6.63 M lbs in 2010, and 6.87 M lbs in 2011.

Table 53 shows the percentage of the combined commercial and charter catch limit that is projected to be allocated to the charter sector. Obviously the fixed percentage allocation is the same each year. However, when the fixed pound allocation is used, the percentages vary dramatically. In 2007, when the combined commercial and charter catch limit is assumed to be 10.57 M lbs. The charter sector's percentage of that total ranges between 13.5% and 18.0%. When the combined commercial and charter catch limit decreases to 7.67 M lbs. in 2008, the percentage of the total allocated to the charter sector increases to 18.6% to 24.8% of the total. As the combined commercial and charter catch limit declines, the percentage of the total allocated to the charter sector declines. By 2010, the charter sector's percentage of the 6.63 M lb combined commercial and charter catch limit total is reduced to 21.6% to 28.7% of the total. Those percentages are considerably higher than the fixed percentage options being considered. The options that are based on 50% fixed pounds and 50% fixed percentages, yield results between the options strictly based on pounds or percentages. Those options provide a floor that the charter sector cannot fall below. As the combined commercial and charter catch limit approaches that limit, the percentage approaches those under the fixed pound allocations, When the combined commercial and charter catch limit increases, the percentages approach the percentage based allocation options.

**Table 53 Percentage of Area 2C combined commercial and charter catch limit allocated to the charter sector**

Year	Percentage Based Options				Fixed Pound Options			Pound & Percent Options		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	13.1%	17.2%	11.7%	15.2%	13.5%	16.0%	18.0%	13.3%	15.0%	16.4%
2008	13.1%	17.2%	11.7%	15.2%	18.6%	22.0%	24.8%	15.8%	16.1%	17.7%
2009	13.1%	17.2%	11.7%	15.2%	21.4%	25.3%	28.5%	17.2%	19.6%	21.5%
2010	13.1%	17.2%	11.7%	15.2%	21.6%	25.5%	28.7%	17.3%	20.9%	22.9%
2011	13.1%	17.2%	11.7%	15.2%	20.8%	24.6%	27.6%	16.9%	21.1%	23.0%

Note: Assumes an Area 2C combined commercial and charter catch limit of 10.57 M lbs in 2007, 7.67 M lbs in 2008, 6.68 M lbs in 2009, 6.63 M lbs in 2010, and 6.87 M lbs in 2011.

In IPHC Area 3A the projected allocations generally are at levels above those that have occurred since 1995. The projected 2008 commercial allocations ranges from about 27.15 M lbs to 28.44 M lbs, depending on the charter allocation selected. Allocations at that level are at the high end of commercial allotments issued under the IFQ program. The commercial allocations during the years 2009–2011 are projected to increase above those amounts. By 2011 the commercial allocations could exceed 30 M lbs. under the more restrictive charter allocations.

Because the commercial allocations are projected to be at or above historic levels in the near future, the QS values are not expected to decline as a result of the charter allocations being considered. If the trend of higher than historic commercial allocations occurs, the Area 3A QS values may increase.

Table 54 shows how the percentage based options benefits the charter sector when the combined commercial and charter catch limit decreases and benefits the commercial sector when it increases. In 2007, the commercial sector was projected to be allocated 25.70 M lbs under the assumptions used to create the percentage based allocation, Option 1b. Option 2c, the fixed pound charter allocation that year, is projected to allocate the commercial sector 26.23 M lbs. So the commercial sector would be allocated about 0.5 M lbs more under the fixed pounds allocation. In 2008, the combined commercial and charter catch limit is projected to increase to 32.09 M lbs. Because of the increase in available halibut, the commercial sector would be allocated 27.15 M lbs under Option 1b and 27.94 M lbs under Option 2c. Since the fixed poundage charter allocation does not increase the allocation to the charter sector, the commercial sector would be allocated about 0.8 M lbs pounds more under Option 2c compared to Option 1b. The combined commercial and charter catch limit is projected to increase from 2009–2011. By 2011 the commercial allocation under Option 1b is projected to be 29.08 M lbs. That year the commercial allocation is projected to be 30.22 M lbs under Option 2c. The increased catch limit results in the commercial allocation being about 1.2 M lbs more under the charter sector’s fixed poundage allocation. Also the mixed allocation that uses 50% of a fixed pound allocation and 50% of a percentage allocation tends to moderate the swings between the other options that are completely based on pounds or percentages. Those options would always fall between the other two types of allocation when the same years are used.

**Table 54 Projected Area 3A commercial allocations (M lbs.) under each of the charter allocation options 2007–2011**

Year	Percentage Based Options				Fixed Pound Options			Pound & Percent Options		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	26.10	25.70	26.52	26.52	26.73	26.37	26.23	26.40	25.95	25.97
2008	27.57	27.15	28.02	28.02	28.44	28.08	27.94	27.99	27.72	27.55
2009	28.39	27.96	28.85	28.85	29.40	29.04	28.90	28.88	28.40	28.43
2010	28.46	28.03	28.92	28.92	29.48	29.12	28.98	28.95	28.48	28.51
2011	29.53	29.08	30.01	30.01	30.72	30.36	30.22	30.11	29.62	29.65

Note: Assumes an Area 3A combined commercial and charter catch limit of 30.38 M lbs in 2007, 32.09 M lbs in 2008, 33.05 M lbs in 2009, 33.13 M lbs in 2010, and 34.37 M lbs in 2011.

Table 55 shows the percentage of the projected combined commercial and charter catch limit that would be allocated to the charter under each option being considered by the Council. The projections are made for the years 2007–2011 using the IPHC combined catch limits. Because the Area 3A CEYs for the years 2007–2011 are closer to their historic averages than in Area 2C, the percentages under the fixed pound and fixed percentage allocations are also more similar. Recall that in Area 2C the projected percentages under the fixed pound allocations were as high as 28% in 2010. In Area 3A the percentage allocated to the

charter sector never exceeds 14%, between 2007 and 2011, when the charter sector is allocated a fixed number of pounds.

**Table 55 Percentage of Area 3A combined commercial and charter catch limit allocated to the charter sector**

Year	Percentage Based Options				Fixed Pound Options			Pound & Percent Options		
	1a	1b	1c	1d	2a	2b	2c	3a	3b	3c
2007	14.1%	15.4%	12.7%	12.7%	12.0%	13.2%	13.7%	13.1%	14.6%	14.5%
2008	14.1%	15.4%	12.7%	12.7%	11.4%	12.5%	12.9%	12.8%	14.2%	14.2%
2009	14.1%	15.4%	12.7%	12.7%	11.0%	12.1%	12.6%	12.6%	14.1%	14.0%
2010	14.1%	15.4%	12.7%	12.7%	11.0%	12.1%	12.5%	12.6%	14.1%	14.0%
2011	14.1%	15.4%	12.7%	12.7%	10.6%	11.7%	12.1%	12.4%	13.8%	13.7%

Note: Assumes an Area 3A combined commercial and charter catch limit of 30.38 M lbs in 2007, 32.09 M lbs in 2008, 33.05 M lbs in 2009, 33.13 M lbs in 2010, and 34.37 M lbs in 2011.

RAM data indicate that a total of 1,268 persons held QS in Area 3A at the beginning of 2006. The percentage reduction in IFQ pounds resulting from the QS they hold would impact them equally. For example, RAM data indicate that the pounds of IFQ allocated in 2006 was 24.95 M lb. A 0.67 M lb reduction would result in each person being allocated 2.7% fewer pounds of IFQ, all else being equal. Persons who hold more QS would lose more pounds than persons who hold less QS, but each person would lose the same percentage of IFQ. Persons who had been issued 7 pounds of IFQ would still be issued 7 lb because their initial allocation was so small the percentage change and rounding do not affect the pounds issued<sup>43</sup>. Persons who were issued 200,000 lb in 2006 would only be issued 194,600 lb of IFQ.

Increased demand for charter trips does not affect participants in the commercial fishery when the charter sector is constrained (Criddle 2006). The proposed harvest limits are assumed to constrain the amount of halibut the charter sector can harvest over a five-year period (the charter sector harvest is required to be less than or equal to their allocation over a five-year rolling average), so the commercial allocation would not be reduced by increased charter harvests. It is also important to note that unless there are stock conservation concerns, charter overages would have a minor impact future combined commercial and charter catch limits. However, the commercial sector would be directly impacted by a charter allocation that is larger than the charter sector needs to meet their current client demand. That scenario would allow the charter sector to increase their harvest, as client demand increases, until they reach the allocation. From that point forward, the allocation would constrain the charter client harvests and the commercial sector would not be impacted by further increases in client demand.

If the amount of halibut projected to go unused at the beginning of the year is not reassigned to the commercial sector, any excess allocation to the charter sector would reduce the commercial allocation more than is necessary. The commercial sector would also be impacted if the charter sector was able to successfully lobby the Council to increase an allocation that becomes binding, and vice-versa.

Some halibut IFQ holders also participate in other commercial fisheries. The revenues generated and the costs incurred in those fisheries would impact the overall profitability of the firm that holds halibut IFQ. Data that are currently available does not allow the analysts to determine the extent of an IFQ holder's participation in other fisheries. It is not possible to link a QS holder with the licenses and permits they hold for other fisheries (i.e., Federal groundfish LLP, crab IFQ, or State permits for salmon and herring).

<sup>43</sup> The example shows that 7 lb allocation multiplied by 0.973 (1-0.027) is equal to 6.81 lbs. Rounding 6.81 lbs to the nearest pound yields a 7 lb allocation.

It is also not possible to link vessel ownership with IFQ holders. Therefore, as a proxy, the harvest history of vessels, rather than persons, was used to compare activity in other fisheries. The harvest history of vessels used to land halibut in Areas 2C or 3A was derived from CFEC fish tickets. Those data were provided by NPFMC staff and included both pounds landed and ex-vessel value for species groups.

A summary of the annual ex-vessel value generated by vessels used to harvest Area 2C and 3A halibut, during the years 1995–2006, is presented in Table 56. The value of halibut harvested shows has increased over time, peaking in 2004 at just under \$158 million. Groundfish ex-vessel values have show some variation, with the smallest values harvested between 1998 and 2002. Every other year over \$80 million in groundfish was harvested. The ex-vessel value of salmon has declined from over \$62 million in 1995 to about \$39 million in 2006. Salmon revenues were weakest in 2002 and 2003, but have increase and been fairly steady from 2004 through 2006. The aggregation of all other species has been about \$10 million per year after 1998, except in 2005 when the revenue was only \$6 million.

In percentage terms, halibut revenues accounted for only 26% of the vessel’s revenue in 1995. Their percentage from halibut revenue increased to 52% by 2004. Data were not available for 2005 or 2006.

**Table 56 Nominal ex-vessel value of fish and shellfish harvested by vessels used to harvest halibut in Area 2C or 3A**

Year	Vessels	Crab	Groundfish	Halibut	Salmon	Other	Total	
		Ex-vessel Value (Millions of Dollars)						
1995	1,929	\$35.93	\$105.25	\$65.95	\$62.23	\$16.69	\$286.05	
1996	1,821	\$21.41	\$93.87	\$79.60	\$45.23	\$21.72	\$261.84	
1997	1,776	\$19.85	\$96.83	\$104.63	\$44.38	\$16.28	\$281.96	
1998	1,487	\$20.63	\$64.80	\$65.76	\$38.63	\$8.13	\$197.94	
1999	1,495	\$28.52	\$74.03	\$110.96	\$52.24	\$10.01	\$275.76	
2000	1,440	\$12.96	\$88.34	\$123.82	\$34.96	\$9.50	\$269.58	
2001	1,336	\$13.01	\$70.94	\$104.14	\$36.48	\$9.83	\$234.40	
2002	1,270	\$16.12	\$67.95	\$117.89	\$22.28	\$11.80	\$236.04	
2003	1,222	\$16.89	\$81.92	\$150.71	\$25.55	\$11.38	\$286.45	
2004	1,190	\$15.54	\$83.10	\$157.91	\$37.22	\$10.12	\$303.90	
2005	1,053	\$17.68	\$86.86	*	\$36.32	\$6.02	n/a	
2006	1,112	\$15.06	\$92.73	*	\$38.86	\$10.66	n/a	
		Percent of Total						
1995	1,929	12.6%	36.8%	23.1%	21.8%	5.8%	100.0%	
1996	1,821	8.2%	35.8%	30.4%	17.3%	8.3%	100.0%	
1997	1,776	7.0%	34.3%	37.1%	15.7%	5.8%	100.0%	
1998	1,487	10.4%	32.7%	33.2%	19.5%	4.1%	100.0%	
1999	1,495	10.3%	26.8%	40.2%	18.9%	3.6%	100.0%	
2000	1,440	4.8%	32.8%	45.9%	13.0%	3.5%	100.0%	
2001	1,336	5.5%	30.3%	44.4%	15.6%	4.2%	100.0%	
2002	1,270	6.8%	28.8%	49.9%	9.4%	5.0%	100.0%	
2003	1,222	5.9%	28.6%	52.6%	8.9%	4.0%	100.0%	
2004	1,190	5.1%	27.3%	52.0%	12.2%	3.3%	100.0%	
2005	1,053	n/a	n/a	n/a	n/a	n/a	n/a	
2006	1,112	n/a	n/a	n/a	n/a	n/a	n/a	

Source: CFEC Fishticket data provided by NPFMC staff

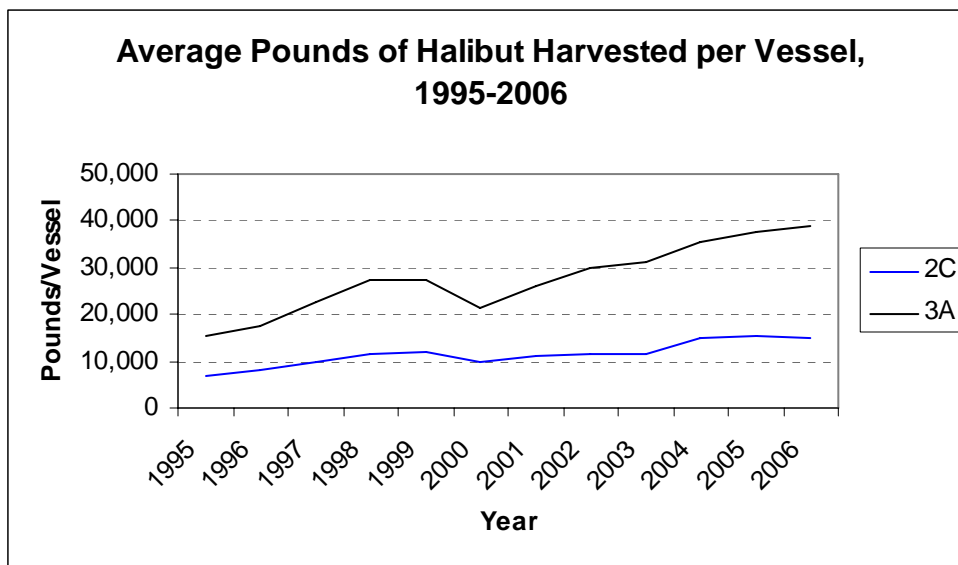
Note: Exvessel halibut values for 2005 and 2006 were not available from the NPFMC staff when the data were provided. When information was not available or could not be calculated the cell value is listed as n/a.

Table 56 also shows the total number of vessels used to harvest halibut. The number of vessels has decreased over time. The only years the number of vessels increased over the previous year were 1999 and 2006. Overall, the number of vessels used to harvest halibut decreased from 1,929 in 1995 to 1,112 in 2006. That change represents a 42% decline in the number of vessels used. During that same period the Area 2C commercial halibut harvest increased from 7.77 M lb to 10.47 M lb (34.7%). The Area 3A

halibut harvests increased from 18.34 M lb to 25.38 M lb (38.4%). So, even with an increase in harvest, the number of vessels used to harvest the fish declined.

Figure 13 shows the increase in average halibut harvest<sup>44</sup> per vessel in Areas 2C and 3A. The trend lines indicate harvest per vessel is increasing in both areas, with a decrease in 2001. Area 3A shows the largest increase going from about 15,000 pounds per vessel in 1995 to about 40,000 pounds in 2006. Area 2C vessels averaged about 7,000 pounds in 1995 and increased to about 15,000 pounds in 2006.

That trend to harvest more halibut per vessel seems to indicate that participants in the IFQ fishery are attempting to reduce costs by more fully utilizing the active vessels in the fleet. Cost reductions were thought to be an important result of allowing individuals to harvest a set percentage of the available halibut. Estimates of the actual reduction in costs cannot be provided, but the cost-savings could help offset the forgone increase in ex-vessel revenue that has resulted from increased charter harvest.



**Figure 13** The average pounds of halibut harvested per vessel in the Area 2C and 3A IFQ fishery, 1995–2006

Leasing of GAF would allow commercial operators sell IFQ to the charter sector. They are only expected to sell IFQ to the charter sector if they receive sufficient compensation to offset the net revenue they would derive from harvesting the fish themselves. Because commercial harvesters generate different amounts of net revenue from their allocation, the commercial operations that generate the lowest marginal net revenue would be most likely to lease halibut. Charter operations that have the highest net revenue per fish are expected to be the most willing buyers, if their net revenue per fish is greater than or equal to the lease cost per fish.

### 2.6.3 Charter Clients

Charter client trips would not be constrained by the amount of halibut available to their sector in-season under the status quo. However, demand for charter trips could decline as more restrictive management measures are imposed (e.g., a one-fish bag limit in Area 2C). Charter operators would change the number of trips they offer or take more clients per trip to meet client demand under the moratorium until the fleet

<sup>44</sup> Data were provided by the RAM division of NMFS.

is at full capacity. Because of the excess capacity that is expected to exist under the moratorium, at least in the short term, charter clients are expected to pay prices for trips that would allow the charter operators to earn normal profits (NPFMC 2006a). Charter operators would not raise trip prices to earn economic rents because of the competition that would exist for clients. In the event that the moratorium ever does become a constraint on the number of clients that could fish halibut, increases in trip demand could lead to higher trip prices.

Differential trip prices could result if clients wanted to use GAF to relax harvest restrictions. For example, if a client wanted to harvest 2-fish in Area 2C, they may need to compensate the charter operator for the additional cost associated with the lease of the GAF. The pricing structures for various types of trips is unknown. However, the use of GAF would increase trip costs and those costs are expected to be passed on to the client. Charter operators whose clients are willing to pay the higher cost are more likely to lease the GAF. These businesses could offer additional services (e.g., a lodge) that help spread the cost over more amenities, or they could cater to clients that are willing to pay a fee in addition to the base trip price for the privilege of retaining more or larger halibut.

Because of the structure of the charter industry and the competition for charter clients, charter operators are expected set trip prices at levels that eliminate excess profits. Since charter operators are not expected to generate long-run producer surplus, the charter clients are expected to generate all of the long-run net benefits for the charter sector.

Criddle et al. (2003) found that, during 1997 in the Kenai Peninsula region, the net benefits to consumers of halibut charter trips averaged about \$119 per trip for a non-resident and \$83 for a resident. Those numbers represent the averages for 61,709 trips by Alaskan residents and 86,970 trips for non-residents. The study also found that total consumer benefits were increasing, but at a decreasing rate. Therefore, additional charter trips would tend to increase total consumer surplus, but at a decreasing rate. The smaller marginal consumer surplus from each additional trip would reduce the average net benefit per client. Charter clients are also expected to generate consumer surplus in other 2C and 3A regions. The magnitude of the surpluses in those areas has not been estimated.

Status quo regulations are expected to be more restrictive in Area 2C than in Area 3A. After 2007, we have assumed that a one-fish bag limit and a four-fish annual limit would be in place in Area 2C. Those management measures are expected to reduce both consumer demand and consumer surplus more than the regulations in place for Area 3A. In Area 3A the charter clients would remain under a two-fish bag limit and a possession limit of four-fish. The number of halibut that may be harvested by a client during the year is not further regulated in Area 3A. Because of the different management measures in place for the two areas, clients that have the opportunity may chose to take a trip in Area 3A instead of Area 2C. This behavior would shift demand from Area 2C to Area 3A. If non-residents increase the percentage of trips they take in Area 3A, overall consumer surplus may increase more than if participation patterns remained static.

We assume that the moratorium is not a constraint to persons booking a trip. Competition for clients is expected to keep trip prices at a level that allows charter operators to only earn normal profits. All else being equal, the price of trips should not increase as a result of the status quo management measures. Seasonal discounts may continue to be offered, especially in Area 3A, as charter operators try to attract clients during the non-peak seasons. Discounted trips have historically been available before mid-June and after mid-August.



## 2.6.4 Consumers of Commercial Halibut

The Pacific halibut resource is fully utilized by commercial and sport fishermen in Areas 2C and 3A, and the open-ended reallocation from the commercial halibut sector to the charter halibut sector continues to exist. Continued growth in the amount of halibut harvested by the charter sector would decrease the amount of halibut available to consumers. Decreases in the amount available would result in increases in halibut prices, all else being equal. As stated earlier, the increase in ex-vessel price that would result from decreased supply is expected to be modest given the price-flexibility of halibut. Even though the price increases are expected to be relatively small, the combination of increased prices and reduced availability would decrease consumer surplus (Criddle 2006). The exact amount of the decrease surplus has not been estimated and is outside the scope of this analysis.

Allowing the charter sector to lease commercial IFQ would decrease consumer surplus if transfers occur. The leases would reduce the amount of halibut available to halibut consumers. Because of the direct relationship between consumer surplus and quantity supplied, benefits to consumers of commercial halibut would be reduced.

## 2.6.5 Communities

Economic activity resulting from the charter and commercial halibut fisheries generates income for residents of the communities where the expenditures occur. Employment is also created in communities that provide goods and services to the fishing sectors.

The regional economic benefits under the status quo would likely differ from those under an allocation to the charter sector that imposes additional management measures in future years. However, changes in regional economic benefits generally do not cause changes in net national benefits.

The moratorium analysis provided information on the communities where charter trips terminated in 2004 and 2005 (NPFMC 2006a). Information was also provided in that analysis showing the percentage of Area 2C and 3A commercial halibut QS held by residents of various communities. Those tables indicated that in many cases the charter and commercial fisheries operate in the same communities. When a community is home to both charter and commercial activity, the reduction in expenditures by one sector would be offset, at least to some degree, by the increased activity from the other sector. When the amount of fish available to both sectors decreases, as happened in Area 2C in 2008, the activity of both sectors is reduced. Because the activity of both sectors is reduced the regional benefits from the fisheries would decline, because the variable costs of the fleets are reduced.

Under the status quo, the amount of personal income and jobs generated by the charter sector is expected to increase in Area 3A in the long-run. In Area 2C the sector would experience declines in the short-term, as a result of stricter management measures imposed to keep the sector within the GHL (Table 57). If the CEY increases to higher levels in the future the charter sector would be expected to increase the amount of personal income and jobs it creates above the 2008 levels.

The economic activity reported in the University of Alaska Fairbanks angler survey (Lee et al. 1998, Herrmann et al. 2001) and the ADFG angler survey conducted in 1997 (Howe et al. 1998) were used to estimate regional economic impacts for the Kenai Peninsula Borough (Criddle et al. 2003). The results of that analysis showed that the 197,556 saltwater sportfishing trips in 1997 generated \$28.5 million in expenditures, \$12 million in personal income, and 822 jobs. These values over-estimate the impact of the halibut charter sector in the Kenai Peninsula because the values include non-guided fishing trips. However, the impacts do not account for the regional impacts generated by trips in other Area 2C and 3A communities. That analysis also provides estimates of the impact that changes in expected charter harvest

and increases in trip prices would have on compensating variation, expenditures for sportfishing trips, personal income, and employment. Because the status quo is not expected to impact trip prices, that information is more relevant under a management system that alters those trip attributes.

No options are being considered that limit the harvest of the charter sector within a fishing season. However, the management measures that are expected to be imposed on the Area 2C charter fleet starting in 2007 are expected to reduce client demand for trips (e.g., a one-fish bag limit). When the number of trips taken is reduced by additional management measures, the charter sector would need fewer supplies and it would reduce expenditures within the communities that supply those goods. When the charter sector purchases fewer goods and services within the community it has a negative impact on their economy and employment, if the reductions are not offset by increased purchases by the commercial sector. While the allocation considered in this amendment would shift the amount of halibut available to the commercial sector and charter sectors, the overall near-term CEY reductions are likely to have a larger impact on the regional economies than shifting the available halibut among sectors. Individuals within those communities are more likely to be impacted by allocation shifts than the regional economy, because spending by the two sectors would to some extent offset each other. The total reduction in trips by community cannot be estimated. Information on the expenditures by charter operators by community is also unavailable. Collecting that information would be both expensive and time consuming, and is outside the scope of this amendment.

Table 58 shows that in Area 3A, the larger halibut ports and those on the road system seem to start providing trips before communities that are more remote. This may be the result of local residents driving to those areas from Anchorage and Fairbanks to take early season trips. The communities that are more remote need to attract clients from the outside. Those individuals may be seeking more than just a halibut trip. They may be seeking the cultural experience of visiting places that most tourists do not see. The halibut trip is a part of that overall experience. Getting these individuals to alter the timing of their trip to have access to halibut may be difficult. If they cannot attract clients earlier in the year, the early closures that result from the harvest caps could have a greater impact on their charter industry.

**Self-guided anglers and subsistence harvesters:** Continuation of the status quo is not expected to impose costs or provide additional benefits to self-guided anglers or subsistence harvesters. Because halibut removals by those two groups are unrestricted and deducted from the CEY prior to determination of the proposed combined commercial and charter catch limit, the amount of halibut harvested by the commercial and charter sectors do not impact the halibut available to these groups.

Imposing a limit on the amount of halibut charter clients may harvest or reducing their bag limit could result in some individuals that have access to a private boat fishing for halibut without a guide, when they would have used a guide service all else being equal. Increasing effort in the non-guided sector is more likely to occur in Area 3A where the percentage of clients from Alaska is greater than in Area 2C. Alaska residents are more likely to know someone that would allow them to fish on their boat than a visitor who came to Alaska on a cruise. If additional effort in the non-guided sector results in that sector harvesting more halibut, it could reduce the amount of halibut available to the charter and commercial sectors.

**Table 57 Area 2C communities where halibut charter trips terminated in 2006, by number of anglers and week of the month**

Port of Landing	Week Fished During 2006																				Total					
	7 to 17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36		37	38	39	40 - 42	
ALL OTHER PORTS		4	4	4	25	23	45	93	189	163	140	112	202	148	137	102	186	184	90	32	44	11	9	1947		
HAINES											5	19	23	42	19	29	23	7	6	10			9	3	195	
FISHERMANS BEND									14	20		18		24	12	26	36	12	27	16					205	
TENAKEE								18	8	3	8		14	14	22	6	24	21	44	41	2				225	
SURESTRIKE					2	8	17	18	20	16	16	21	17	25	18	20	20	20	11						249	
SARKAR COVE						8	10	28	24	12	28	20	16	20	24	20	27	27							264	
CLOVER BAY								41	30	37	12	27	14	28	36	23	25	4							277	
POINT BAKER					8	18	21	24	24	23	11	17	20	16	12	22	24	31	8	14	6				299	
BAY OF PILLARS								16	28	12	49	40	57	10	61	27									300	
GULL COVE				6	12	22	19	27	20	26	9	19	33	15	12	16	16	12	20	26	20	6			336	
SEALING COVE					7	34	43	40	36	18	15	33	27	26	13	18	3	5	15	12					345	
PORT PROTECTION		2	8	15	5		8	47	24	10	8	20	23	33	37	22	7	39	4	4	19	9	6		350	
CANNERY COVE					24	22	28	22	24	32	27	27	16	26	29	25	37	18	14						371	
PORT ST NICHOLAS					12		38	35	23	31	34	32	39	42	50	36	38	15							425	
SALTERY COVE						6	34	42	42	42	27	30	34	16	40	24	36	36	24	16					449	
ANGOON								13	30	63	53	47	65	46	44	67	40								468	
PORT ALEXANDER								44	60	50	64	59	64	51	41	16	26			18	2				495	
ROCKY POINT					2	41	25	39	33	41	41	50	55	52	50	43	32	30							534	
PELICAN				16	13	9	19	35	51	40	63	37	27	66	30	39	38	47	5						535	
THOMAS BASIN				16	17	24	41	48	37	41	43	29	29	28	40	34	19	19	20	25	20				570	
WHALE PASS (POW - SE)							28	45	38	38	48	48	73	71	51	20	37	32	38		4				571	
BARTLETT COVE	9			43	93	52	7				29	4		19	27	11	11	10	33	116	104	68			636	
S KAIGANI BAY							10	56	30	33	76	71	72	66	63	62	56	50	12						657	
FALSE ISLAND							59	31	59	71	30	74	60	49	64	56	38	46	9	4	8				658	
THORNE BAY						13	6	15	57	45	19	79	60	80	92	91	76	47	34	8	19	4		9	754	
SPRUCE MILL NEW FLT			4	2	12	30	32	31	25	40	36	45	53	53	59	67	39	39	59	19	39	35	28	8	755	
YES BAY							8	43	36	47	60	39	75	58	51	30	74	94	37	19	38	39	18		766	
WRANGELL		12	5	7	23	46	16	26	35	45	44	72	100	106	40	62	67	65	7	2		6	10		796	
KNUDSON COVE				4	11	28	37	40	46	68	84	39	79	33	48	44	76	71	84	28	26	16		2	864	
SHELTER ISLAND					10	44	54	64	73	40	75	62	62	42	74	70	70	67	41	39					887	
WARM SPRINGS BAY			3	38	30	27	8	70	69	59	62	48	55	29	34	33	38	28	47	36	31	47	55	40	887	
SALMON FALLS							37	12	68	80	90	78	94	76	52	92	87	54	53	15					888	
COFFMAN COVE						6	13	2	8	32	123	75	110	86	118	106	91	85	38	8	8				909	
CLOVER PASS						27	25	49	52	108	95	100	78	87	91	80	87	99	51	33	16	7	4		1089	
PYBUS POINT					24	6	59	89	101	114	108	85	101	99	79	54	82	72	49						1122	
JUNEAU						10	53	26	44	78	121	149	77	133	90	88	153	116	59	47	15				1259	
KILLISNOO							6	55	72	96	101	149	129	150	123	83	154	105	59	29	28	39			1378	
SALMON LANDING	4		6	14	28	57	47	73	108	108	126	91	113	82	120	118	94	88	67	57	57	56	16	14	1544	
SPORTSMAN COVE							24	150	144	144	124	97	96	132	106	104	122	158	150	100	110	24			1785	
KLAWOCK			4		4	8	4	3	40	103	133	158	134	146	208	176	160	206	114	106	32	17	23	9	1788	
AUKE BAY						7	22	62	108	127	175	183	156	162	196	217	274	201	238	149	103	26	29	18	2453	
HOONAH				6	41	70	104	145	147	191	159	175	206	182	108	204	166	189	132	150	125	103			2603	
PETERSBURG				6	17	74	80	138	223	167	212	186	159	251	142	191	164	181	132	78	118	84	46		2649	
GUSTAVUS					4	8	104	272	228	213	271	233	295	303	320	317	289	390	227	177	66	16			3733	
KETCHIKAN	2		4	25	10	49	101	165	202	261	417	344	347	446	414	446	367	320	276	222	128	43	44	16	4649	
ELFIN COVE				26	166	209	284	299	357	398	374	305	280	303	316	348	313	297	284	290	52		4		4905	
CRAIG			4	21	40	39	135	179	257	403	596	697	594	779	852	730	772	701	592	290	121	32	12	14	14	7874
LODGES*	8			8		22	243	477	639	715	769	784	874	887	811	821	721	865	789	653	251	12			10349	
SITKA	5		8	6	190	1030	1440	1812	2298	2210	2432	2342	1780	2316	2254	2141	1712	2236	2122	1579	1127	442	152	50	27	31711
TOTAL	28	34	69	419	1563	2718	3853	5442	6254	7166	7650	6809	7844	7989	7491	7178	7598	7288	5437	3498	1797	1027	472	132	99758	

\*WATERFALL, EL CAPITAN, DOVE ISLAND LODGE, AND SHELTER COVE LODGE

Source: ADF&G 2006 Logbook data for halibut charter trips

**Table 58 Area 3A communities where halibut charter trips terminated in 2006, by number of anglers and week of the month**

Port of Landing	Week Fished During 2006																				TOTAL						
	3 to 17	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35		36	37	38	39	40 to 50	
ALL OTHER PORTS		5	2	1	14	24	10	29	44	78	99	80	108	101	117	187	194	187	182	112	153	77	41	13	5	1872	
RASPBERRY ISLAND									3	12					11	19	21	29	37	26	16	17			9	200	
AMOOK PASS												15	5	20	25	30	12	12	13	20	41	10	2			205	
PASAGSHAK BAY						16				9	15	4	6	5		18	10	12	13	16	17	11	22	33	13	220	
PORT WAKEFIELD												18	6					35	47	52	56			6		220	
PARKS CANNERY										10	35	16	8	15	2	12	4	11	24	24	19	32	12			224	
ANTON LARSEN BAY		6				2		4	12	19	35		3	36	49	23	9	13		9	11	11	15	4		2	263
ZACHAR BAY									20	18	21	12	6	65	5	11	1	4	25	20	27	28	3	2		8	276
UGAK BAY								6	36	30	24	22	15		12	17	32	9	31	11	14	23	13			295	
SELDOVIA						23	29	25	48	50	42	41	30	72	65	72	31	20	3	20			4			14	589
CORDOVA	4					2	19	16	14	48	43	47	48	44	10	50	32	37	36	46	59	32	7	14		8	616
MILLERS LANDING					3	14	6	43	33	55	52	83	108	104	57	60	115	75	63	54	39						964
OLD HARBOR					44	60	50	73	51	60	105	68	71	56	24	46	38	104	79	46	43	24	4				1046
PORT LIONS						39	45		65	94	70	91	80	82	49	99	84	97	115	136	76	78	5			22	1327
LARSEN BAY								68	64	86	140	121	109	105	88	80	102	160	143	167	81	53	16	13	161	1757	
HAPPY VALLEY				35	102	152	162	154	82	52	103	118	130	165	134	54	42	113	89	103	7	12					1809
NINILCHIK				26	70	148	235	111	148	176	193	149	181	178	226	194	162	113	64	60	26	17					2477
WHITTIER				13	51	78	89	176	61	169	198	263	255	156	192	262	161	101	114	102	39	72	20		9	2743	
YAKUTAT	34	41	37	59	50	49	62	79	131	202	159	284	220	157	40	61	85	194	223	204	190	219	246	120	55	3201	
KODIAK	5	3	8		41	62	86	84	129	206	170	301	338	380	282	430	423	397	391	340	323	172	190	114	52	4927	
VALDEZ	7	6	5	46	36	148	203	242	210	328	537	632	742	575	442	497	387	301	190	181	119	13	10		4	5861	
ANCHOR POINT			6	119	74	154	260	237	258	443	689	482	930	738	1219	638	640	402	333	257	244	57	6				8186
DEEP CREEK			55	505	681	1311	1777	1569	1453	1437	1654	1383	1788	1271	2414	1440	1269	731	689	598	312	68					22405
SEWARD	116	33	82	153	285	505	991	1207	948	1564	2040	2349	3000	2819	1624	2611	2482	2924	1398	1396	1025	298	194	51	25	30120	
HOMER	117	164	138	334	472	906	1408	1952	2267	3076	3454	3852	4352	4229	5599	3797	4011	2581	2911	1793	1228	987	481	212	157	50478	
3A Total	283	258	333	1291	1923	3654	5442	6079	6054	8220	9886	10432	12550	11331	12682	10693	10387	8725	7209	5799	4258	2277	1360	602	553	142281	

All other ports includes: Afognak, Ak Wilderness Safaris Lodge, Alderwood Retreat, Amook Island, Anchor River, Blue Dory Lodge, Chenega, Comfort Cove, Cranberry Creek, Dog Bay Harbor, Ellamar, Geographic Harbor, Halibut Cove, Hidden Basin, Icy Bay Lodge, Iliamna, Iliamna Bay, Iron Creek, Jakalof Bay, Kasitsna Bay, Kenai, Kiliuda Bay, Kukak Bay, Lowell Point, Ouzinkie, Poohs Landing, Port Vita, Port William, Rainbow Bay Resort, Ravencroft Lodge, Seal Bay (Sc), Selief Bay, Silver Salmon Creek, Tutka Bay, Uganik Bay, Uyak Bay, Whale Pass (Sc), Williamsport.

Source: ADF&G 2006 Logbook data for halibut charter trips

# 3 INITIAL REGULATORY FLEXIBILITY ANALYSIS

## 3.1 Introduction

The Council considered implementing an allocation of a combined commercial and charter catch limit. In addition to the allocation the Council also considered allowing licensed members of the charter sector to lease IFQ from the commercial fleet. The Regulatory Flexibility Act (RFA) emphasizes predicting significant adverse economic impacts on small entities (e.g., businesses) as a group distinct from other entities, which may result from regulations being proposed. Since the RFA is applicable to businesses, non-profit organizations, and governments, guided anglers fall outside of the scope of the RFA. Therefore, they would not be discussed in the RFA context. The focus of the RFA section would be the halibut charter businesses and the commercial QS holders in IPHC Areas 2C and 3A.

Until the Council makes a final decision, a definitive assessment of the proposed management alternative(s) cannot be conducted. In order to allow the agency to make a certification decision, or to satisfy the requirements of an Initial Regulatory Flexibility Analysis (IRFA) of the preferred alternative, this section addresses the requirements for an IRFA, which is specified to contain the following:

- A description of the reasons why action by the agency is being considered;
- A succinct statement of the objectives of, and the legal basis for, the proposed rule;
- A description of and, where feasible, an estimate of the number of small entities to which the proposed rule apply (including a profile of the industry divided into industry segments, if appropriate);
- A description of the projected reporting, recordkeeping and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that would be subject to the requirement and the type of professional skills necessary for preparation of the report or record;
- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap or conflict with the proposed rule;
- A description of any significant alternatives to the proposed rule that accomplish the stated objectives of the Magnuson-Stevens Act and any other applicable statutes and that would minimize any significant economic impact of the proposed rule on small entities. Consistent with the stated objectives of applicable statutes, the analysis shall discuss significant alternatives, such as:
  - The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
  - The clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
  - The use of performance rather than design standards;
  - An exemption from coverage of the rule, or any part thereof, for such small entities.

## 3.2 A description of the reasons this action is being considered

The Pacific halibut resource is fully utilized by commercial and sport fishermen in IPHC Areas 2C and 3A. The Council has adopted a GHF for guided sport fishermen and a moratorium on new businesses entering the halibut charter business. However, those actions have not resolved allocation issues between the guided sport sector and other users of the halibut resource. Concerns of reallocation between the commercial and guided sport fishermen still exists, and members of the commercial halibut sector are concerned about the stability of their access to the halibut resource. This action is expected to provide the basis for determining the commercial and charter allocations of a combined commercial and charter catch limit.

A major motive in developing this program was to stabilize commercial and charter halibut harvests. Commercial halibut fishermen remain concerned that the charter fleet would erode their percentage of the harvest. These concerns have created tension within communities that are dependent on the halibut resource. It is hoped that stabilizing the relative harvests of the two sectors would ease those tensions.

The allocation alternatives, based on historic charter harvests, would defined the amount of halibut allocated to the common pool. All licensed halibut businesses would be allowed to provide their clients the opportunity to harvest from that allocation. In the event the charter regulations in their area are more restrictive than the unguided angler regulations, the charter operators could purchase GAF for their clients to use to harvest halibut that would be allowed under the unguided angler regulations but not the guided angler regulations.

### **3.3 Objective Statement of Proposed Action and its Legal Basis**

The objective of the proposed action is to design a program that would resolve conflicts between the commercial and guided sport sectors of the halibut fishery in IPHC Areas 2C and 3A. During the early 1990s, the guided sport fleet experienced substantial growth. Projections made in the mid-1990s, indicated that, if left unchecked, the charter fleet could grow to a level equal to or greater than the commercial fleet in Areas 2C and 3A by year 2008. Those growth rates have not been realized, but there has been a growth trend in charter harvests over the past 12 years.

The Council stated the objective of this amendment is to establish a catch sharing plan for the commercial and charter sectors. The charter sector's allocation would be managed to ensure that, on average, they stay within their allocation. When establishing that allocation the Council also considered the charter sector's need to have a stable in-season regulatory environment. Management of the charter sector would be done to ensure that they are given advance notice and predictability with respect to management tools and season length. To achieve these goals, management measures would be adjusted during the soonest year after the overage as possible. The Council also stated their intent to review whether the charter sector is staying within their allocation over a five-year rolling average, and that they would tend to err on the side of more restrictive management measures. The halibut IFQ program constrains commercial harvests. The IFQ program could be modified to allow the charter sector to lease commercial IFQ. Leasing IFQ would allow the charter sector grow over the long term, but only when they compensate the commercial sector for those fish.

The Halibut Act, along with the Magnuson-Stevens Act, grants the Council authority to oversee allocations of the halibut fishery in Alaskan and Federal waters. Setting overall removals of halibut is under the authority of the International Pacific Halibut Commission.

### **3.4 Description of each Action (non-mutually exclusive alternatives)**

A complete list of the primary alternatives is contained in Chapter 1 of this document. That section is incorporated here, by reference. The major alternatives being considered are:

Alternative 1. Status Quo - Do not develop measures to implement an allocation of a combined commercial and charter catch limit.

Alternative 2. Implement a charter allocation based on a fixed number of pounds or as a percentage of a combined commercial and charter catch limit.

Option 1: Fixed percentage

	Area 2C	Area 3A	Based on:
a.	13.1 %	14.0%	125% of the 1995-1999 avg charter harvest (current GHL formula)
b.	17.3 %	15.4 %	125% of the 2001-2005 avg charter harvest (GHL formula updated thru 2005)
c.	11.7 %	12.7%	current GHL as percent of 2004
d.	15.1 %	12.7%	2005 charter harvest

#### Option 2: Fixed pounds

	Area 2C	Area 3A	Based on:
a.	1.43 Mlb	3.65 Mlb	125% of the 1995-1999 avg charter harvest (current GHL)
b.	1.69 Mlb	4.01 Mlb	125% of the 2000-2004 avg charter harvest (GHL updated thru 2004)
c.	1.90 Mlb	4.15 Mlb	125% of the 2001-2005 avg charter harvest (GHL updated thru 2005)

Option under a, b, and c:

Stair step up and down. The allocation in each area would be increased or reduced in stepwise increments based on a change in the total CEY. If the halibut stock were to increase or decrease from 15% to 24% from its average total CEY of the base period selected for the initial allocation at the time of final action, then the allocation would be increased or decreased by 15%. If the stock were to increase or decrease from at least 25% to 34%, then the allocation would be increased or decreased by an additional 10%. If the stock increased or decreased by at least 10% increments, the allocation would be increased or decreased by an additional 10%.

#### Option 3: 50% fixed/50% floating allocation

	Area 2C		Area 3A	
	50% of:	and	50% of:	50% of:
a.	13.1 %		1.43 Mlb	14.1 %
b.	15.9 %		1.69 Mlb	15.4 %
c.	17.3 %		1.90 Mlb	15.4 %

### 3.5 Reason for, and focus of, an IRFA

To ensure a broad consideration of impacts and alternatives, this draft IRFA has been prepared pursuant to 5 USC 603, without first making the threshold determination of whether or not the proposed actions would have a significant adverse economic impact on a substantial number of small entities. In determining the scope, or ‘universe’, of the entities to be considered in an IRFA, NMFS generally includes only those entities, both large and small, that can reasonably be expected to be directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the directly regulated group(s) (e.g., user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis.

### 3.5.1 Requirement to Prepare an IRFA

The RFA, first enacted in 1980, was designed to place the burden on the government to review all proposed regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or non-profit organization frequently has a bearing on its ability to comply with a federal regulation. Major goals of the RFA are: (1) to increase agency awareness and understanding of the impact of their regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting (negative) impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action.

#### 3.5.1.1 What is a Small Entity?

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a ‘small business’ as having the same meaning as ‘small business concern’ which is defined under Section 3 of the Small Business Act. ‘Small business’ or ‘small business concern’ includes any firm that is independently owned and operated and not dominate in its field of operation. The SBA has further defined a “small business concern” as one “organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials, or labor... A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust, or cooperative, except that where the form is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture.”

The U.S. Small Business Administration (SBA) has developed size standards to carry out the purposes of the Small Business Act, and those size standards can be found in 13 CFR 121.201. The size standards are matched to North American Industry Classification System industries. A business involved in providing fishing charter services is a small business if it is independently owned and operated and not dominant in its field of operation and if it has combined annual receipts not in excess of \$6.5 million. A business involved in fish harvesting is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual receipts not in excess of \$4 million for all its affiliated operations worldwide. A business involved in both the harvesting and processing of seafood products is a small business if it meets the \$4 million criterion for fish harvesting operations.

The SBA has established “principles of affiliation” to determine whether a business concern is “independently owned and operated.” In general, business concerns are affiliates of each other when one concern controls or has the power to control the other, or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern’s size. However, business concerns owned and controlled



by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805, are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50% or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or has the power to control less than 50% of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors, or general partners control the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor and subcontractor are treated as joint venturers if the ostensible subcontractor would perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

### **3.5.1.2 Description of the Businesses Directly Regulated by the Proposed Action(s)**

#### **Charter Fishery**

Charter businesses are almost all expected to be small businesses, based upon SBA criteria that their annual gross revenue does not exceed \$6.5 million. Because revenue data are not collected from these businesses it is not possible to provide average business revenues. Instead general data are used to discuss why they are thought to meet the small entity classification.

In Area 2C, 2006 ADF&G data show that there were 696 vessels operating as charters. Because revenue figures from individual charter operators are not available, the analysis attempts to provide an estimate. Key informant interviews indicate single trip prices average between \$150 and \$250 per day. Hence, a single vessel could generate \$180,000 in a single season, if it operated one trip per day, at fully capacity. Two trips per day for every day of the season would generate \$360,000 in gross revenue. ADF&G data indicate that the average vessel took just under 35 trips in 2006, with an average client load of 3.86 passengers. Thus, the average vessel likely generated approximately \$34,000 in gross revenue. While it is not uncommon in this sector for a single entity to own and operate multiple charter vessels, the analysis concludes that all operators are likely to be small businesses, based upon the \$6.5 million SBA threshold for RFA. The largest companies involved in the fishery are lodges or resorts that offer accommodations as well as an assortment of visitor activities, and may be large entities under the SBA size standard. Key informant interviews conducted for previous charter issues indicated that the absolute largest of these companies may gross more than \$6.5 million per year, but it is also possible that all of the entities involved in charter halibut harvest grossed less than that amount. This analysis is unable to verify these estimates.

In Area 3A, ADF&G data showed that there were 625 vessels recording charter trips for halibut in 2006 for which, exact revenue figures from individual charter operators are not available. The analysis deduces that all single-vessel operators are likely small businesses based on their ability to generate revenue. The charter season lasts for a approximately of 120 days between early May and mid-September and vessels are generally carry up to six paying passengers per trip. Key informant interviews indicate single trip

prices average between \$150 and \$250 per day. Hence, a single vessel operator could generate \$180,000 in a single season if he took one trip per day at maximum capacity. Two trips per day (or carrying 12 passengers for one trip per day) at maximum capacity and sailing everyday of the season would generate \$360,000 in revenue. ADF&G data indicate that the average vessel took just under 37.5 trips in 2006 with an average client load of 5.9 passengers. Thus, the average vessel likely generated approximately \$55,000 in revenue. More than 118 vessels operating at maximum capacity would be needed to generate more than \$6.5 million in revenue. There is no business in the affected area operating this many vessels. Thus, the analysis concludes that most operators are likely to be small businesses.

The four owners with the largest catch histories harvested over 4,000 halibut, on average, in Area 2C and just under 3,800 halibut in Area 3A during 1999 (NPFMC 2005). At an estimated 20 pounds per fish, this equates to 80,000 pounds of halibut for those four Area 2C owners on average, and 76,000 pounds for the four Area 3A vessel owners on average. The largest of these companies, which are lodges, as stated earlier, may not be considered a small entity under SBA standards, but that cannot be confirmed. All of the other 800-plus charter operations would likely be considered small entities, based upon SBA criteria, since they would be expected to have gross revenues of less than \$6.5 million on an annual basis.

### **Commercial fishery**

Businesses operating in the commercial halibut fishery are directly regulated by this action. By the Council requesting the IPHC to implement a combined commercial and charter catch limit it creates a single pool of fish from which the two sectors harvest. They are also directly regulated by allowing commercial QS holders to lease IFQ to the charter sector.

All Area 2C and 3A IFQ halibut vessels and charter vessel operators are likely to be small businesses, for the purpose of this analysis. In 2006, 672 unique vessels made 3,129 halibut landings totaling 10.339 Mlb in Area 2C. In Area 3A 670 unique vessel made 2,687 landings totaling 24.954 Mlb (McDowell 2007 NMFS RAM Program 2007).

The IFQ program limits the amount of annual IFQ that a vessel may be used to harvest and the maximum number of QS units a person may use. A vessel may be used to land up to 1% of all halibut IFQ issued in Area 2C. In Area 3A the cap is 0.5% of the IFQ issued. NMFS annually publishes the number of QS units that a person may use. The number of units are based on a 1% cap of QS units in 2C and 0.5% of the QS units in Area 3A. NMFS annually publishes “standard prices” for halibut that are estimates of the ex-vessel prices received fishermen for their harvests. NMFS uses these prices for calculating permit holder cost recovery fee. In 2006, the average price per pound in Area 2C and 3A were \$3.72 lb and \$3.70 lb, respectively (RAM data). The prices ranged from \$3.42 lb in February to \$4.18 lb in September, October, and November (headed and gutted weight) (50 FR 78383). These harvest limits and prices imply maximum ex-vessel revenues of about \$0.952 million, for the 2006 halibut fishery in a vessel that owned the maximum amount of QS units divided in a revenue-maximizing way between Area 2C and 3A. Average vessel revenue, if all of the halibut had been sold at the 2006 maximum average price, would have been roughly \$64,000 per vessel in Area 2C and \$150,000 in Area 3A. Exvessel prices in 2007 are expected to be over \$4.10 lb in Area 3A and over \$4.30 lb in Area 2C based on data reported in Federal Register Vol. 72, No. 238 Wednesday, December 12, 2007. The higher exvessel prices are offset by reductions in pounds of halibut available to harvest in Area 2C. Total halibut catch was reduced from 10.34 M lb to 8.30 M lbs from 2006 to 2007. This represents a decline to about 80 percent of 2006 harvest levels. Exvessel prices would have needed to increase by about 25 percent from 2006 to 2007 to offset the decline in harvest. Given the increase in exvessel price and decrease in harvest, the overall gross revenue per vessel is not expected to change dramatically. Because of the moderate change in revenue that is expected, all most all of the businesses are defined as small entities.

While some of the operations considered here participate in other revenue generating activities (e.g., other fisheries), the halibut fisheries likely represent the largest single source of annual gross receipts for many of these operations. Based upon available data, and more general information concerning the probable economic activity of vessels in this IFQ fishery, no vessel subject to these restrictions could have been used to land more than \$4.0 million in combined gross receipts in 2006. Therefore, all halibut vessels have been assumed to be “small entities,” for purposes of the IRFAs. This simplifying assumption likely overestimates the true number of small entities, since it does not take account of vessel affiliations, owing to an absence of reliable data on the existence and nature of these relationships.

### **3.5.2 Recordkeeping requirements**

Recordkeeping and reporting requirements are still being developed and would be discussed in a later draft. However, it is anticipated that the common pool allocation could be managed using a logbook type reporting requirements. Data to estimate annual removals do not necessarily need to be collected and entered in the management database daily. The GAF allocation would need to be managed in real time using an IFQ style electronic reporting system. As close to real time data as possible is needed to allow managers to know at a given time how many GAF a person holds and how many they have used. The costs to the charter operators are not expected to increase dramatically under the common pool structure. The GAF may increase costs, but the program is voluntary and charter operators can weigh their own costs and benefits of participating in the program.

### **3.5.3 Potential Impacts of the Alternatives on Small Entities**

#### **3.5.3.1 Alternative 1: Status quo**

The status quo alternative specifies the GHL as a target amount of halibut that the charter fleet can harvest. If the GHL is exceeded then management measures would be imposed to constrain the harvest of halibut. For example, ADF&G did not allow skipper and crew to retain halibut for part of the 2006 fish year in Area 2C. An example of another action that could be taken by management agencies to curtail catch would be to reduce bag limits for the guided angler. Such an action has not been taken to date, but could be implemented for 2008. That action could result in fewer trips, thereby reducing charter harvest and revenues for the charter fleet. Harvests (and revenues given our current understanding of price elasticities) in the commercial sector are larger when the harvest of the charter fleet is constrained by the GHL.

Because both the charter and commercial sectors are primarily comprised of small businesses, the impact of the status quo has been to shift benefits between small businesses in the commercial and charter sectors. The way that the GHL is structured, the charter sector was allowed to increase their harvest until the GHL was reached. Recall the GHL was based on 125% of the average charter harvest from 1995-1999. Allowing the charter sector to increase their harvest resulted in revenues moving from the commercial sector to the charter sector.

When the GHL is exceeded, stricter management measures are imposed (i.e., bag limit reductions) on the charter fleet. Those management measures are designed to constrain charter sector harvests to the GHL, with no interruption of the charter season. Charter businesses and commercial operators are impacted differently depending on whether the GHL has been exceeded. In Area 2C, charter harvests have exceeded the GHL by more than in Area 3A. Some measures being considered, like the 1-fish bag limit in Area 2C, would not only eliminate charter harvest growth, but would actually cause charter clients harvest to decline. Measures like the one-fish bag limit are expected to cause reductions in charter demand. Fewer clients wanting to take a charter trip and the lower bag limit cause the reduction in harvest. It should be noted that the 1-fish bag limit is being considered for Area 2C, in large part because

of the reduction in the CEY, and not growth in charter harvests. Other less restrictive management measures could be implemented, if the CEY was not declining.

The moratorium is expected to limit entry into the charter business. However, the excess capacity that is built into moratorium is not expected to limit charter client harvests in the near term.

### **3.5.3.2 Alternative 2.**

#### **Element 1 – Common Pool Allocation**

The initial common pool allocation is defined under Element 1. Four options are being considered that would divide a combined commercial and charter catch limit between commercial harvests and charter businesses that hold a LEP. Option 1a is based on the same formula as the GHL. That would be used as the baseline from which other allocations are compared. Option 1b would increase the charter allocation by 4.2% of the combined commercial and charter catch limit in Area 2C and 1.4% in Area 3A. Option 1c would decrease the allocation to the charter sector in both Areas 2C and 3A by about 1.3% of the combined commercial and charter catch limit. Option 1d would increase the Area 2C allocation by 2% and decrease the Area 3A allocation by 1.3%. All three of the Option 2 allocations that are based on a fixed number of pounds would increase the charter allocation in Area 2C, based on current and projected CEYs. In Area 3A the fixed poundage allocations under Option 2 would reduce the amount available to the charter sector. Option 2 also includes a suboption that, if selected, would cause the fixed poundage allocation to move in steps with predefined changes in the total CEY. Those steps would increase the charter allocation when the total CEY is increasing and decrease the charter allocation when the total CEY is declining. The allocation options (Option 3) that use 50% of the result of the fixed percent and 50% of the fixed pound allocation, also always yield a larger allocation than the status quo allocation in Area 2C, based on current CEY projections. In Area 3A, the Option 3 allocations are typically smaller than the status quo.

Under any of the options being considered an increased allocation would benefit small entities in the charter sector at the expense of small entities in the commercial sector. A reduction in the charter allocation would tend to benefit small entities in the commercial sector at the expense of small entities in the charter sector.

#### **Element 2 – Annual Regulatory Cycle**

The common pool allocation would not close the fishery if it is exceeded. Instead, the allocation would be linked to an annual regulatory analysis of management measures (delayed feedback loop) that take into account the projected CEY for the following year and any overages by the charter industry in the past year(s). This system would work best if there is not a time lag between the overage year and the payback year. An allocation overage would trigger the regulatory process automatically, in contrast with current GHL management. Any underages would accrue to the benefit of the halibut biomass and would not be reallocated or paid forward.

The charter sector allocation would be allocated to the universe of charter limited entry permit holders in each area and would be fixed at the level decided under Element 1. The Council states its intent that any overage would not close the fishery in-season; instead, it states its intent to act as quickly as possible in recommending changes to Federal regulations that would result in charter halibut harvests equal to or less than the allocation during the next charter season, at the earliest.

Any lag between overages in the charter harvests occur and when management measures are enacted would benefit the small entities in the charter sector. The impact of any overage on the commercial sector is expected to be small because it would have a minimal effect on future commercial allocations.

### **Element 3 – Management Toolbox**

The management measures that would be implemented if the charter sector exceeds their allocation are defined in the management toolbox. The management tools are divided into two tiers. Tier 1 management measures are less restrictive. They include allowing 1 trip per vessel per day, no retention by skipper or crew, line limits, second fish of a minimum size, and second fish at or below a specific length. Tier 2 management measures include an annual catch limit, one fish bag limits, and seasonal closures.

The Council has already implemented a ban on skipper and crew harvests in Area 2C and 3A. No additional tool box management measures are currently implemented in Area 3A. Line limits are also in place in Area 2C that limit the number of lines that can be fished to six or the maximum number of clients on the vessel, whichever is smaller. Additional management measures may be implemented for Area 2C in 2008 include tier 2 measures like the 1 fish bag limit.

Imposing tier 1 management restrictions on the charter fleet would have relatively small economic impacts. Projections of the harvest reductions are reported in the RIR. If tier 2 management measures are needed the impact on the charter sector is much greater. If the harsher management measures are driven by changes in stock abundance, the commercial sector could also realize an overall decrease in their allocation.

### **Element 4 – Timeline**

As discussed in Element 2 the lag between when the charter harvest occurs and when management measures from the toolbox are implemented impacts the charter sector. Element 4 is simply a discussion of those timelines and how they can be shortened. This section provides a discussion of an implementation issues that the management agencies need to resolve.

### **Element 5 – The Use of Guided Angler Fish**

Element 5 would allow limited entry permit (LEP) holders to lease commercial IFQ from individual commercial IFQ holders to provide guided anglers with additional harvesting opportunities in excess of the common pool allocation. The LEP holder would ask NMFS to convert the leased IFQ into Guided Angler Fish (GAF). The LEP could then use the GAF to provide guided anglers with additional harvesting opportunities with the provision that the individual guided angler's harvesting opportunities never exceed the daily bag and size limits in place for unguided anglers. If guided halibut regulations specify the each angler's daily bag limit is limited to one fish of any size while the an unguided angler may harvest two fish of any size, then the LEP holder can use one GAF to allow one guided angler to harvest two fish of any size.

Implementing the use of GAF would allow the charter sector to increase their clients harvest without additional management restrictions. Because the transfers are voluntary, they would only occur if no one is made worse off. One party to the transaction is expected to gain and the other is no worse off. Based on this assumption, if the use of GAF are allowed, small entities would not be negatively impacted by implementing a GAF program.

## **Element 6 – Catch Accounting System**

To be completed when ADF&G and NMFS develop the program.

### **3.5.4 Description of Compliance Requirements of the Analyzed Options**

The proposed actions would likely result in a number of new reporting, record keeping, and compliance requirements. Under both the common pool and individual private management option charter operators could face additional harvest reporting requirements. The common pool operators may or may not need a more advanced in-season reporting system than the current logbooks to estimate the common pool harvest. Additional reporting requirements are expected to monitor the GAF program.

#### **3.5.4.1 Description of Compliance Costs Associated with the Proposed Actions**

The analysis does not current have an estimate of the compliance costs associated with the analyzed options primarily because the additional harvest reporting requirements and in-season tracking measures discussed above are as yet undefined. The analyzed options would likely result in financial costs for both charter operators and state and Federal managing agencies.

#### **3.5.4.2 Identification of Relevant Federal Rules that may Duplicate, Overlap or Conflict with the Proposed Actions**

The Council and NMFS would need to eliminate the GHL if the common pool allocation is implemented. The GAF program would require NMFS to amend the IFQ program to allow commercial IFQ holders in IPHC Areas 2C and 3A to lease halibut IFQ to charter LEP holders.

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